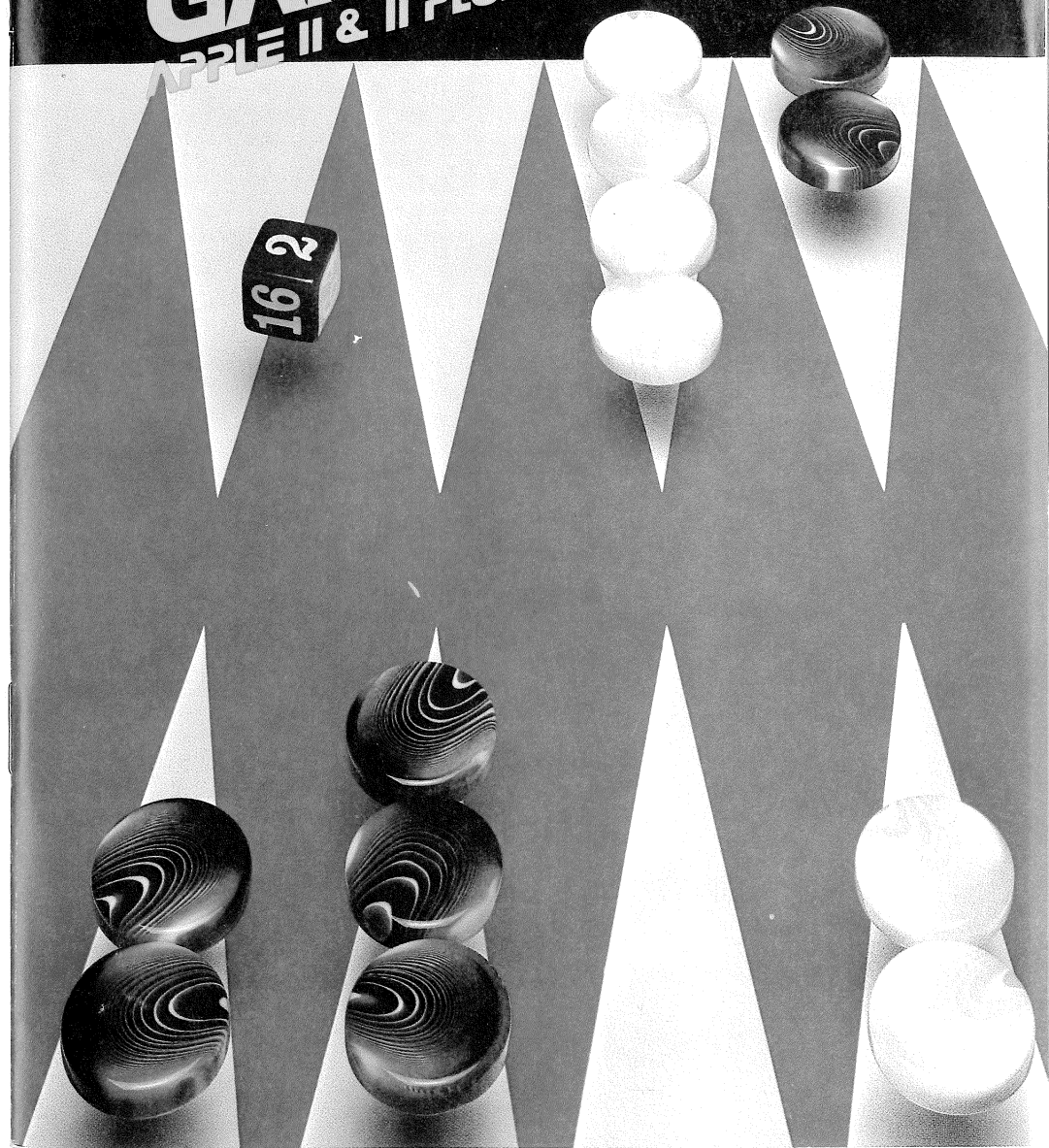


PERSONAL SOFTWARE™  
**GAMMON  
GAMBLER**  
APPLE II & II PLUS 16K



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# **GAMMON GAMBLER**

## **For the Apple II**

**By Willy Chaplin**

Gammon Gambler turns your Apple into a tireless, skillful backgammon player. Whether you are new to the game or an expert sharpening your skill for that trip to Monte Carlo, Gammon Gambler is a challenging adversary at your level. Look at Personal Software™ Gammon Gambler's features:

- Uses advanced artificial intelligence techniques to play a fast, smart game.
- Uses the doubling cube, adding extra dimension to the game.
- Can play at 18 different levels of skill, from beginner to expert.
- Plays by the standard U.S. tournament rules.
- Checks the legality of your moves.
- Graphically displays the backgammon board and pieces, with the option to display the numbers of the points.
- You enter the starting point of a move-the computer calculates the ending point.
- You can take back a move to correct a mistake.

If you are new to backgammon, the game is easy to learn and deceptively simple. The basic rules of backgammon are listed in Appendix A of this manual. There are many books available about this classic game if you want to learn more about its subtle strategy.

To run the Gammon Gambler from the diskette, you need a 32K Apple II Plus or a 32K Apple II with an Applesoft Firmware Card.

Two versions of this machine language program are stored on the cassette. One side contains the version for 16K Apples with Applesoft in ROM. This means that your Apple is an Apple II Plus, or you have a regular Apple II with an Applesoft II Firmware Card in use. The version on the other side is for a 32K Apple II which loads Applesoft BASIC into RAM from the Applesoft cassette or diskette produced by Apple Computer Inc.

Each version on the cassette has been recorded twice to provide you with a backup copy of the program. Gammon Gambler was written by Willy Chaplin and is produced and marketed by Personal Software Inc. This instruction manual was written by Kathleen Mandis. For a catalog of Personal Software Inc. products, see your Personal Software dealer or write Personal Software giving your complete address, your computer configuration (brand, memory size, program storage hardware) and your most wanted software products.

## LOADING GAMMON GAMBLER FROM CASSETTE

### Procedure for the Apple II Plus or an Apple with the Applesoft II Firmware Card:

1. Turn on your computer. You should have the Applesoft BASIC prompt (1) on your screen with the blinking rectangle, called the "cursor", beside it.
2. Insert the Gammon Gambler cassette into the recorder with the label "APPLE II Plus - Applesoft ROM 16K" facing up. Rewind the tape to the beginning.
3. Type the following commands in the sequence they are shown, *pressing RETURN after each one*. (The first character of each line (1) is on the computer's screen and should not be typed.)

```
1HGR  
1POKE 34,20  
1CALL -151
```

The prompt will change to the asterisk (\*) indicating you are in the monitor. Type the command below, excluding the asterisk (it's on your screen).

```
*30.3FFFF
```

Do not press **RETURN** yet.

4. Press the **PLAY** button on your tape recorder and then press **RETURN** on your Apple. The program is being loaded. It takes a bit over 2 minutes for the computer to load the program. As the program is read into the computer, lines are drawn on the screen until it becomes recognizable as a copyright notice, autographed by the program's author, Willy Chaplin.

This notice will remain for a few seconds before the actual backgammon board for play is drawn on the screen.

5. The program is loaded, so press **STOP** on your recorder, rewind the tape to the beginning, and put it in a safe place. If you wish, make an offering to Lady Luck-the Gammon Gambler is ready to take you on.

### Procedure for Apples using cassette or diskette Applesoft:

1. Load Applesoft into your Apple from either cassette or diskette. You should have the Applesoft prompt (1) on the left edge of your screen. Consult your *Applesoft Tutorial* manual for instructions if you need help loading Applesoft.
2. Insert your Gammon Gambler cassette into your recorder with the label "APPLE II — Applesoft RAM 32K" facing up.
3. Now type the following commands, pressing **RETURN** after each one. The first character on each line should not be typed — it is the prompt you see on the screen.

```
1POKE 34,20  
1CALL -151
```

The prompt will change to an asterisk (\*). Type the following, but do not press **RETURN** yet.

**\*3Ø.7FFFR**

4. Press the **PLAY** button on your tape recorder and then press **RETURN** on your Apple. The program is being loaded. It takes a bit over 2 minutes for the computer to load the program. After a few seconds, you'll see a lot of random characters on the screen, then your Apple will beep and the screen will become blank. Although nothing seems to be happening, the program is still loading and eventually lines will appear on the screen until they form a recognizable backgammon board, autographed by the program's author, Willy Chaplin.
5. As you gaze at this screen, your Apple will beep to tell you that the program has completed loading. Also, the copyright screen will disappear and the actual playing board will be drawn. Press **STOP** on the recorder, rewind the tape and put it in a safe place. If you wish, make an offering to Lady Luck — the Gammon Gambler is ready to take you on.

## IT DIDN'T WORK?

If your Apple doesn't do all this, rewind the tape, turn your computer off, then start at the first step and try again. Should this fail, the volume setting on your tape recorder may be wrong for this cassette. Follow the procedure outlined in your *Apple Integer BASIC Programming* manual to find the right volume setting and write it on your cassette as a time-saver in the future.

With some cassette players, the program won't load even though the volume is set properly. If this happens, repeat the steps above with the Apple's plug removed from the EARPHONE (MONITOR) jack of the recorder through Step 3. After pressing **PLAY** in Step 4, wait until you hear the steady high-pitched tone, and then quickly re-insert the plug and press the **RETURN** key on your Apple.

The program has been recorded twice on the tape, so if a second try doesn't work, turn your computer off and try the loading procedure again, but *do not* rewind the tape. Start the tape playing at the point it stopped on your previous attempt to load.

If none of these suggestions work, ask your Apple dealer for assistance.

## LOADING GAMMON GAMBLER FROM DISKETTE

You need a 32K Apple II or a 32K Apple II using an Applesoft Firmware Card to run Gammon Gambler from diskette. Insert the Gammon Gambler diskette into the disk drive with the label facing up and to the right, and close the drive door.

Now turn on the power to your Apple. Some Apples have an "auto-load" feature and will immediately begin to whir the disk drive and automatically load the program. You don't need to do anything else and the backgammon board for play will appear after you have had a good look at the copyright screen.

If yours doesn't have this feature, you will see an asterisk (\*) on the screen with a rectangle blinking quietly beside it. You have to "boot" the Gammon Gambler diskette as you would "boot the DOS". To do this, press **RESET**, press **6** (assuming your Disk II Controller Card is in slot 6), hold down the key marked **CTRL** and press **K**, and then press **RETURN**. Your disk drive's IN USE light should come on and you will hear it spinning the diskette. In a minute you'll see the Gammon Gambler copyright screen and then the board for play is drawn on the screen.

Now that Gammon Gambler is loaded into the Apple's memory, you can play as many games as you want until you turn your Apple off, or a mishap occurs like pressing **RESET** accidentally or the power is cut off to the Apple. In these cases, simply re-load the program using the instructions above.

With the Apple II Plus or an Apple II with the Applesoft Firmware Card you can interrupt Gammon Gambler by pressing the key marked **CTRL** and, *while holding it down*, pressing **C**. The Applesoft prompt will appear and the Apple will wait for a command. To restart the Gammon Gambler program, type **RUN** and press **RETURN**. With RAM Applesoft, you can interrupt the program with **CTRL C** and then type **TEXT** to see what you're typing; however, you must reload Gammon Gambler to play again.

## THE SCORE AND SKILL LEVEL

Each time you load the Gammon Gambler cassette, the score is set at zero-zero and the skill level at 9, the most difficult. At the start of each new game, **RESET?** is displayed at the bottom of the backgammon board. (This question concerns the score and skill level, and has nothing to do with the Apple's key marked **RESET**.)

To change the skill level, press **Y** (Yes) in response to **RESET?**. It isn't necessary to press **RETURN**. The prompt, **LEVEL**, appears. Now set the skill level by typing in a number from 0 (beginner) to 9 (expert). To find your own level of skill, enter **5** as the level and, as you start each new game, raise or lower the level until you are winning about 50 percent of the time. Pressing any key other than the valid skill level numbers (0-9) will simply set the level at 0. Your Apple memorizes the level you specify, and expects you to do the same, so you might want to write down the number you enter if you think you may forget it.

To reset the score to zero-zero, answer **Y** to the **RESET?** prompt. The score will automatically change to zero-zero. When the prompt, **LEVEL**, appears, type in the skill level you want. The score will be reset whether or not you change the skill level.

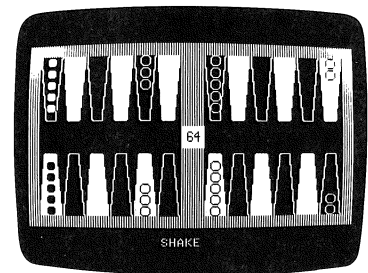
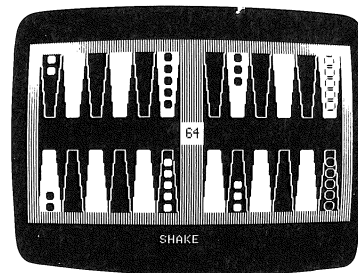
It is not possible to change the skill level without resetting the score to zero-zero.

To start a new game without changing the skill level or the beginning score, press the **N** key. The beginning score will be set at the ending score for the previous game. (For the first game after loading the program, the beginning score will be zero-zero.)

There is no noticeable time difference for the computer to plan its moves at the various levels of play. At the lower levels it will tend to attack less, to leave more stones open to being hit, and generally place its stones less wisely.

## THE BOARD

After you've responded to **RESET?**, you'll see the stones placed on the board. They will appear in one of the two possible starting positions used in backgammon. The photographs below show the two starting positions as they will appear on your Apple's screen. Look only at the placement of the stones, not at their color.



The computer randomly chooses which starting position to use for a particular game. The color of the stones you will use for a game is also randomly chosen by your computer and is not related to the starting position.

To locate your stones and determine their color, look at the upper half of the board. At either the rightmost or leftmost edge, there is one point with only two stones on it. Those two stones and the others of the same color are yours. The two stones are on the point numbered 01.

Your side of the board will always be the bottom half; your Apple will always have the upper half. The points are numbered from 01 to 12 on the upper half of the board, and from 13 to 24 on your side. The direction of numbering depends on the starting position of the stones. Appendix A contains more explanation and illustrates the way the points are numbered.

## THE FIRST ROLL

To determine who moves first, you and your Apple roll one die each. The one rolling the high die gets the first move. In this computer game, you will roll your Apple's die as well as your own for this determining throw. The computer prompts you to make the first roll by printing the instruction, **SHAKE**, at the bottom of the board. To shake the dice, press any character key, or the space bar. *Do not* press the keys marked **ESC** or **RESET**.

You will see one die appear on the right side of the board. Your die will be on the right. If the roll is a tie, the cast doesn't count and the computer prompts you to **SHAKE** the dice again.

When the computer has the higher number and the first move, it will automatically take its turn, playing the numbers shown on the initial cast of the dice. First, the dice are redrawn on the computer's side (the left). Any stone that is moved will flash briefly and beep as it leaves a point and then flash again on the landing point. You will then be prompted to **SHAKE** the dice again for your turn.

When you roll the high die and have the first move, the first thing that happens is that the dice are redrawn on your side of the board (the right side). The same numbers that appeared on the initial cast are on the dice. The color of the dice will be the same as the color of your stones.

At the bottom of the board you will see a new prompt, **DIE #1**. The computer will wait for you to tell it which stone to move. How to enter a move is explained in the Rolling Stones section, but before getting to that, you should know about the handy **#** command.

## DISPLAYING POINT NUMBERS: The # Command

This command causes the numbers of the points to be displayed on the board for the rest of the game you are currently playing. To give the command, hold down the **SHIFT** key and press the key with the **3** and the **#** sign on it. You can enter this command anytime you see a prompt at the bottom of the board. The numbers will appear and remain on the board for the duration of the game.

Using this command to respond to the first question the computer asks at the start of a game (the **RESET?** feature described above) has the same effect as answering **N** (No) to resetting the score and skill level and causes the point numbers to appear.



## ROLLING STONES

Your dice are always shown on the right side of the board. You read them from left to right: the die on the left is **DIE #1** and the die on the right is **DIE #2**.

When you roll the dice, the higher number is always displayed on the left, as **DIE #1**.

To make a move, decide which stone you want to move for the value shown on the die on the left. At the prompt for **DIE #1**, enter the number of the point that the stone is sitting on. The stone will be moved the same number of points as the number on the first die.

For example, suppose your die on the left shows a four and you want to move your stone positioned on point 01. You would enter 01 as the input for **DIE #1** and you would see the stone moved to point 05. Note that when you specify the points 1 through 9, you must enter them with leading zeros, such as 01, 07, 09.

The computer will check the move you want to make. If the move you entered is not legal, the prompt for a die number entry will remain, waiting for you to enter a valid move for that die. When the move is legal, you will see the stone flash on the point it leaves and then flash again on its landing point. The prompt for **DIE #2** will appear and wait for you to enter a move for the die on the right. In the case when you have thrown doubles and get four moves, you will be prompted to make entries for **DIE #3** and **DIE #4**.

When it's impossible for you to make a move for either die, **CAN'T** is displayed and your Apple rolls the dice for its turn. Your Apple displays the same message when it is in the same situation and prompts you to roll for your turn.

At the end of your turn you will see the question **OK?**. Answer with **N** (No) to take back your moves and replay the whole throw. Answer with **Y** (Yes) to end your turn. Your Apple will then roll its dice and make its moves.

## REVERSING THE DICE DISPLAY: The X Command

Sometimes the computer's habit of displaying the high die as **DIE #1** will not suit you, should you want to make your first move using the smaller number. Your wish is your Apple's command — press **X** and the dice will be redrawn with the smaller die on the left, as **DIE #1**.

## **TAKING BACK YOUR MOVE: The N Command**

Computers are very agreeable playing partners. Let's say you enter **01** at the prompt for **DIE #1**. Assume it's a legal move and the stone is placed on the ending point. Now hindsight makes you wish you had moved the stone on point 12 instead.

To replay that move, type **N** as the input to **DIE #2** and you will see the board returned to the state it was in before you moved for **DIE #1**. You can now enter **12** for **DIE #1**.

When you have thrown doubles and can make four moves on your turn, pressing **N** at the prompt for the second, third, and fourth die will restore the board and let you start with **DIE #1** again.

You are asked **OK?** to end your turn after you have moved for each number shown on the dice. Entering **N** in response will return all your stones to their positions at the start of your turn and you can replay the whole throw.

## **SKIPPING A MOVE: The S Command**

Press **S** at the **DIE #** prompt if you cannot use the number on that particular die. The game is continued as if you had entered a valid starting position.

Use this command carefully, being sure that there is truly no legal move possible. This is the only command the computer will not check for validity.

For the record, backgammon rules require that you make every move possible on your turn. The computer will never skip a possible move, even if making the move puts it in jeopardy.

## **LEAVING THE BAR: The B Command**

When a blot is hit, it appears on the bar on the opponent's side of the board. (See Appendix A for more about blots and the bar.) Press **B** in reply to **DIE #1** to enter your stone from the bar. If you must use the smaller number to enter, the computer will automatically reverse the dice when you press **B** and then enter the stone.

When you can use one die to leave the bar, but can't move for the other die, use the **S** command to skip the second die.

The computer will automatically move its stone from the bar as soon as it can.

If there are no open points corresponding to the numbers on the dice, then the computer displays **CAN'T** at the bottom of the board and initiates the next roll.

## **DOUBLING THE STAKES: The D, A, and R Commands**

As in actual play, the doubling cube is shown in the middle of the board at the start of the game.

To offer a double to your Apple, enter **D** when you are prompted to shake the dice. The program will first check that you actually own the cube. If you do own it and your Apple accepts the double, the doubling cube appears on the left side of the backgammon board with the new stakes displayed. If your Apple rejects the offer, you win the game at the previous stakes.

Pressing **D** when you don't own the cube will simply roll the dice.

**DOUBLE** appears on the screen when your Apple offers you a double. You can press **A** to accept it and keep the game going at the higher stakes, or press **R** to reject the offer and forfeit the game at the previous stakes. The score will be displayed for about 10 seconds and then the board for a new game is drawn on the screen.

## **QUITTING THE GAME: The ESC Key**

To quit a game in progress, press the key marked **ESC**. Nothing will happen for approximately 10 seconds, as your computer digests this command, and then it will draw a fresh board to start a new game.

## **LEAVING THE PROGRAM: The CTRL C Command**

You can interrupt the Gammon Gambler program at any time to use your Apple for something else with the **CTRL C** command. To give it, hold down the **CTRL** key and press **C**. The Applesoft BASIC prompt (1) will appear. If you're using RAM Applesoft (from cassette or diskette), type **TEXT** to get the 1 prompt. Gammon Gambler will remain in the Apple's memory (provided you don't erase it) and can be re-run by typing **RUN** at the 1 prompt if you have ROM Applesoft. With RAM Applesoft or if the program has been erased, you can readily load it from your cassette or diskette to play some more.

## **BEARING OFF**

You can begin bearing off when all your stones are within your home table (points 19 to 24). If the number you roll is higher than any number needed to bear off a stone, then you must apply it to the stone farthest from point 24.

## SCORING

The game ends and the score is displayed briefly as soon as one of you has borne off all your stones.

For instance, if a game had started with the score set at zero-zero, the stakes had been doubled once, and you beat your Apple in a gammon, you would see

HUMAN 4    COMPUTER 0  
GAMMON

While your Apple won't heartily congratulate you, neither will it smirk when it wins.

The game is worth one point to the winner if neither opponent has doubled and the loser has borne off at least one stone. When the game has been doubled, and possibly re-doubled, the points won are the number shown on the face of the doubling cube.

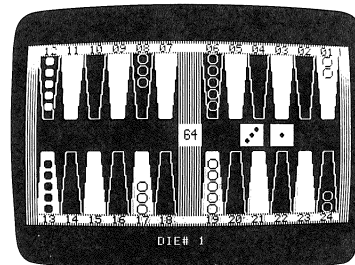
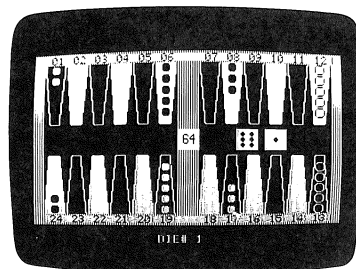
The game is a "gammon" when all the winner's stones are borne off before the opponent has borne off any at all. It is worth twice the number of points of a regular game.

The "backgammon" is worth three times the number of points of a regular game and occurs when all the winner's stones are borne off before the opponent bears off any and while the opponent still has at least one stone in the winner's home board.

## APPENDIX A: Rules of Backgammon

The game consists of two players, each with 15 "stones" (also called pieces, men or checkers), and a backgammon board. The object of the game is for each player to move his or her stones around and then off the board. The winner is the first player to remove all his or her stones from the board.

**THE BOARD:** On the board there are 24 triangular-shaped "points" of alternating color, separated into four quadrants. (The points on your Apple's board are not quite triangular.) The points are numbered from 01 to 24 in either a clockwise or counterclockwise direction, depending on the starting position of the stones. There are two ways the stones may be set up on the board. For illustration, the photographs below show the numbers identifying the points.



**DIRECTION OF MOVEMENT:** You will move your stones in the same direction the points are numbered. To tell the direction of numbering and which stones are yours, look at the upper half of the board and locate the point with only two stones on it. Note their color. Those are your stones and they are on the point numbered 01. If they are on the leftmost point, the points are numbered in a clockwise direction and you will move your stones in that direction. If they are on the rightmost point, numbering and movement are in the opposite direction.

The horizontal divider separates the board into the players' sides. On your computer's board your side will always be the bottom half. Each player's side of the board is divided into an outer board and an inner or "home" board. On your side of the board, your outer board is numbered from 13 to 18, and your home board is made up of points 19 to 24. Moving the stones off the board is called "bearing off". All of a player's stones must be within that player's home board before she or he can begin to move them off the board.

**MOVING:** To start the game, each player rolls one die. The one with the higher number moves first, using the numbers shown on the two dice. Ties are re-rolled. Thereafter, the players alternate turns and use two dice each.

A player must always move his or her stones forward (towards that player's home board in the direction the points are numbered). A stone is moved forward the same number of points as the number showing on the die. For example, if you roll a

two and a five, one move is for two points and the other for five points. The number on each die is a separate move — the dice are never added together. Doubles (both dice showing the same number) are good for four moves of that number.

A separate stone may be moved for each die or a single stone can be moved for the whole throw, but it must make a separate move for each number on the dice.

A player must make a move for each number showing on his or her dice. If a player can move for either one or the other of the dice, but not both of them, then the higher number must be played if possible and the remaining die is forfeited.

A player can land his or her stones on any "open" point. An open point is one that is vacant, or has only that player's stones on it, or is occupied by only one of the opponent's stones. There is no limit to the number of his own stones a player can put on one point.

A stone cannot land on a "blocked" point — one which is occupied by two or more of the other player's stones.

**BLOTS:** Any single stone on a point is called a "blot". A player "hits" an opponent's blot by landing his or her stone on the same point.

**THE BAR:** The blot that is hit is placed on the area which divides the board vertically, called the "bar". When a player has stones on the bar, he or she cannot move until they are all "entered" from the bar. To do this, that player must roll a number that corresponds to the number of an open point in the opponent's home board. Only one stone at a time may be entered for each number that corresponds to the open point. Numbers that can't be used are forfeited. When all the player's stones have been entered, normal forward movement can resume.

**BEARING OFF:** All of a player's stones must be in his or her home board (points 19 to 24) before he or she can start removing them from the board, calling "bearing off". The stones are moved the same number of points as the numbers on the dice. If the number on a die is higher than the number of points any stone needs to bear off, then that number is used to bear off the stone farthest from point 24. For example, if a player has borne off all stones except for one on point 21 and one on point 23 and the dice show 6 and 1, the 6 is used to bear off the stone on point 21. If a player is bearing off and one of his or her blots is hit, that stone must be entered from the bar and brought around to the home board before the player can continue bearing off.

**DOUBLING:** The large "doubling cube" is used to double the stakes of the game. It is initially placed in the middle of the board with the number 64 facing up and the game is worth one point to the winner. Either player may offer to double first, but must do so before rolling the dice for his or her turn. The opponent may accept the offer and the stakes are doubled. The player who accepts the offer of a double is said to "own the cube" and is the only player who can offer to double the stakes again. The player who owns the cube places it at the right edge of his or her board. With the computer's backgammon board, the cube is displayed on the left when the Apple owns it and on the right when you own it.

Rejection of the offer of a double ends the game at the previous stakes in favor of the player who offered to double.



## APPENDIX B: Summary of Commands

PROMPT:	ENTER:	ACTION:
RESET?	Y	Sets score to zero-zero and lets you change the skill level.
	N	Sets starting score at last game's score and keeps same skill level.
	#	Point numbers drawn on board, sets starting score at last game's score and keeps the skill level of the last game.
LEVEL	Ø . . 9	Sets skill level from beginner (Ø) to expert (9). Score is reset to zero-zero.
	#	Point numbers are drawn on board. Level set to Ø.
SHAKE	any key	Rolls the dice.
	D	Offers double to the Apple.
	#	Point numbers are drawn on the board and dice are rolled.
DIE #	point no.	Moves the stone on that point according to the number on that die. Leading zeroes must be entered (e.g. Ø3).
	N	Takes back all moves made for the turn.
	X	Reverses the dice display.
	B	Enters a stone from the bar.
	S	Skips a move.
	#	Point numbers are drawn on the board.
	Y	Ends your turn and starts computer's turn.
OK?	N	Takes back all moves and you can replay the whole throw.
	#	Point numbers are drawn on the board.
	A	Accepts computer's offer of double.
DOUBLE	R	Rejects computer's offer of double and ends the game.
any prompt	ESC key	Quits present game and draws new board.
	CTRL C	Enter Applesoft BASIC with Gammon Gambler intact in memory. In ROM Applesoft, you can type <b>RUN</b> to restart game.

**PERSONAL SOFTWARE INC.**  
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