

REVERSI SENSORY CHALLENGER[®]



**OWNER'S MANUAL
INSTRUCTION BOOKLET**

**MODEL RSC
REVERSI SENSORY
CHALLENGER[®]**

18 LEVELS OF PLAY

QUALITY MADE IN U.S.A.

PATENT NO. 4,235,442

Welcome To The Future . . .



IT'S YOU AGAINST THE COMPUTER! Fidelity's REVERSI SENSORY CHALLENGER® is the space age way to play a popular game.

REVERSI, played by millions throughout the Orient since ancient times, lets you match your powers of concentration against the high-speed computer "brain." Although the rules are simple—they can be mastered in minutes—the strategies become more complex as the game progresses.

Your REVERSI SENSORY CHALLENGER® features Fidelity's advanced Sensory Playing Surface. This means your moves are automatically recognized and entered into the computer. Brightly lit LEDs graphically illustrate where each piece is placed or turned, and pleasing tones audibly signal that a move was made.

Your REVERSI SENSORY CHALLENGER® has many outstanding features that help you learn and enhance playability of the game and provide many hours of entertaining and spirited competition.

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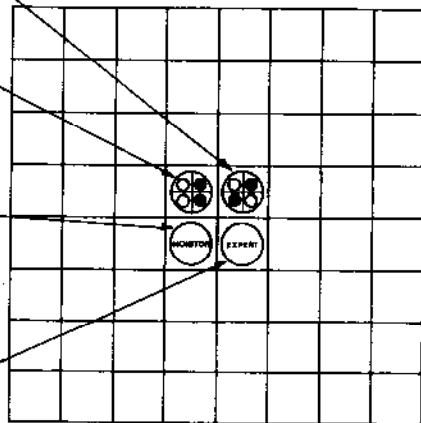
SECTION I—OPERATION KEYS AND INDICATORS

Press to select. Initial set-up "A" is automatically selected for each new game.

Press to select. Alternate starting set-up.

Press to select. Permits 2 human players, REVERSI acts as referee.

Press to select. Activates EXPERT mode. Selection of levels one through nine will all be in EXPERT mode.



NOTE: Any of the four option squares above may be pressed in any order before play begins.



PLAY MODE. Indicator flashes during REVERSI's move time; stays lit during your move time.



RESET. Starts a new game.



TONE. Turns Tone off/on.



POSITION VERIFY. Verifies position of black & white pieces. Also used to enter the PROBLEM MODE.



LEVEL SELECT. Selects playing levels 1 through 9 in Novice or Expert mode.



CLEAR. Used in clearing a move.



DISPLAY MOVE. Will suggest human player's next move.



REVERSE. Takes back unwanted moves.



START/STOP. Used to change sides with the Computer; used to stop Computer search process during Computer's turn.

INTRODUCTION

The contents of this Owner's Manual describe the many features of your REVERSI SENSORY CHALLENGER®, how the REVERSI SENSORY CHALLENGER® operates, how communication is accomplished between you (the human player) and the Computer, and the rules of play for the game of REVERSI.

Input is accomplished via the Sensory surface and the Special Function keys, REVERSI responds via the illuminating LEDs and accompanying audible tones.

Section One contains instructions for operating your REVERSI SENSORY CHALLENGER® and some of the basic rules of the game.

Section Two describes the uses and operations of the various options available via the Special Function keys.

We recommend that, at first, you read only Section One. After you have become familiar with the basic operation, Section Two—Special Features—will explain the additional features and variations which will make your REVERSI SENSORY CHALLENGER® a versatile and competitive companion for many years. To simplify the instructions, we first present a description of the rules of Reversi. Following the rules, are instructions for operating your REVERSI SENSORY CHALLENGER®.

HOW TO PLAY REVERSI

The rules of play are simple—anyone can learn to play in only a few minutes. However, as you get further into a game, you'll quickly realize that REVERSI is a real challenge. It is a game of complex strategy and precise thinking. The skill is in your ability to out-think your opponent. In fact, REVERSI is so tricky that the

outcome of the entire game can be reversed by the clever placing of one piece.

The game board consists of 64 squares, and the game is played with 64 disc-like pieces. The pieces are black on one side and white on the other. Each player starts with 32 pieces in one color which is used throughout the game.

The objective of the game is for one player to end up with the greatest number of pieces in his color.

1. The game begins with the initial set-up shown in Figure 1.

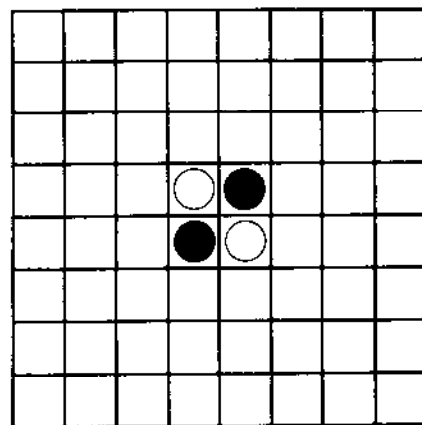


FIGURE 1.

2. Black always moves first. A move consists of “trapping” your opponent’s piece (or pieces) between two of your pieces, and then flipping the trapped pieces over to your color. A trap may occur in any row, in any direction—horizontal, vertical, or diagonal. One or more opposing pieces may be trapped on any given move in one or more rows at one time. A row is defined as one or more pieces in a continuous straight line.

3. For example: A row contains one black and three white pieces. A second black piece is added at the end of the row...



forming a trap, and all of the opposing pieces are flipped. The row now looks like this:



4. If a player cannot trap and flip at least one opposing piece, the turn is forfeited and the opponent moves again.

5. You may not skip an empty square (Figure 2) or include your own piece (Figure 3) to create a trap.

Because of this empty space,

adding this piece cannot create a trap.

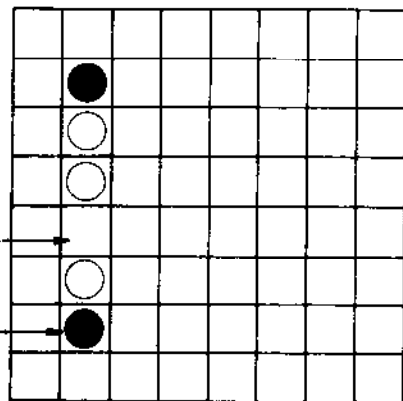


FIGURE 2

Adding this piece flips only this white piece.

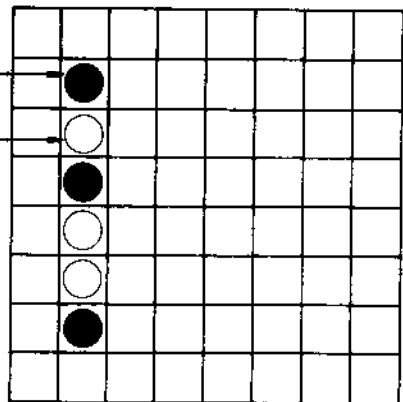


FIGURE 3

6. A trap may only be created as a direct result of adding a piece. The trap must occur in a straight line from the piece that was added, as shown in Figures 4a and 4b.

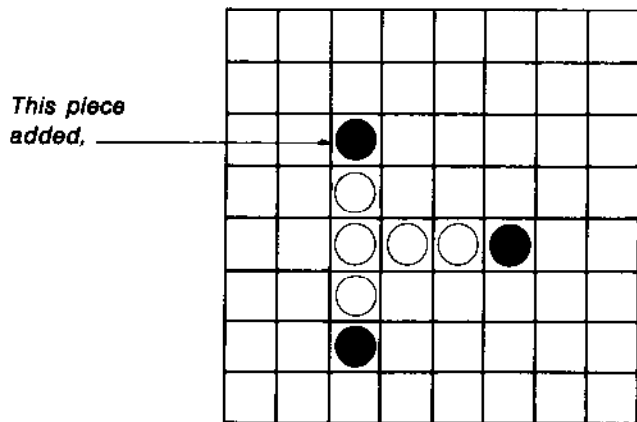


FIGURE 4a

7. All opposing pieces trapped during a given move MUST be flipped. No exceptions.
8. If all 32 of a player's pieces are used up and the player still has an opportunity to trap an opposing piece, the opponent must provide a piece to the player. This must be done as often as the player needs a piece and has an opportunity to create a trap.

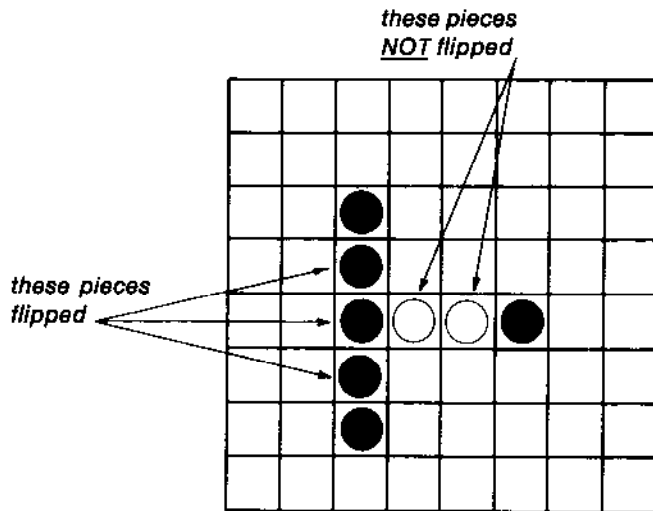


FIGURE 4b

9. Once a piece is placed on a square, it can never be moved to a different square, regardless of how many times it is flipped.
10. The game ends when all 64 squares are filled; when it is not possible for either player to make a move that will create a trap; or when all pieces on the board are of one color. The player having the most pieces of his color on the board wins.

POWER ON

REVERSI SENSORY CHALLENGER® may be operated on batteries or by using the special transformer provided. A BATTERY/AC switch on the side of the game is used to select battery or transformer operation (Figure 5). The game is turned on when the transformer is plugged into an AC wall outlet and the BATTERY/AC switch is in the AC position, or when the switch is placed in the BATTERY position.

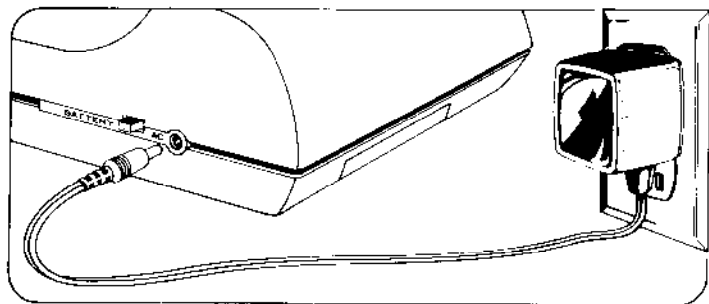


FIGURE 5

A new game is started when REVERSI is first turned on or when the RESET Key is pressed. Turning the game off and then on again or pressing the RESET Key automatically resets the playing program and clears all previously entered data. Always press RESET after turning power on.

REVERSI is all solid state and is designed to be left on for days or weeks, as required. When operating on batteries, of course,

it is recommended that you do not leave power turned on when the game is not in use.

To turn the power off, unplug the transformer and place the BATTERY/AC switch in the AC position.

TONE CONTROL

The audible tones may be turned off and on by pressing the TONE Key at any time during a game. The tones are automatically reactivated when the RESET Key is pressed, or when REVERSI is first turned on.

SELECTING PLAY LEVEL

REVERSI SENSORY CHALLENGER® provides 18 levels of playing difficulty in two categories—Novice or Expert. Nine levels are available in each category.

When the game is first turned on or when the RESET Key is pressed, Level One in the Novice category is automatically selected. When the Level Key is pressed, the current level in force is indicated by a lighted LED in row H of the Playing Surface. For Level One, square H1 is lit; for Level Two, square H2 is lit, etc. For Level Nine, all squares in row H are lit. To change levels, press the LV Key again. Each time LV is pressed, the level will increase by one. After Level Nine, pressing LV again will return to Level One.

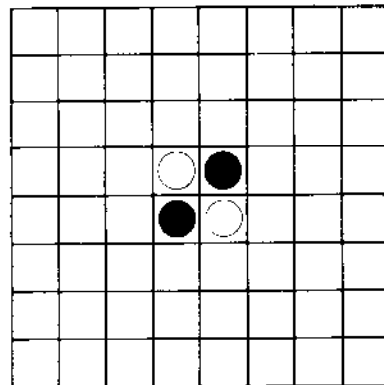
To change the playing level category to Expert, press the square marked EXPERT before play begins. As before, each time the LV Key is pressed, the level will increase by one, as indicated by the lighted LEDs in row H. Expert mode can only be selected after Power On or Reset.

Levels may be selected or changed at any time during a game. The following chart indicates the average computer response times during each different level.

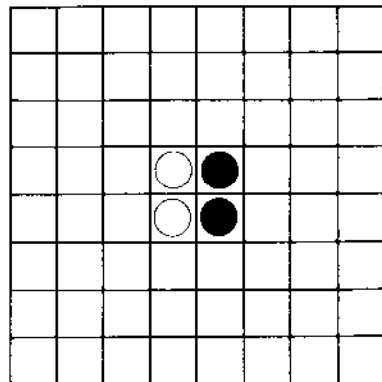
PLAYING LEVEL	AVERAGE RESPONSE TIME
H1	1 second
H2	3 seconds
H3	5 seconds
H4	15 seconds
H5	30 seconds
H6	1 minute
H7	2 minutes
H8	4 minutes
H9	Infinite

INITIAL NEW GAME SET-UP

You have a choice of two initial set-up configurations at the start of a new game. Initial set-up "A" is selected automatically when a new game is started. To select Initial set-up "B," press the square marked with the "B" layout on the Playing Surface before making your first move. Set up the pieces for "A" or "B" as shown in Figure 6.



Set-up "A"



Set-up "B"

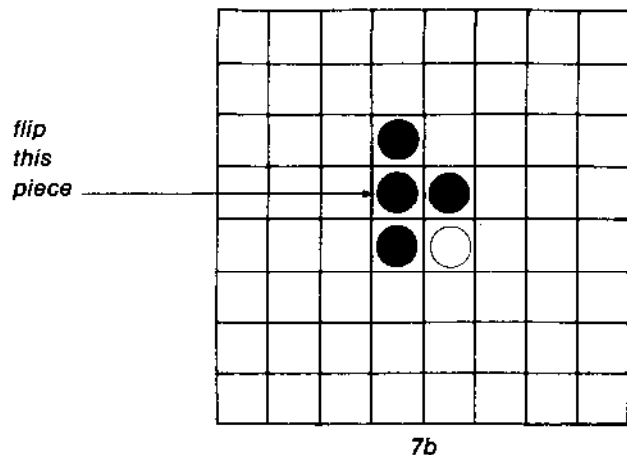
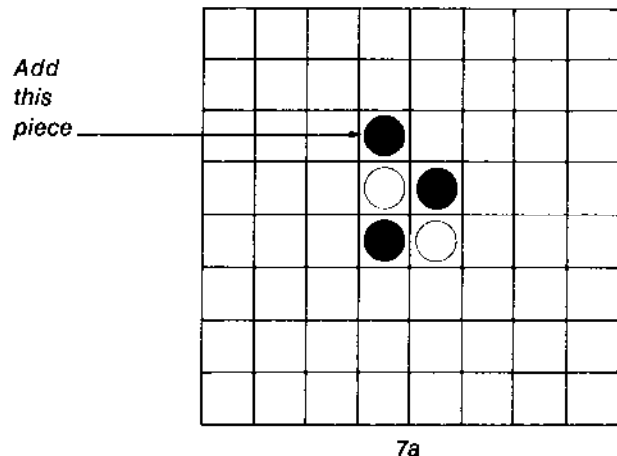
FIGURE 6. INITIAL SET-UP

Place white pieces on the continuously lit squares, and place black pieces on the flashing squares.

TO BEGIN PLAY

Black always moves first. At the start of each new game, the Computer assumes you will play black and will make the first move. (To have the Computer make the first move and play the black pieces, press the ST Key—see CHANGING SIDES).

For example, the first move could be made by placing a piece as shown in Figure 7a. As illustrated, a white piece is trapped and will be flipped as shown in Figure 7b.



7b
FIGURE 7. FIRST MOVE, TRAP COMPLETED

A move is made by placing a piece on a square and pressing the piece down on that square (See Figure 8) to enter the move into the Computer. The LED on that square will light continuously. The LEDs for those pieces that should be flipped will flash. Manually flip the flashing pieces and then press the piece with the continuously lit LED again. All LEDs will go out to signify that the move is complete.

The Sensory Playing Surface contains a pressure-sensitive switch beneath each square. Place a piece on a square and press down, as shown in Figure 8, until the LED lights.

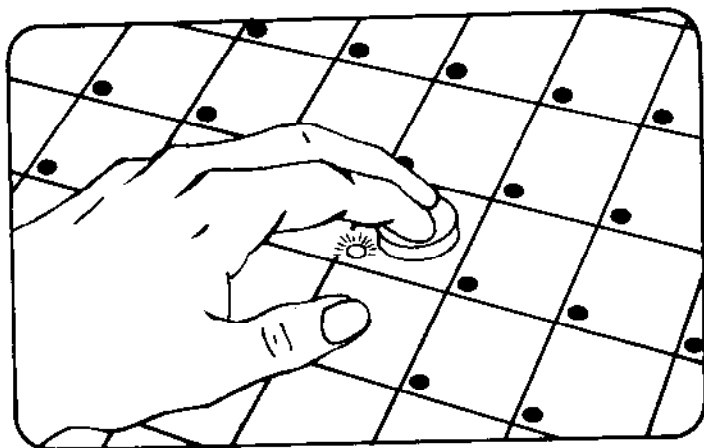


FIGURE 8

REVERSI SENSORY CHALLENGER® makes its move by lighting a square where it wants a piece to be placed, and all pieces to be flipped begin to flash. Place a piece on the lighted square, flip the pieces on the flashing squares, and then press down on the lighted square. All lights will go out, signifying that the move is completed. It's now your turn again.

ILLEGAL MOVE

REVERSI SENSORY CHALLENGER® will signal if you attempt to make an illegal move by sounding the tone signal. No squares will light. To correct, simply make a legal move.

SECTION II—SPECIAL FEATURES

MONITOR MODE

If two humans want to play against each other, REVERSI SENSORY CHALLENGER® will act as a referee by keeping track of each player's moves and by signaling an illegal move.

To activate the Monitor mode, press the square marked MONITOR immediately after Reset or Power On.

After pressing the MONITOR Key to enter the Monitor Mode, *NO* other key should be pressed other than a playing square. If any other key is pressed while in this mode, the computer will react incorrectly.

CHANGING SIDES

At the beginning of a game, before the first move is made, you may have REVERSI play black and make the first move by pressing the ST Key. You will now play the white pieces.

At any time during a game, you may change sides with REVERSI by pressing the ST Key when it is your turn to move. For example, if you are playing black and REVERSI has just completed a move for white, pressing ST will cause REVERSI to change sides and make black's next move, and you will play white from that point on.

STOP

The Stop option may be used to halt REVERSI's thinking process, on any level, and force it to execute the move it is considering at that moment. This is done by pressing the ST Key during REVERSI's move before the move is displayed.

CLEARING A MOVE

If you change your mind about a move you have already made, you may take back that move by pressing the CL (CLEAR) Key *before* pressing the lighted square, which is the final step in any typical move. Press CL and make the correct move. If you have pressed the lighted square and still wish to delete that move, see Move Delete, below.

MOVE DELETE

You may delete one or more moves previously made or delete every move all the way back to the beginning of the game, if desired. To delete a move, press the RV Key (after REVERSI's move). The squares involved in the last move will light. Remove the piece from the continuously lit square and flip the piece(s) on the flashing square(s). Press the continuously lit square—all lights will go out, signifying that the move has been deleted. Each time the RV Key is pressed, another move is deleted—first REVERSI's, then yours, then REVERSI's, etc., in reverse sequence as far back as you want to go.

To exit the Delete mode, simply make your next move as in normal play.

POSITION VERIFICATION

You may verify the position and color of all board positions at any time during a game by pressing the PV (POSITION VERIFY) Key when it is your turn to move. Squares occupied by black pieces will be shown with flashing lights; squares occupied by white pieces will be shown with continuously lit lights.

DISPLAY MOVE

The DM (DISPLAY MOVE) Key may be used to have REVERSI suggest your next move. For example: you are playing black and would like to have the Computer decide your move for you. By pressing the DM Key, the Computer will indicate the move it considers best for you. You may play the suggested move or play any other move of your choice.

There are two conditions when the DM function will not operate. If the DM Key is pressed during a game, directly after the end of a book opening sequence, no move suggestion will be offered. Similarly, when REVERSI is in a position where it has to PASS, no move suggestion will be made.

PROBLEM MODE

The Problem mode allows you to set up any piece configuration on the board and proceed to play from that position.

To enter the Problem mode, press the PV Key twice. The squares containing white pieces will light. You may now remove or add white pieces as desired. To remove a white piece, press down on the lighted square which the piece occupied—the light will go out. To add a white piece, press down on the unlighted square where you want the piece placed—the light will turn on.

Press PV again. The squares containing black pieces will start flashing. To remove or add a black piece, proceed as for the white pieces.

Press PV again (this will be the fourth time PV is pressed) to cancel the Problem mode and return to normal play mode. It is always your turn to move when you exit the Problem mode, regardless of whether you are playing black or white. In addition, you have the option of selecting which color you will play when

you exit the Problem mode. To select white, press a white piece first; to select black, press a black piece first. The color select must be the first piece pressed after exiting the Problem mode.

NOTE: If any changes to the board positions are made during the Problem mode, the Computer's ability to delete (take back) moves is negated. Moves made after the Problem mode changes may be taken back, but all moves made before the change are lost from memory.

RANDOM/NON-RANDOM PLAY

Two modes of play are available—Random and Non-Random.

In the Random mode, the Computer will select several possible good moves of equal value in response to a given situation, and will then choose one of those moves at random.

In the Non-Random mode, the Computer will always play the same move it considers best in a given situation.

The Non-Random play mode is automatically selected when the game is turned on or when RESET is pressed. To change to the Random play mode, press the RV Key after a playing level is selected. The Random play mode causes the Playing Level LED indicator to flash. In the Non-Random mode, the Playing Level indicator remains continuously lit.

If the level of play is changed during a game, REVERSI will usually take some extra time before it comes back with its first move after the change is made.

For example: If you are playing on Level 5 and you switch back to Level 1 before making your next move, REVERSI's next move may take a minute or so to come back. It is only this first move that is affected—all following moves should come back at the average response time for the particular level chosen.





SECTION III—GENERAL INFORMATION

TEST PROGRAM

The sophisticated program and solid state system with its miniaturized computer are thoroughly tested at the Factory. The possibility of a computer electronic error is remote. If you suspect that your game is responding improperly, we suggest that you reread the instructions carefully to ensure correct operation, and execute the test program below. Follow the step-by-step procedure as shown.

TEST FOR LED AND SENSORY SWITCH OPERATION

















	PRESS	RESULT	PIECE PLACEMENT
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1.		Game is reset. Two LEDs flash, two LEDs steadily lit.	(not used)
2.		Position Verify mode. LEDs as in Step 1.	(not used)
3.		Problem mode for white. Two steadily lit LEDs.	(not used)
4.		Press each square in turn. All LEDs should light. The two originally lit LEDs will go out. Press the two squares again.	(not used)

This test verifies that all sensory switches and all LEDs are functioning.

OWNER'S TEST FOR CIRCUIT OPERATION

	PRESS	RESULT	PIECE PLACEMENT
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1.		Game is reset. Four LEDs lit.	
2.		Position Verify mode. Four LEDs lit.	
3.		Problem Mode for white. Two LEDs steadily lit.	
4.		Problem Mode for black. Two LEDs flashing.	
5.		Three LEDs flashing. Flip piece on D4 to black.	
6.		Exit Problem mode.	
7.		Place black piece on E6. Flip piece on E5.	
8.		Pressing E6 enters the final move into the Computer. The tone sounds a melody, signifying that you have beaten REVERSI.	

TRANSFORMER

The transformer provided with this unit has been specifically designed for use with this product. We strongly recommend against the use of any power source other than the transformer provided by the manufacturer.

BATTERIES

Expected useful life of the batteries is approximately six hours. Weakened or damaged batteries can cause inaccurate operation or malfunction. Use four "C" size alkaline batteries only.

BATTERY REPLACEMENT

To install or replace batteries:

1. Be sure transformer is unplugged from the unit.
2. Gently push down to disengage battery cover snap-locks on bottom of REVERSI SENSORY CHALLENGER®

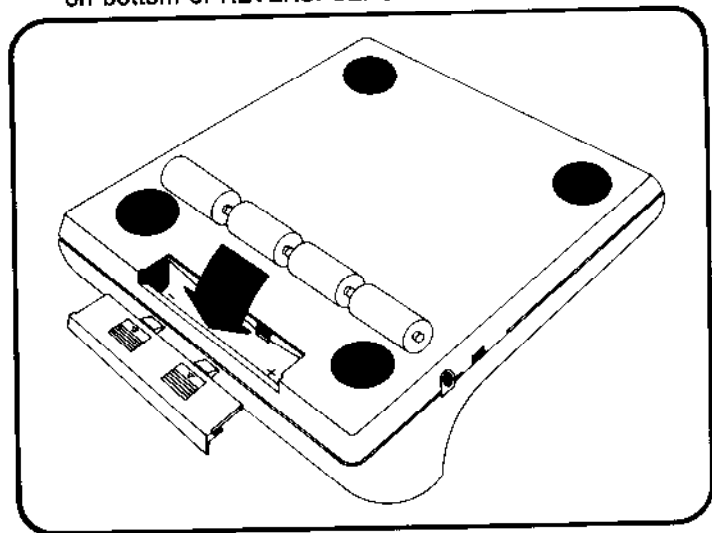


FIGURE 9

3. Slide the battery cover clear of the guide notches in the case.
4. Remove and discard old batteries.
5. Ensure that battery clips are clean and rust-free.
6. Install four (4) batteries so that their positive (+) terminals all point toward the side of the game with the Battery/AC switch.
7. Replace battery cover.

SPECIFICATIONS

POWER:

Operates on 110, 220, or 240 volt AC house power (depending upon transformer used), 50-60 Hz, 2 watts, continuous use. Batteries: 4 "C" size, Alkaline.

ELECTRONICS:

All solid state, 32K bit Read Only Memory unit for Program and Operational stages; 8K bit Random Access Memory for Scratch Pad and Intermediate storage; 6502 8 bit Central Processing Unit.

READOUT:

65 LED Indicators; multi-tone sound from Internal Tone Generator.

INPUT:

72 pressure sensitive switches (64 playing squares, 8 function keys).

SIZE:

10 $\frac{1}{8}$ " x 11 $\frac{1}{4}$ " x 2 $\frac{3}{8}$ "

WEIGHT:

Housing, Transformer, Reversi Pieces, and Shipping Material: 4 lbs., 6 oz.



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