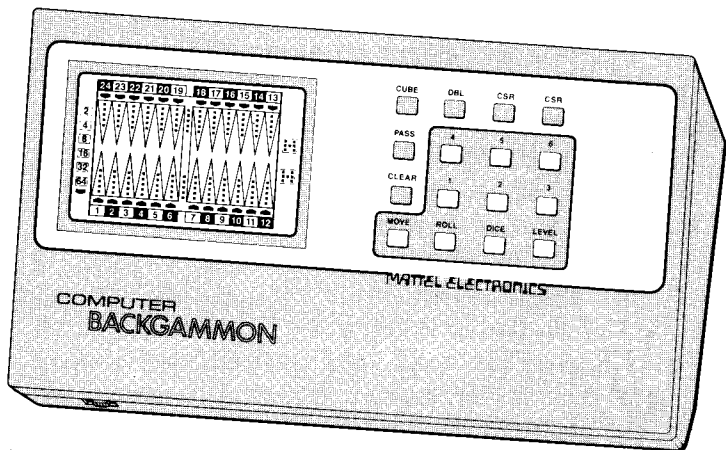


COMPUTER BACKGAMMON

1777-0920

PLAYING INSTRUCTIONS



THE RELENTLESS
OPPONENT
YOU CAN TAKE
ANYWHERE!

MATEL ELECTRONICS

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A. HOW TO INSTALL THE BATTERY

Turn the game upside down. Slide battery compartment cover off and install one 9-volt alkaline battery, then replace cover.

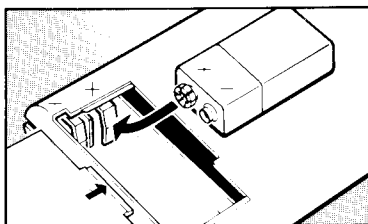
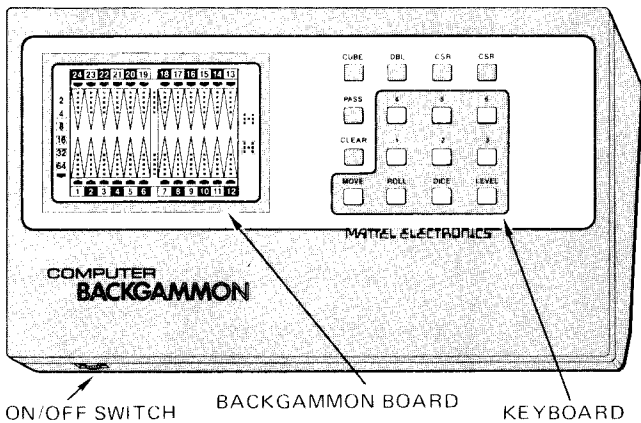


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B. THE KEYBOARD

CUBE - Press to disengage Cube option (no sound); press again to activate Cube (short beep). Use only at start of game.

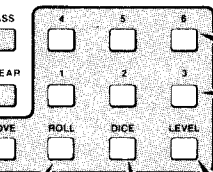
PASS - Indicates that you refuse computer's double and concede the game.

CLEAR - Corrects input errors **before** you press **MOVE**.

MOVE - Locks in player's move and initiates the computer's dice roll and move.

DBL - When Cube option is used and marker is shown, doubles score value of game if the computer accepts. You must press **before** you roll.

CSR **CSR**



ROLL - Rolls dice for your turn.

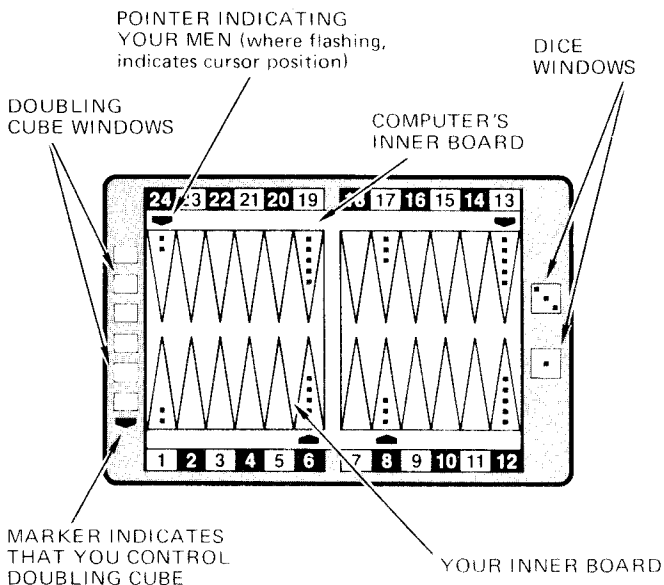
DICE - Inputs dice you specify, for yourself or computer.

CSR - Moves cursor to the point you want to **move from**. Left **CSR** moves counterclockwise around the board; Right **CSR** moves clockwise.

NUMBERS - indicates number of points you want to move your man - Indicates die spots after you press **DICE** - Indicates game level after you press **LEVEL**

LEVEL - Sets game level (1 to 6; level 6 is highest skill).

C. THE BACKGAMMON BOARD



NOTE: THIS FIRST PART OF THE INSTRUCTIONS IS FOR THOSE WHO ALREADY KNOW HOW TO PLAY BACKGAMMON. IF YOU HAVE NEVER PLAYED OR WANT TO BRUSH UP ON THE RULES OF THE GAME, REFER TO PAGE 9.

D. BACKGAMMON: YOU VS. THE COMPUTER

After you've installed the battery, slide ON/OFF switch to the left. The board will appear in game start position, as illustrated.

1. SET THE SKILL LEVEL. Press **LEVEL**, then a number key (Level 1 is easiest; 6 is the most challenging). You hear a short buzz. If you don't select a level, the computer will automatically play at Level 1.
2. ROLL THE DICE. Press **ROLL**, and the computer will generate a random electronic dice roll. You hear a "roll" sound while the dice spots are changing. If the first roll of the game produces doubles, you must press **ROLL** again, since the first turn is decided by whether you or the computer have the higher die. The top die is the computer's, for this purpose.
3. YOU CAN, IF YOU WISH, DETERMINE THE DICE VALUES. **Any time during the game** you can input dice values by pressing **DICE**, then the two number keys for the spots you select. If you do this for the opening roll of the game, the top die is the computer's, and if you make it the higher value, the computer will move as soon as you enter the second die. If you make your own die have the higher value, you can change the dice any time until you actually make your move. To set the computer's dice values, press **DICE** and the desired numbers at the completion of your turn.



If you are playing with the Cube option, the computer makes its doubling decision **after** you set its dice values (when the dice are randomly thrown, the computer decides before roll). The computer does not use your non-random dice in making its doubling decision. After the computer has made its decision, it will "roll" the dice, but they will stop on the numbers you selected. Then the computer will make its moves.

4. USE THE CURSOR TO MOVE YOUR MEN.

The blinking pointer shows you where the cursor is. When you press a number key corresponding to an unused die value, one of your men will move from that point. The cursor is always at your backmost point when your turn begins. To move the cursor clockwise, press the **right** **[CSR]**. To move counterclockwise, press the **left** **[CSR]**. Each time you press **[CSR]**, the cursor will jump to the next point where one or more of your men are located (indicated by the pointer).

When the cursor is located at the point you want to move from, press a number key equal to an unused die value. If the move is legal, you hear a double signal. The man being moved will flash. Then the man will be moved. If the move is **not** legal, you hear a "buzz". Then the cursor goes back to your backmost position if you have another possible move. (With double dice, you'll have 3 more moves).

When you have used both your dice (if possible), press **[MOVE]**. If you change your mind before you press **[MOVE]**, you can reset your men with **[CLEAR]**.



NOTE: According to the rules of backgammon, if there is any way you can use both dice values, you must do so. The computer will let you make a move which would prevent your using the second die value because of the board situation. It is up to you to be sure that you use both dice if you can.

5. USING THE DOUBLING CUBE. Each basic game of Backgammon has a score value of one point. However, the score value can be increased when the Doubling Cube is brought into play. With the Cube, it's possible to raise the score value of the game to 2, 4, 8, 16, 32 or 64 points! If you have the advantage in the game, you can use this doubling option. The Cube option is automatically ON at game start. To disengage, press **CUBE** before your first play. You can double before you roll your dice if there hasn't already been a double or if the cube control pointer is visible.

To double the value of your game against the computer, just press **DBL**. The cube's value now appears in one of the windows to the left of the board. If the computer accepts your double, the control pointer disappears (meaning that the computer controls the cube for the **next** double) and you can go ahead with your roll.

If the computer declines to accept your double, you'll hear the 6-note "victory tune", indicating that you have won the game.

If the cube has been doubled alternately by you and the computer (so that it stands at 4), and you then offer to double again and the computer refuses, the game you win is worth 4 points.



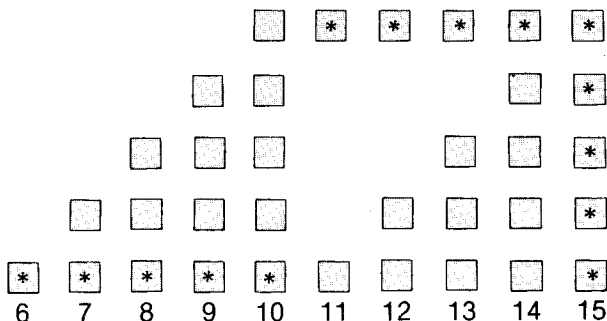
6. IF THE COMPUTER DOUBLES YOU . . . there may be a short pause after you've pressed **MOVE** at the end of your turn, while the computer evaluates the playing situation. The dice will not roll until it has made its decision. If the computer wants to double, the cube pointer will flash and you'll hear a continuous "beep beep". If you want to accept the double, press **DBL**. The cube pointer stops flashing, the beeping stops, the cube pointer turns on to show that you have cube control, and the dice begin to roll. If you do **not** wish to accept the double, press **PASS**. You lose the game, of course, and whatever points are currently shown in the cube windows.

7. WHEN YOU'RE HIT. When any man is hit, it is first removed to the bar, then the attacking man moves to its vacated point. When you have a man on the bar you must play that man before any others. There will not be a cursor indicator in that situation, since re-entering your man from the bar first is your only legal move.

8. COMPUTER DECISION TIME. As you would expect, the computer plays faster at the lower levels, and slightly faster at all levels when the doubling cube is not activated. Generally double dice require more time for the computer, particularly 1's, 2's and 3's. The computer's slowest response will be in situations when it has rolled double dice and a hit is possible, and for any move when you have a man on the bar. The average response time at level 1 is 15 to 20 seconds; at level 6, 35-40 seconds. The maximum time the computer will take is about 2½ minutes, but this occurs infrequently.



9. **STACKED MEN.** When either you or the computer have more than 5 men on a point, the LCD display will indicate the number like this:



(the starred men will be seen as flashing)

10. **BEARING OFF.** When bearing off your men, use the same method as for your moves in the earlier stage of the game: press a number key for each die value and then press **MOVE**. Those men will disappear.

11. **SOUND EFFECTS.** The computer generates several sounds, as follows:



DICE ROLL — Single tone, followed by 3 ascending tones.



A MAN HIT — A short tone, followed by 4 ascending tones.

BUZZZZZZ

BUZZ — Heard when you attempt an illegal move, or when the computer has rolled dice but cannot take any moves, or when the first roll comes up doubles.

BEEP — Heard when cube option is activated.

BEEP BEEP — Heard when computer has doubled and is waiting for you to accept (with **DBL**) or concede the game (with **PASS**).

6 TONE VICTORY TUNE — Heard when you win.

2 LONG BUZZES — Heard when the computer wins.

GAMMON — Victory tune or buzz plays 2 times.

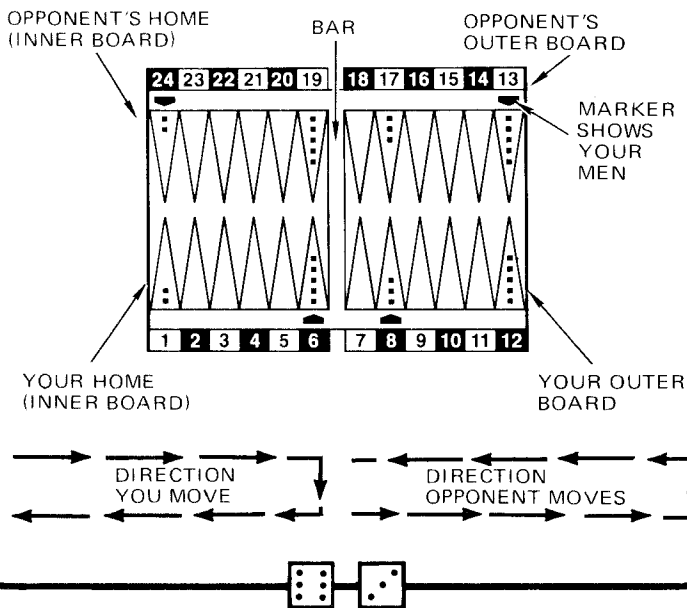
BACKGAMMON — Victory tune or buzz plays 3 times.



E. THE BASICS OF BACKGAMMON

THE OBJECT OF THE GAME is to be the first to move your 15 pieces (called "men") around and finally off the board. Moving your men off the board is called "bearing off". The first player to remove all his men is the winner. This movement of men is done according to rolls of dice, and each spot on the dice allows movement to one "point" (the 24 triangular locations).

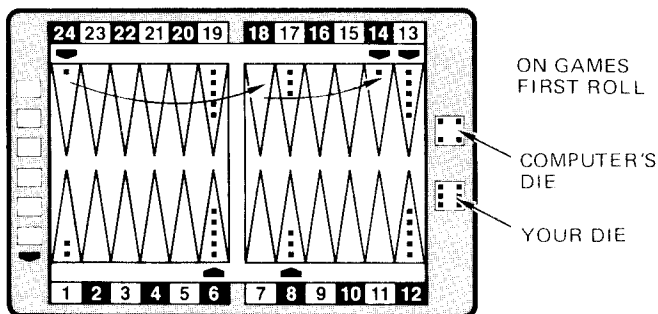
The game board is divided into four quarters. As you look at the game the upper left quarter is your opponent's "home (or inner) board". The lower left quarter is your "home (or inner) board". The quarters on the right side of the game are your "outer" boards. The home and outer boards are separated by a bar.



At the start of the game, the men are arranged as shown. In this illustration, your men are indicated by LCD markers at points 24, 13, 8 and 6. Your opponent — the computer — starts with men at opposite points.

Your men are moved according to the numbers on the dice. These numbers are to be counted **separately**, not as a total. The dice numbers can both be used to move one man, or each die can determine the movement of different men. A roll of 6 and 4 is considered a 6-and-4 move (or a 4-and-6 move), but not a 10 move. In every case though, **a move can never take your man to a point where 2 or more of your opponent's men are.**

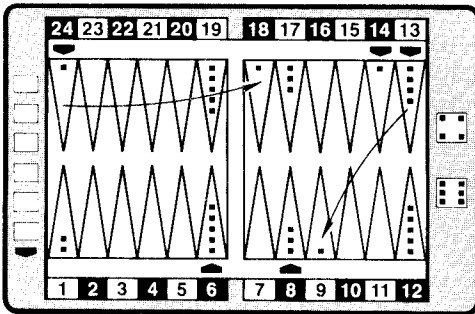
Let's assume that you have won the first roll of the dice by having a 6, and your opponent has gotten a 4. You could move one man from Point 24 to Point 18 (using the 6), then move that same man from Point 18 to Point 14 (using the 4).



Point 19 is blocked, because your opponent has more than one man there, so you could not have used a 5-5 roll to move from Point 24 to Point 14, since part of the move would have been to 19.

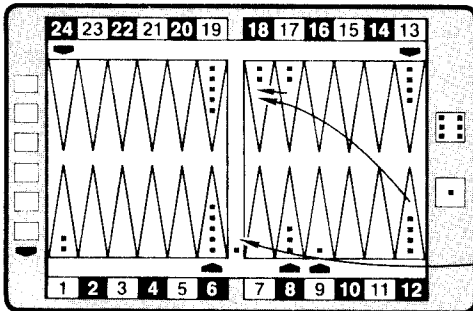


Or you could use the same roll to move two men, like this:



... or you could make other combinations of moves on that dice roll.

Let's assume that our move was the one in the second illustration. Your men at 24, 18 and 9 are each single occupants of a point. They are called "blots". If the computer, whose turn it now is, gets any combination of dice that takes one of its men to any of those points, **your** man will be "hit" — removed from the board and placed on the bar in the



YOUR
MAN
GOES TO
THE BAR



middle of the playing board. Suppose your opponent's next roll is a 6-1. This is how such a roll would be played:

Your opponent kills two birds with one stone with such a move, by hitting your blot and by occupying another point, closing it to you. Your man on the bar must be played before you can make any other move, and it must re-enter in your opponent's home board. In this case, it will take a die value of 1, 2, 3, 4 or 5 to reenter your man, because the 6th point in your opponent's home board is closed. For purposes of re-entering, points in both home boards are numbered from left to right, 1 through 6.

All these principles apply both ways, of course. If you hit any blot of your opponent during the game, that man will also be sent to the bar, and must reenter in **your** home board.

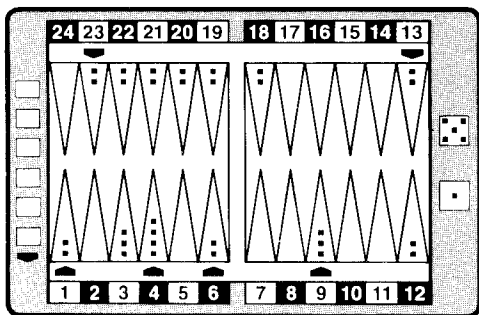
In a sense, the game of Backgammon is like a race, and during the play of the game you should protect yourself by leaving the fewest possible blots, and occupy the most possible points to present obstacles to your opponent's progress.

If double dice are rolled, the player moves twice for each die (i.e., if the roll is 4-4, a total of 16 points can be moved, in increments of four). Again, the roll can be split, with one man moving four points and the other 12 points (never landing on a closed point) or two men can be advanced in two 4-point moves — so long as the combination always takes them to open points. If doubles come up on the game's first roll, the dice must be rolled again, to determine who has the opening turn.



You must always take a move if you possibly can, even if it is to your disadvantage to do so. Here's an example of a roll in the later stages of a game that you'd rather not have; nonetheless, you must move both values, leaving yourself with at least one blot when your opponent's inner board is almost closed; if you get hit it is very likely that you will lose the game.

It's your turn . . .



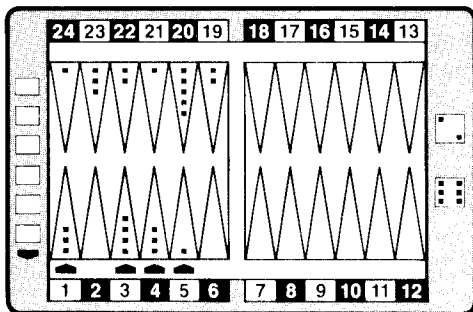
When all your men are in your home board you can start to “bear off” — remove them from the board. Remember, this is the final step in winning, because the object of the game is to bear off all your men sooner than your opponent bears off his.

When bearing off, you can remove a man from a point which corresponds to each number thrown, or when a die number is higher than the highest point you occupy. For example, here is a bearing off situation in which you have rolled a 6-2. You can use the 6 to remove your man on the 5-point. However, since you have no men on the 2-point you must move one of your men down from the 3 or 4-point.



You cannot bear off a man on the 1-point yet because you still have men on points that are higher than the unused die.

Your turn . . .



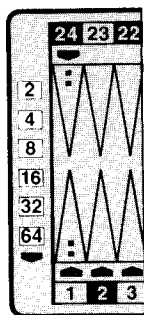
Sometimes after you have started to bear off your men you will be hit. You cannot continue to bear off until all your men are back inside your inner board!

An optional feature, the Doubling Cube, adds a whole new dimension to the game. The Doubling Cube allows either player to double the point value of the game in progress. It is somewhat like a raise in the game of poker, when one player, who believes he is likely to win the hand, can raise the stakes. His opponents must either meet the raise or concede the hand.

Each Backgammon game has the basic score value of 1 point. At the start of the game, either player has the right, before taking his turn, to double the score value (see #5, on page 5). The other player either accepts the double or concedes the game. Control of the Cube alternates between the players. In Computer Backgammon, the LCD marker shows you when you have control of the Cube.



The windows above the marker show the current point value of the game (all are shown here, but in real play there is never more than one value visible). If nothing is shown, the point value of the game is 1.



When you think you have the advantage in a game and are likely to win, challenge your opponent by doubling. If you are just slightly ahead, behind or even, your double will probably be accepted. Then, if the tide turns and your opponent gains the lead, you may be re-doubled. In this way the score value of the game can advance to a high level. If either player refuses the challenge of a double, his opponent wins the game and the scoring value appearing in the Cube windows at the time.

If a player can bear off all his men before his opponent has taken off any, that is a "gammon", and the value of the game is doubled. If the Doubling Cube were set at a value of 4, the victory would be worth 8 points.

If a player can bear off all his men before his opponent has taken off any and while the opponent has any man in the winner's inner board or on the bar, that is a "backgammon", and the value of the game is tripled (again, **triple** the value of the Doubling Cube)!



F. STRATEGY TIPS

1. Play an aggressive “hitting” game. To win at Backgammon you almost always have to take chances and play an aggressive, “hitting” game. Most of the time, you will have choices about the moves you make, and it is nearly always wise to hit your opponent when you can, unless that move leaves you very exposed to being hit yourself.

2. Put your men where they will do you the most good. Try to build strategically placed points that will hinder your opponent’s progress as much as possible. Don’t stack a lot of men on one point. Ideally, you should always control from 5 to 7 points. The key points you should try for are your bar point (#7) and your 5-point, as well as other points on your inner board. Defensively, if you have the opportunity, try to block your opponent’s bar point and/or 5-point.

3. When you leave a blot, consider the consequences. When you are forced to leave blots, try to leave them where it will require both of your opponent’s dice to hit you. If that can’t be done, leave your blot as close as possible to the attacking man (see the Probability Chart and study the frequencies of lower numbers). If you are not sure where to leave an exposed man, try to put it where it will do you the most good if your opponent fails to hit it.

4. Keep your men in play. Don’t move your men far into your inner board in the early stages of the game. When your men are on the 1, 2 and 3-points, they are effectively “out of the play” and can’t be used to block points that reduce your opponent’s choice of moves — or to hit his blots and send his men to the bar.



5. Be familiar with dice probabilities. Because you have to make a lot of decisions when you play Backgammon, you should be familiar with the probabilities of dice. You don't have to be a mathematician to be a consistent winner, but you'll do much better if your choices are based on knowing at least the elementary odds shown in the tables on page 18.

6. Having control of the Doubling Cube is important! When playing with the Doubling Cube, remember that there is an inherent value in controlling it. When you have this control from having accepted your opponent's double, be more conservative when thinking about re-doubling than if the Cube had not yet been used.

Don't double when you have a clearly strong opportunity to win a gammon, because that could let your opponent "off the hook" by resigning and avoiding the gammon premium.

Always view each position independently from what happened before. Be objective, and **never** accept doubles to "get even"!

If you estimate that you have a 25% chance or better to win the game, accept your opponent's double. If not, pass!



G. PROBABILITIES & POSSIBILITIES

You do **not** have to be a mathematician to play Backgammon well. However, it will help you to be aware of how some numbers are more likely to occur than others. There are exactly 36 possible combinations of dice spots, but because double dice are playable two times each, the probabilities of rolled numbers are distributed this way:

| Spots | No. of Ways Out of 36 | % of Occurance (Probability) |
|-------|-----------------------|------------------------------|
| 1 | 11 | 30.6% |
| 2 | 12 | 33.3% |
| 3 | 14 | 38.9% |
| 4 | 15 | 41.7% |
| 5 | 15 | 41.7% |
| 6 | 17 | 47.2% |
| 7 | 6 | 16.7% |
| 8 | 6 | 16.7% |
| 9 | 5 | 13.9% |
| 10 | 3 | 8.3% |
| 11 | 2 | 5.6% |
| 12 | 3 | 8.3% |
| 15 | 1 | 2.8% |
| 16 | 1 | 2.8% |
| 18 | 1 | 2.8% |
| 20 | 1 | 2.8% |
| 24 | 1 | 2.8% |



One way to apply these probabilities is to use them as a guide when you have a choice of points where you will place a blot. This chart shows you the most "dangerous" locations . . . and the safest:

**THE NUMBER OF WAYS
A BLOT CAN BE HIT
(Ignoring Intervening Blocked Points)**

| Points From Attacking Man To Blot | No. of Ways | % of 36 Possible Rolls (Your Chance of Being Hit) |
|--|-------------------|--|
| 1 | 11 | 30.6% |
| 2 | 12 | 33.3% |
| 3 | 14 | 38.9% |
| 4 | 15 | 41.7% |
| 5 | 15 | 41.7% |
| 6 | 17 | 47.2% |
| 7 | 6 | 16.7% |
| 8 | 6 | 16.7% |
| 9 | 5 | 13.9% |
| 10 | 3 | 8.3% |
| 11 | 2 | 5.6% |
| 12 | 3 | 8.3% |
| 15, 16, 18 20 or 24 | 1 each | 2.8% |
| 13, 14, 17, 19 21, 22 or 23 | NONE | ZERO |



Finally you should be aware of your chances of re-entering your men from the bar. These chances are determined by the number of points in your opponent's home board that are blocked. Knowing these probabilities will be especially helpful when you have to decide whether or not to accept a double by your opponent. If you have more than one man to be re-entered your chances are considerably less, of course.

NUMBER OF WAYS TO RE-ENTER ONE MAN FROM THE BAR ON ONE DICE ROLL

| No of Points Blocked | Number of Ways | % of 36 Possible Rolls (Chance of Re-Entry) |
|-----------------------------|-----------------------|--|
| 1 | 35 | 97.2% |
| 2 | 32 | 88.9% |
| 3 | 27 | 75.0% |
| 4 | 20 | 55.6% |
| 5 | 11 | 30.6% |

NUMBER OF WAYS TO RE-ENTER TWO MEN FROM THE BAR ON ONE DICE ROLL

| No of Points Blocked | Number of Ways | % of 36 Possible Rolls (Chance of Re-Entry) |
|-----------------------------|-----------------------|--|
| 1 | 25 | 69.4% |
| 2 | 16 | 44.4% |
| 3 | 9 | 25.0% |
| 4 | 4 | 11.1% |
| 5 | 1 | 2.8% |



H. GLOSSARY OF BACKGAMMON TERMS

Backgammon - A triple score game, when the losing player has been unable to bear off any men, and still has at least one of his men in the winner's inner board (or on the bar) when the game ends.

Bar - The space dividing both player's home and outer boards, and the location of men that have been hit. Men on the bar must be re-entered before any other man can be played, at an open point in the opponent's inner board.

Bar Point - Each player's 7-point, the first point on his outer table, next to the bar.

Bearing off - Generally, the last stage of the game — the process of removing men from the inner board according to rolls of the dice. To bear off, all men must be in the inner board; if bearing off has begun and a man is hit, this process cannot continue until that man has re-entered from the bar and been moved around and into the inner board again. When a die number is higher than the highest point on which the player has any men, he bears off from the highest number. Otherwise, a man may be borne off the point whose number is on either die. The first player to bear off all 15 men wins the game.

Blot - A single man on any point.

Board, inner - Sometimes called the "home board", the quarter of the game which is the destination of the men. In Computer Backgammon, your inner board is the lower left quarter; when played on the board, either side may be inner boards, by agreement of the players.



Board, outer - The other half of your side of the game.

Cube - The device which keeps the current score value of the game. A game in which the cube is not used has a score value of one point; the cube displays the score value doubled each time it is used.

Doubling - The process by which the score value of the game can be increased during play. Either player can offer to double the score value before rolling his dice, and **this right alternates between the players**. The opponent must accept the offer to double the score value, or forfeit the game and whatever score value was in effect before the offer. If he accepts the doubling offer, the game continues at the increased score value. The privilege of making the next offer to double then goes to the player who accepted the most recent offer. The score value reached by doubling is multiplied by 2 (if there is a gammon) or by 3 (if there is a backgammon).

Enter - To return a man that has been knocked off, from the bar to an open point of opponent's inner board.

Gammon - A double score game, when the losing player has been unable to bear off any men when the game ends.

Hit - Landing on opponent's blot, sending his man to the bar (also called "knocking off"). A man on the bar is sometimes said to be "on the roof," or "in the air".

Man, men - The most commonly used term for the 15 pieces, discs, counters, or checkers used by each player.



Point - Each of the 24 triangles on the whole game board; also a location on which a player has 2 or more men. When you have 2 or more men on a point, you are said to have "made the point".

Prime - Adjacent points made by one player. A 6 point ("major") prime is the ideal blocking situation, because the opponent cannot move past the prime.

I. SUGGESTED BACKGAMMON READING

For beginners . . .

The Backgammon Book, Jacoby & Crawford, Viking Press, 1970

The New York Times Book of Backgammon, Mary Zita Jacoby, Times Books, 1973

Intermediate . . .

Modern Backgammon Complete. Charles Goren, Doubleday, 1974

Playboy Book of Backgammon, Lewis DeYong, Playboy Press, 1977

Advanced . . .

Backgammon, Paul Magriel, Times Books, 1976

Paradoxes and Probabilities, Barclay Cooke, Random House, 1978

Dynamic Cube Strategy, Horowitz & Roman, Advanced Backgammon Enterprises, 1980



J. 90 DAY LIMITED WARRANTY

Mattel Electronics warrants to the original consumer purchaser of any of its electronic games (including hand-held electronic games) that the product will be free of defects in material or workmanship for 90 days from the date of purchase.

During this 90 Day Warranty Period, the game will either be repaired or it will be replaced with a reconditioned game of equivalent quality (at our option) without charge to the purchaser, when returned either to the dealer with proof of the date-of-purchase, or when returned prepaid and insured, with proof of the date-of-purchase, to:

Mattel Electronics Repair Center
5150 Rosecrans Avenue
Hawthorne, California 90250.

Units returned without proof of the date-of-purchase, or units returned after the 90 Day Warranty Period has expired, will be repaired or replaced (at our option) for a service charge of \$10.00. Payment must be made by check or money order. This non-warranty service will only be available for one year from the date of purchase. All non-warranty units must be returned postage prepaid and insured to MATTEL ELECTRONICS REPAIR CENTER.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state. This warranty does not cover damage resulting from accident, unreasonable use, neglect, unauthorized service or other causes not arising out of defects in material or workmanship.

www.handheldmuseum.com



**IN YOU NEED SERVICE FROM MATTEL
ELECTRONICS REPAIR CENTER . . .**

It's available during **and** after the 90 Day Warranty Period.

1. Pack the product carefully in its original box. If the box is not available, use a strong carton with plenty of newspaper or other padding. Enclose a brief note telling us the specific problem you are having with the unit, and your name and home address. Remove the batteries.

2. Print this address on the box:

**MATTEL ELECTRONICS REPAIR CENTER
5150 ROSECRANS AVENUE
HAWTHORNE, CA 90250**

. . . and your return address.

3. Send the package by insured parcel post.

During the warranty period, enclose proof of purchase date. After warranty has expired, enclose check or money order for \$10.00.

IMPORTANT INFORMATION

If game malfunctions this is the first sign of battery wear. A fresh battery should solve the problem. Use 9-volt high quality alkaline batteries.

PROOF OF PURCHASE



MATTEL ELECTRONICS™



PRODUCT NO. 1777-0920