APX
ATARI® PROGRAM EXCHANGE

Jose R. Suarez

CRIBBAGE
A one-player version
of the English card game (ages 12 and up)

Cassette: 32K (APX-10141)   Diskette: 40K (APX-20141)
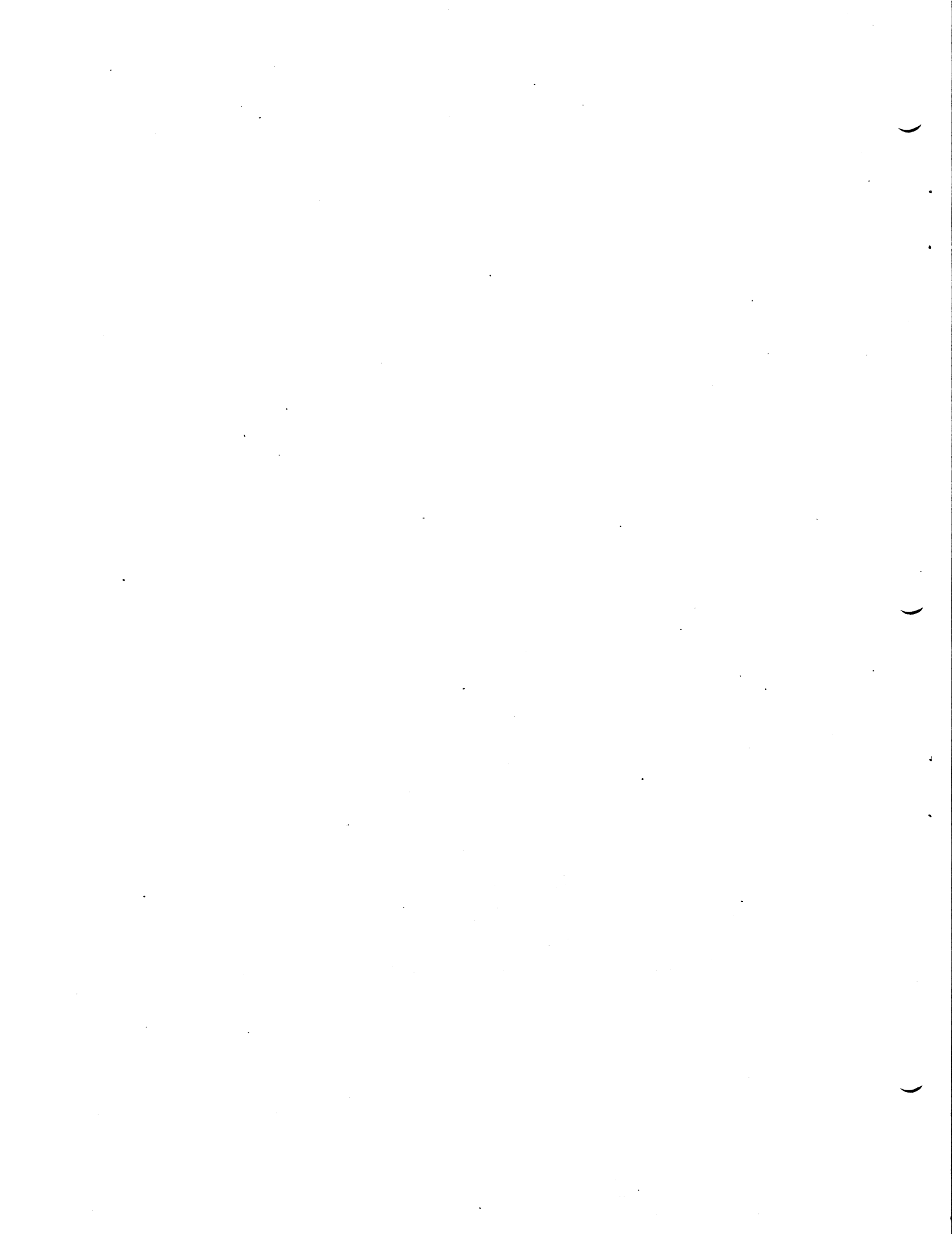
User-Written Software for ATARI Home Computers

Jose R. Suarez

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CRIBBAGE

by

Jose R. Suarez

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INTRODUCTION

OVERVIEW

CRIBBAGE is a unique card game of skill and chance--a race to the finish line, 121 points, between you and the computer. The cribbage board, with 60 holes for each player (30 each way), is the race track. Pitting your ability to assemble and count combinations of fifteens, straights, pairs, and flushes against the computer's ability, you try to peg twice around the board before the computer can do the same.
Each round of play has two phases: head-to-head card playing, during which you try to outwit--and out peg!--the computer, and a hand-counting phase during which your ability to make four-card hands out of six cards is pitted against the computer's.
There are four levels of play in this unusual game--at the highest level the computer steals any points that you miss! The program's complete graphic display of the games components, its accompanying sound effects, and its joystick handling make this an enjoyable and challenging implementation of cribbage.

REQUIRED ACCESSORIES

ATARI BASIC Language Cartridge
One Joystick Controller

    Cassette version

        32K RAM
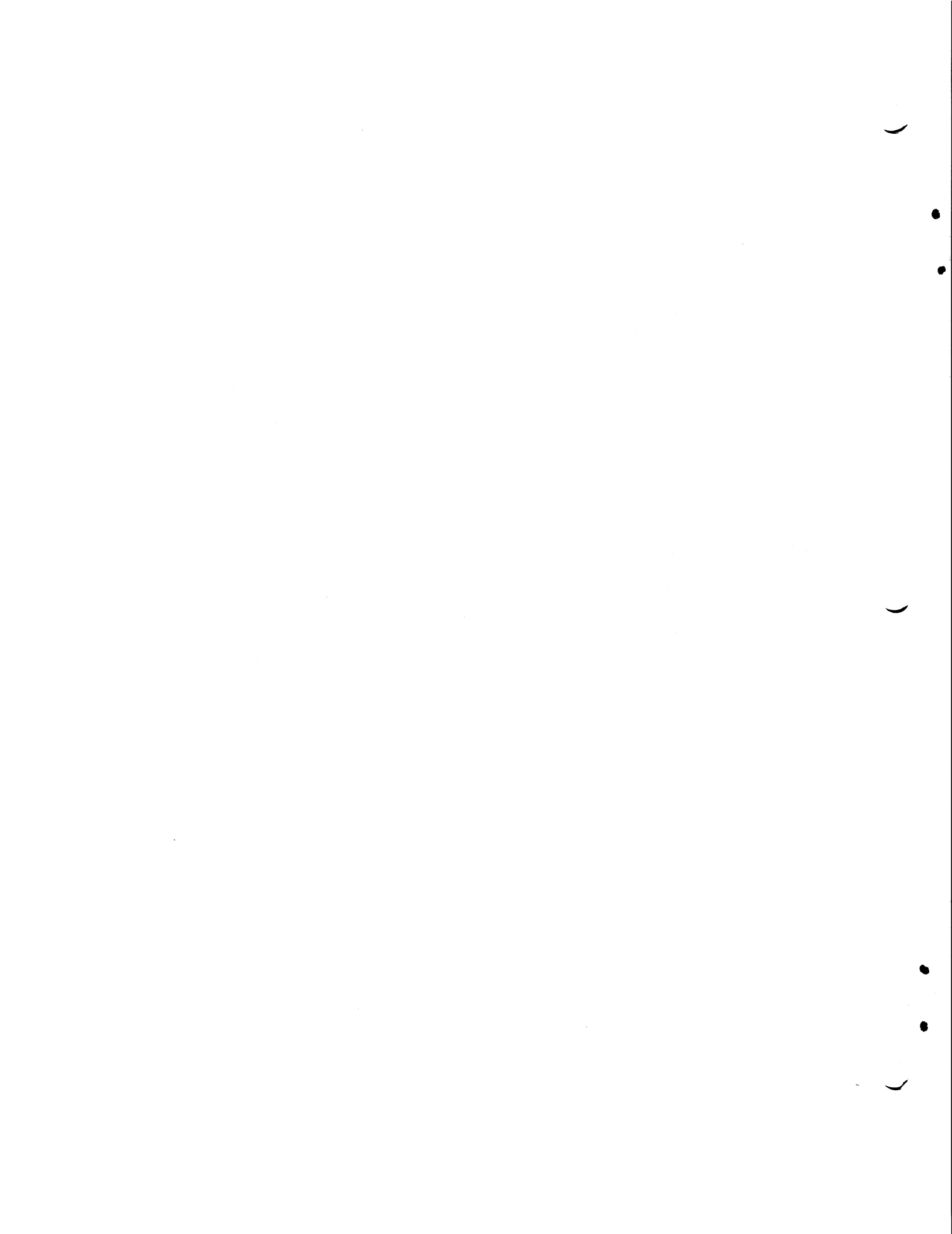   ATARI 410 Program Recorder

    Diskette version

        40K RAM
        ATARI 810 Disk Drive

CONTACTING THE AUTHOR

Users wishing to contact the author about CRIBBAGE may write to him at:

    2988 High Forest Lane, #134
    Cincinnati, OH 45223

GETTING STARTED

LOADING CRIBBAGE INTO COMPUTER MEMORY

1. Insert the ATARI BASIC Language Cartridge in the left cartridge slot of your computer.

2. Plug your Joystick Controller into the first controller jack at the front of your computer console.

3. If you have the cassette version of CRIBBAGE:

    a. Turn on your TV set.

    b. Connect your program recorder to the computer and to a wall outlet.

    c. Slide the CRIBBAGE cassette into the program recorder's cassette holder and press REWIND on the recorder until the tape rewinds completely. Then press PLAY.

    d. Turn on the computer while holding down the START key. Press the RETURN key and CRIBBAGE will automatically load into computer memory and begin to run.

If you have the diskette version of CRIBBAGE:

    a. Have your computer turned OFF.

    b. Turn on your disk drive.

    c. When the BUSY light goes out, open the disk drive door and insert the CRIBBAGE diskette with the label in the lower right-hand corner nearest to you. (Use disk drive one if you have more than one drive.)

    d. Turn on your computer and your TV set. The program will load into computer memory and start automatically.

IMPORTANT NOTE

Throughout this manual, familiarity with the game of cribbage is assumed. If you do not know the game, or if you need some reminders, please read the rules of cribbage in the Appendix (last section of the manual) before proceeding.

THE FIRST DISPLAY SCREEN

The first display screen of CRIBBAGE looks roughly like this:

```
 ---------------------------------------------
|                                             |
|              CRIBBAGE                       |
|                                             |
|                                             |
|         SELECT YOUR LEVEL:                  |
|                                             |
|         >==>RAW BEGINNER                    |
|             NOVICE                          |
|             INTERMEDIATE                    |
|             CARD SHARK                      |
|                                             |
 ---------------------------------------------
```
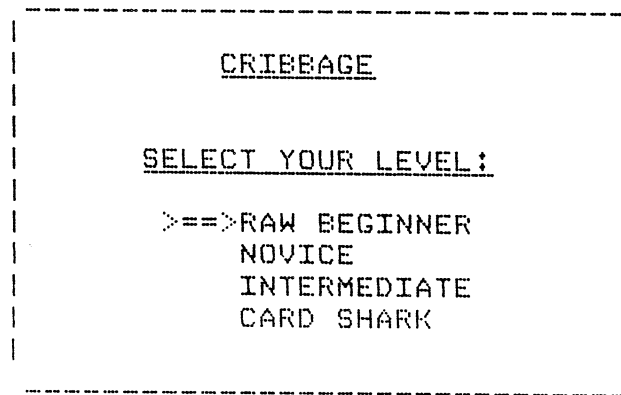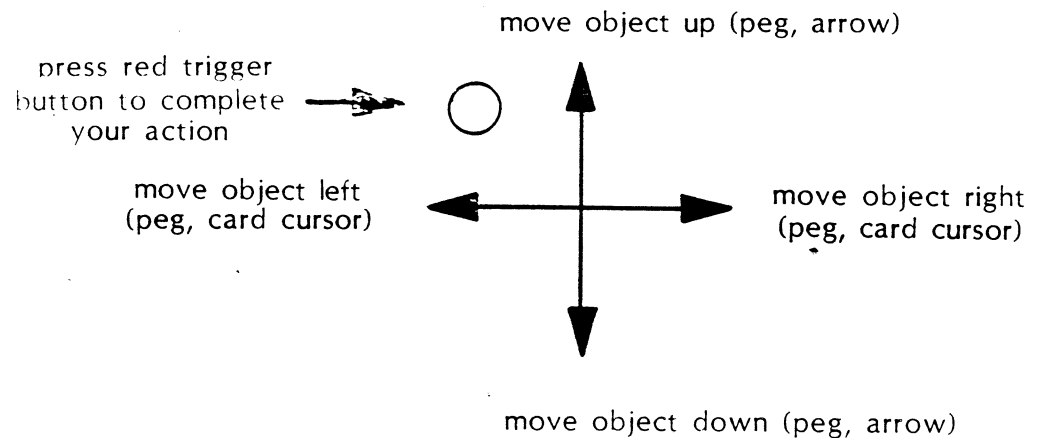
USING THE JOYSTICK CONTROLLER

With two rarely occurring exceptions, you don't need to touch the keyboard. The joystick controls the entire game. You move the following three objects directly with the joystick.

1. The Arrow, which is used to select an item from a menu. It moves vertically (up and down).

2. The Card Cursor, on the playing board, which is shaped like a picture frame, and is used to select a card for playing or discard. It moves horizontally (left to right), and wraps around the field if you wish.

3. The Peg on the cribbage board, which is your scoring device. It moves around the Cribbage board horizontally and vertically.

You move the objects as follows:

move object up (peg, arrow)

press red trigger button to complete your action

move object left (peg, card cursor)

move object right (peg, card cursor)

move object down (peg, arrow)

These three objects are your link with CRIBBAGE. And please note: this is not an arcade

game. There is no need to be "hair-triggered"--no aliens are invading Earth. Take your time. Make sure the object you are moving stops in the correct location before you press the red trigger button.

SELECTING LEVEL OF PLAY

The computer always plays to the best of its ability. The difference among the four levels lies in the amount of help the computer provides for you. At the raw beginner level, the computer counts all of your points, and shows you what the scoring card combinations are, both for your hand and for the computer's. At the novice level the computer still counts all of your points for you but doesn't display the card combinations. In either of the two first levels, all you have to do is move the peg the indicated number of points. If you move the peg an incorrect number of holes, the computer counts again, and allows you to correct your mistake. At the intermediate level, you must count and peg your own points. However, you have an unlimited number of tries to arrive at the correct score. At the card shark level, you must count your points very carefully, since the computer steals any points that you miss! Most skilled cribbage players use this cut throat rule. Use the arrow to select your level from the menu on the first display screen.

Note: Even if you are a skilled player, you should play a couple of games at the novice level to familiarize yourself with the mechanics of CRIBBAGE.

PLAYING CRIBBAGE

THE FIRST DEAL AND THE DISPLAY

Now that you have selected a level and pressed the red joystick button, you should be looking at the cribbage playing field. Several things should be happening on the screen as you read this: The first deal is awarded to the player who gets the lowest card. The computer then deals for itself, if it had the low card, or for you if it did not. After six cards apiece are dealt, the computer quickly picks up its hand, and exposes yours. Study your hand while the computer studies its hand. After about five seconds, the computer discards, and the message "PICK TWO CARDS FOR THE CRIB" appears.

Take this moment of calm on the screen to survey the entire display:

(1) the cribbage board, at the center of the screen

(2) your six-card hand, at the bottom of the screen

(3) the deck of cards and the crib, at the right side of the screen (either above or below the cribbage board)--the crib displayes left of the deck

(4) a line drawing of part of a table and two table legs

(5) two pegs in their initial position on the board, accompanied by two peg locators at the top and bottom edges of the board

(6) the card cursor, framing the leftmost card in your hand

(7) two score counters (dark on light background) and the playing counter (light on dark background) in the middle of the board.

The lower half of the table is your playing area; the upper half is the computer's. The crib and the deck appear on the dealer's side of the table. (The crib belongs to the dealer.) The computer addresses you as "YOU" and itself as "ME" or "I."

If the brightness seems too bright, turn down the brightness on your television screen. This action should cut down on any "glare".

DISCARD

Using the card cursor, select two cards for the crib, and then you're ready to play.

PLAYING

The "start" (the first card of the remaining portion of the deck which is turned over to begin a game) appears on top of the deck as soon as you discard. If it is a jack, the dealer pegs "two for his heels." (If you are the dealer, move your peg two holes, and press the red joystick button.)

The non-dealer begins. If you go first, use your joystick to select a card with the cursor. (You will always know when it is your turn by the presence of the card cursor.) The card moves up to the table as soon as you press the red trigger button. Its additive value (0-10) will be added to the playing counter at the center of the board. The computer will respond to your play by laying down a card at the top (far side) of the table, and pegging whatever points it may have earned. Again, the sum at the center of the board will be incremented. Your turn again.

PEGGING

If you are playing at the raw beginner level, the computer tells you exactly how much to peg, counting for you and showing you each set of scoring cards. The message "PEG X POINTS" appears at the bottom of the screen. If you are playing at the novice level, the computer still scores your hand and tells you exactly how many to peg, though it doesn't show you each scoring combination of cards. If you are playing at a higher level, the question "ANY PEGGING?" appears at the bottom of the screen after each card you play (except the first--no pegging is possible with only one card). Your peg flashes every few seconds to indicate that the computer expects you to do something with it--either to leave it where it is, and press the red trigger button (0 points), or to move it and press the red trigger button. Remember --"ANY PEGGING?" appears every time, whether you have earned pegging points or not. This way, the computer doesn't "give away" pegging opportunities. Continue playing this way until you cannot play without exceeding a sum of 31.

THE "GO"

Call a "go" (a "go" indicates that you cannot play any of your cards because any of your cards would put the total of the playing counter above 31) by moving the card cursor to an empty space--note the prompt "GO?" written inside the cursor--and pressing the red trigger button. "GO" appears on the table next to your played cards. If the computer cannot play, it also calls a "GO." It then pegs one point.

Note: Never peg one point for a "go" unless "GO" appears twice on the table: next to your played cards and also next to the computer's cards. (Remember that both players must say "go" before a point may be pegged in a two-person game.)

The computer calls a "go" for you automatically if you have no cards left to play. If you reach a sum of 31 exactly, peg two points immediately. Each time 31 is reached, or both players call a "go", the cards played are flipped over, and play resumes.

COUNTING

Counting the points in the hands proceeds by the rules. After all cards are played, the non-dealer counts his hand. The dealer then counts his hand, and finally his crib. The deal then passes to the other player.

At the raw beginner level, the computer counts your hand, showing each scoring combination of cards. If you want the computer to count your hand again, press the red trigger button without moving the peg. You will learn with practice to find all

combinations. Since the computer makes no counting mistakes, it provides you with great help in learning how to count. Once the computer scores your hand, you must peg the points yourself using your joystick. At the novice level, the computer counts your points, though without showing the scoring combinations, and you again peg your points. At the higher levels, you must count your own points, and move the peg accordingly.

Note: By now you probably have noticed that you have a second peg (blue, in color screens). This extra peg always marks the location from which you move your counting peg (yellow). Since the computer has no need for this assistance, it only has one peg.

SCORING

Your peg is your scoring device. However, to make the score even clearer, two counters on the board also keep track of your score ("YOU") and the computer's ("ME").

WINNING

The first one to "peg out," that is, to count 121 points by pegging twice around the board, wins. Recall that if the non-dealer pegs out, the dealer does not get a chance to count; the game is over.

STATISTICS

Once a game ends, the cards are cleared and a numerical tabulation appears at the top of the screen. If you are playing just for fun, you may ignore these numbers (except maybe the "WINS" column). However, if you are trying to increase your cribbage skills, these numbers will help. Here is a column-by-column description:

WINS – These are the games won by you and the computer. Recall that a player may win double by pegging 121 before the other pegs 61. Such a "lurch" would be reflected in this column.

COUNTED – These are the points counted from the hands at the end of each round of play (non-dealer's hand, dealer's hand, Crib) during the last game. These two numbers reflect your relative skill in choosing the cards to keep in your hand, and those to discard.

PEGGED – These are the points pegged during play in the last game. If your number is consistently lower, you should pick your plays more carefully.

AVERAGE – This is the total number of points scored by each player, divided by the number of games played, and rounded off to the nearest whole number. The higher number indicates which player has scored more points during the entire play session.

STARTING A NEW GAME

The lower half of the table now contains a two-item menu:

>==>START A NEW GAME

SELECT A NEW LEVEL

Use the arrow to select your choice. If you "START A NEW GAME," the first dealer in the new game is the winner of the previous one. If you would like to have the deal awarded by chance again, choose "SELECT A NEW LEVEL," then choose the same level at which you were already playing. Low card again wins first deal.

FREEZING THE DISPLAY

Usually there is no need to freeze the action, since the computer awaits your responses very patiently. However, if you are surprised by the computer's count of its hand (or of yours, at the highest level), reach up to the keyboard quickly, press and hold CTRL, and then press the "1" key. This will prevent the computer from sweeping away the cards before you can verify its count. To resume normal play, press CTRL-1 again.

NOTES

The following information is not necessary to enjoy CRIBBAGE, but it may satisfy your curiostiy.

ABOUT CHEATING

To say that a computer can't cheat is naive. A computer can easily be programmed to cheat. To say that the computer in CRIBBAGE doesn't know what you have in your hand is also naive. Of course it knows, since it must hold your cards in its memory. However, the answer to the question "Does CRIBBAGE cheat?" is an absolute No! The computer does not use your cards in any way to determine what to play or discard. It will look at them, however, to keep your plays under a sum of 32 and to make sure you don't "go" when in fact you can play. Think of it this way: CRIBBAGE has two computer personalities: a cribbage player, and a cribbage referee. The referee checks your plays, but does not talk to the computer player.

ABOUT COLOR VS. RESOLUTION

"Why aren't the hearts and diamonds red?" I wish the answer were as simple as the question.

CRIBBAGE uses the highest resolution available, not only to produce sharp, smoothly contoured images, but also to allow a convincing game display to fit the screen well. To produce such resolution, the ATARI Home Computer splits each set of three phosphor elements on the screen into two pixels. This allows the horizontal resolution of your TV set or monitor to be doubled from 160 to 320 pixels. Unfortunately, this eliminates independent control over color. It is possible to squeeze two extra colors out of this mode by using only even-numbered pixels, or odd-numbered pixels, but this cuts resolution in half again. Drawing a heart using half as many pixels as it normally takes is impossible--an ATARI heart character already uses nearly the minimum number of pixels required for the outline. Doubling the image matrix area horizontally produces a GRAPHICS 1-sized heart--very awkward-looking, and it ruins the card design, not to mention the horrible splotches of red bleeding all over the white card area. Modifying the display list (i.e., using GRAPHICS 1 for the card display blocks) opens a new Pandora's box of troubles, ranging from too little space for nice card designs to excessively increased memory and time consumption for card handling. In light of the limited importance of card suits in cribbage, I opted for resolution over color.

APPENDIX—THE RULES OF CRIBBAGE

REQUIREMENTS

Cribbage is a two-player game which requires a cribbage board and a standard 52-card deck.

THE CRIBBAGE BOARD

The board is placed horizontally between the two players. Each player uses the two tracks of 30 holes nearest him. Each player has two pegs-- they are moved one ahead of the other (like footsteps) when scoring points. The players start at the same end of the board. The pegs are moved up the outside track of 30 holes, and down the inside track. The first player to do this twice, plus at least one more point (121 or more) wins.

CARD VALUES

Face cards are worth ten. All others (Ace-10) are worth face values (1-10). Aces are always low.

OBJECT OF THE GAME

The object of Cribbage is to be the first player to score 121 points by counting combinations of cards (fifteens, straights, pairs, flushes). The game ends immediately after 121 points are scored--the other player does not get a chance to "even" the score. If a player reaches 121 before the other player reaches 61, then there is a "lurch" and the winner wins double (two games).

THE FIRST DEAL

After the deck is shuffled, each player cuts the deck in turn, exposing the card at the bottom of the stack in his hand. The low card wins the first deal. Aces are low; an ace beats a deuce in cutting for the deal. After reshuffling, the dealer deals six cards apiece.

THE DISCARD

Each player must remove two cards from his hand, and place them face down on the table. These discards form a third hand, known as the crib. The crib belongs to the dealer, and thus should be placed on the dealer's side of the table. Neither player may see the crib until the round of play is over.

THE START

After discarding is complete, the non-dealer cuts the cards remaining in the deck. The dealer then turns the top card over. This card is called the start. It turns each of

the three hands (the non-dealer's, the dealer's, and the crib) into a five-card hand. In other words, the start becomes a part of each of the hands. If the start is a Jack, the dealer pegs "two for his heels." The dealer must do this immediately (before play begins) or not at all.

PLAYING

The non-dealer begins by laying a card from his hand face up on the table, and saying its value out loud. The dealer responds by playing a card from his hand, and calling out the sum of the cards played.

Play alternatives between the players until neither can play without exceeding a sum of 31. When a player cannot play during his turn, he says "go" out loud. The other player then continues to play his cards until he runs out, or he must "go" himself. The player who comes nearest 31 pegs one point for calling the last "go." If a player reaches exactly 31, he pegs two points immediately.

Once a "go" or 31 is reached, the cards played are turned over and placed aside. A new round of play (up to 31) can then begin. Play continues until all cards have been played.

SCORING

The unique scoring system used in Cribbage accounts for much of the game's challenge. Remember the following rule of thumb: each and every combination of two or more cards played or in your hands (non-dealer's, dealer's, Crib), without changing the order of the cards, may hold scoring points.

Scoring while playing

Fifteens - If a player plays a card which makes the sum of the cards played exactly fifteen, he says "fifteen, two" and pegs two points.

Pairs - If cards played in succession make pairs, then two points are pegged for each pair. Remember the rule of thumb. Look at this play sequence:

```
Player Two->--------↓-------↓
                 6   4   4   4   4
Player One->--↑-------↑-----↑
```
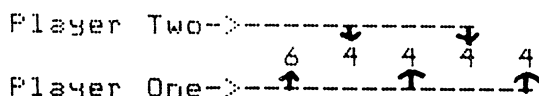
Suppose the above numbers represent a play sequence. Player One begins play by laying down a six. Player Two responds with a four. Player One then plays another four, and scores two points for the pair. Player Two has another four, and he plays it. There are now three fours in succession:

```
                        4  4  4

      Pairs:    4  4            1 pair--2 points
                   4  4         1 pair--2 points
                4     4         1 pair--2 points
                               --------------------
      Total:                    3 pairs--6 points
```

Player Two pegs six holes for the three pairs. Player One, however, has the last four,
and plays it. Now we have four fours in succession:

```
                        4  4  4  4

      Pairs:    4  4            1 pair--2 points
                4     4         1 pair--2 points
                4        4      1 pair--2 points
                   4  4         1 pair--2 points
                   4     4      1 pair--2 points
                      4  4      1 pair--2 points
                               --------------------
      Total:                    6 pairs--12 points
```

Player One pegs twelve points for the six pairs thus formed.

Runs - When a player plays a card that completes a run of three or more cards, he pegs
one point for each card in the run.

```
      Player Two->-------↓-----↓
                       3  5  4  6
      Player One->----↑-----↑--
```
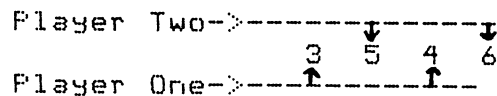
In the above play sequence, player One completes a run of three cards with the four, and
pegs three points. (Note that the run does not have to be played in numerical order.)
Player Two then completes a run of four with the six, and pegs four points.

Thirty-one (two points) an the Go (one point) have already been discussed. (See
PLAYING, above.)

Counting the Hands

    After all cards have been played, the players count their hands. Remember that the start
    is included in each (making five-card hands). The non-dealer counts first; then the
    dealer counts his hand, and finally his Crib.

    Fifteens - Every combination of cards which adds up to fifteen is worth two points.
    Consider the following exceptional hand:

```
                              J  5  5  5  Q
Fifteens:                     J  5              Fifteen,  2
                              J     5           Fifteen,  4
                              J        5        Fifteen,  6
                                 5        Q     Fifteen,  8
                                    5     Q     Fifteen, 10
                                       5  Q     Fifteen, 12
                                 5  5  5        Fifteen, 14
```

These are the seven combinations that add up to fifteen in this hand.

Pairs - Pairs are scored exactly as during play. Consider the above hand again:

```
                              J  5  5  5  Q
Pairs:                           5  5           Pair is 2
                                 5     5        Pair is 4
                                    5  5        Pair is 6
```

The six points for the three pairs are added to the total for fifteens--the total score is 20 points.

Nobs - A jack of the same suit as the start (called nobs) is worth one point. Suppose the queen in the above hand is the start, and is also the queen of diamonds. If the jack in that hand is the jack of diamonds, then the hand is worth a total of 21 points (20+1 point for nobs).

Runs - Every combination of three or more cards which comprises a run (straight) is worth one point for each card in each run. In addition, if there is more than one run of the same numbers (6-7-8, in the example below), then there must also be at least one pair. The value of the pair(s) traditionally is included in the value of such a double, triple, or quadruple straight (rather than counting the pairs separately). Consider this hand:

```
                              6  7  8  7  7
Runs:                         6  7  8           Run of 3,3
                              6     8  7         Run of 3,6
                              6     8     7      Run of 3,9
Pairs:                           7     7         Pair is 2
                                 7        7      Pair is 4
                                    7  7         Pair is 6
                                              ----------------
Total:                                        Triple run of 3, 15
```

-13-

This hand also contains three fifteens (Do you see them?), which bring the total score for this hand up to 21 points. Here are other examples: 3-3-4-4-5 is a quadruple run of three, worth 16 points (not including the fifteens, which are counted separately). 9-10-10-J-Q is a double run of four, worth 10 points. 2-A-3-7-K contains a single of three, worth three points.

Flush - If your hand (not including the start) has four cards of the same suit, it scores four points for the flush. If the start is also of the same suit, the flush is worth five points. The Crib, however, does not contain a flush unless all five cards are of the same suit. (This is the only situation in which the Crib differs in counting value from the players' hands.)

STEALING POINTS--"MUGGINS"

If both players agree to play with this option, then if a player misses points when pegging, the opponent can steal the overlooked points. To steal points, a player must wait until his opponent has pegged the erroneous number of points. (i.e., counting erroneously is not enough). The player then pegs the overlooked number of points on his side of the board, and tells his opponent how many points he missed, and why.
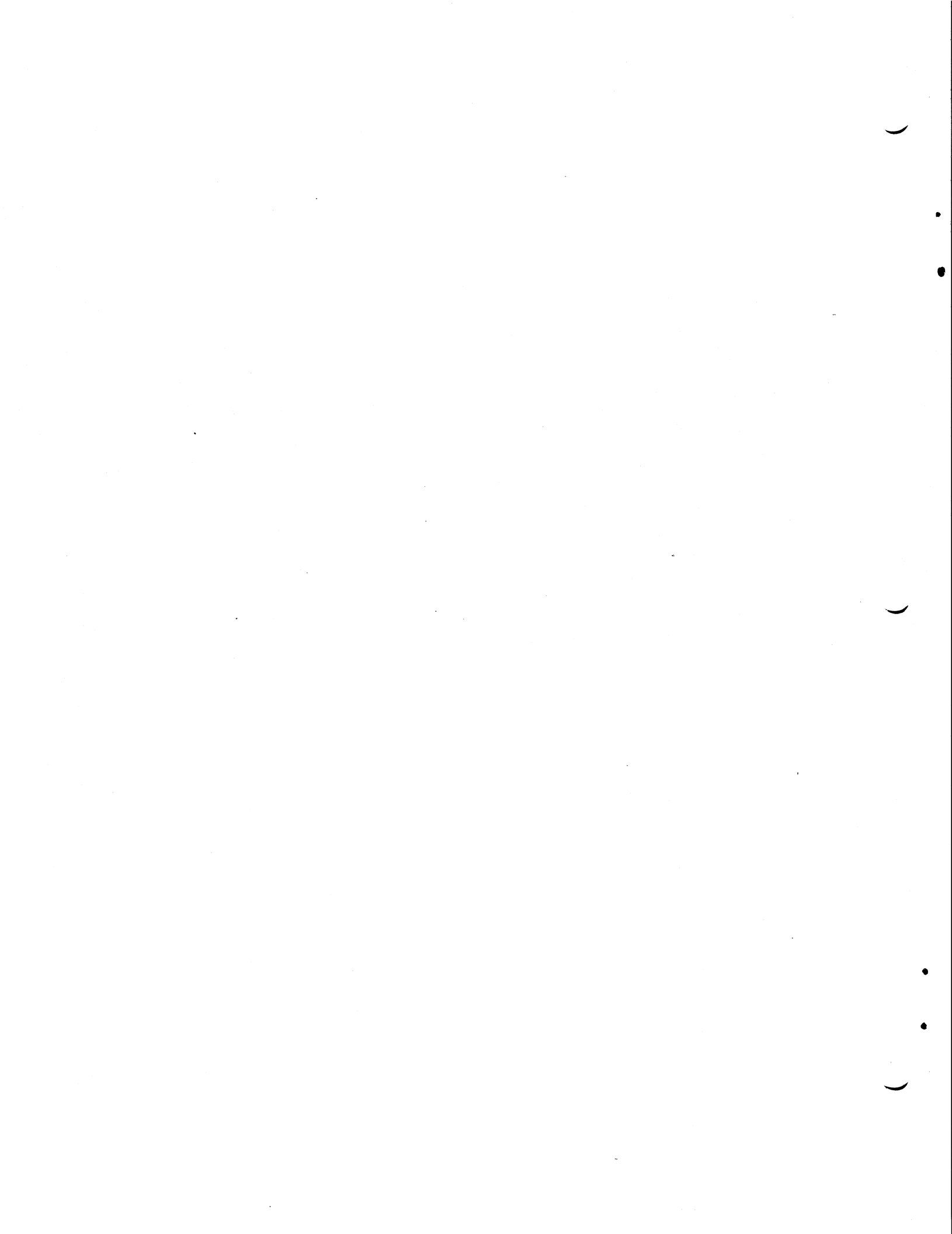
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You void this warranty if the APX product: (1) has been misused or shows signs of excessive wear; (2) has been damaged by use with non-ATARI Home Computer products; or (3) has been serviced or modified by anyone other than an Authorized ATARI Computer Service Center. Incidental and consequential damages are not covered by this warranty or by any implied warranty. Some states don't allow exclusion of incidental or consequential damages, so this exclusion might not apply to you.

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APX programs, ask your ATARI retailer
for the APX Product Catalog**
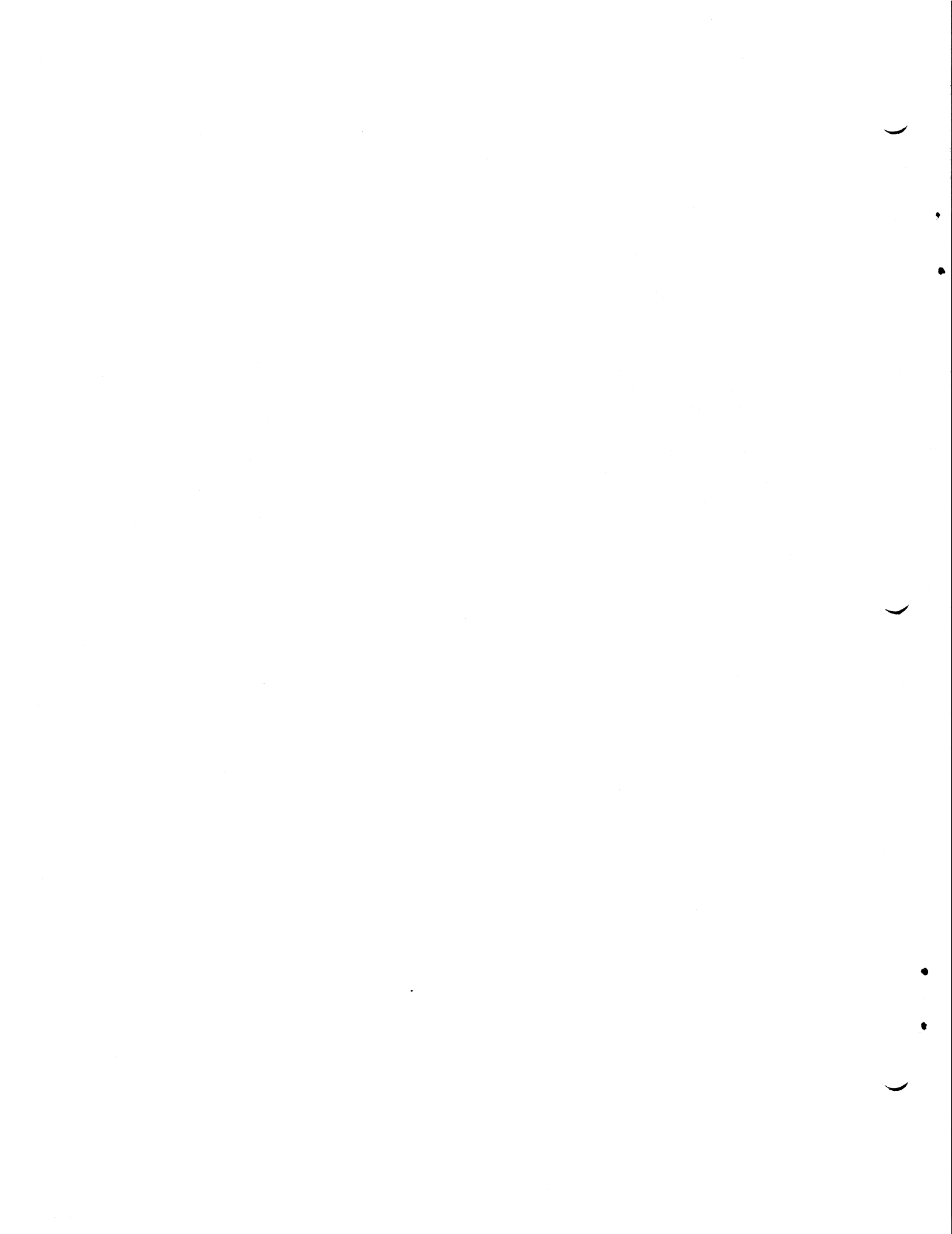
Review Form

We're interested in your experiences with APX programs and documentation, both favorable and unfavorable. Many of our authors are eager to improve their programs if they know what you want. And, of course, we want to know about any bugs that slipped by us, so that the author can fix them. We also want to know whether our instructions are meeting your needs. You are our best source for suggesting improvements! Please help us by taking a moment to fill in this review sheet. Fold the sheet in thirds and seal it so that the address on the bottom of the back becomes the envelope front. Thank you for helping us!

1. Name and APX number of program.

_____

_____

2. If you have problems using the program, please describe them here.

_____

_____

_____

3. What do you especially like about this program?

_____

_____

_____

4. What do you think the program's weaknesses are?

_____

_____

_____

5. How can the catalog description be more accurate or comprehensive?

_____

_____

6. On a scale of 1 to 10, 1 being "poor" and 10 being "excellent", please rate the following aspects of this program:

_____ Easy to use
_____ User-oriented (e.g., menus, prompts, clear language)
_____ Enjoyable
_____ Self-instructive
_____ Useful (non-game programs)
_____ Imaginative graphics and sound

7. Describe any technical errors you found in the user instructions (please give page numbers).

_____

_____

_____

8. What did you especially like about the user instructions?

_____

_____

_____

9. What revisions or additions would improve these instructions?

_____

_____

_____

10. On a scale of 1 to 10, 1 representing "poor" and 10 representing "excellent", how would you rate the user instructions and why?

_____

_____

11. Other comments about the program or user instructions:

_____

_____

_____

From

_____

_____

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STAMP
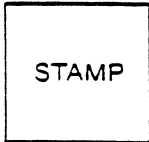
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