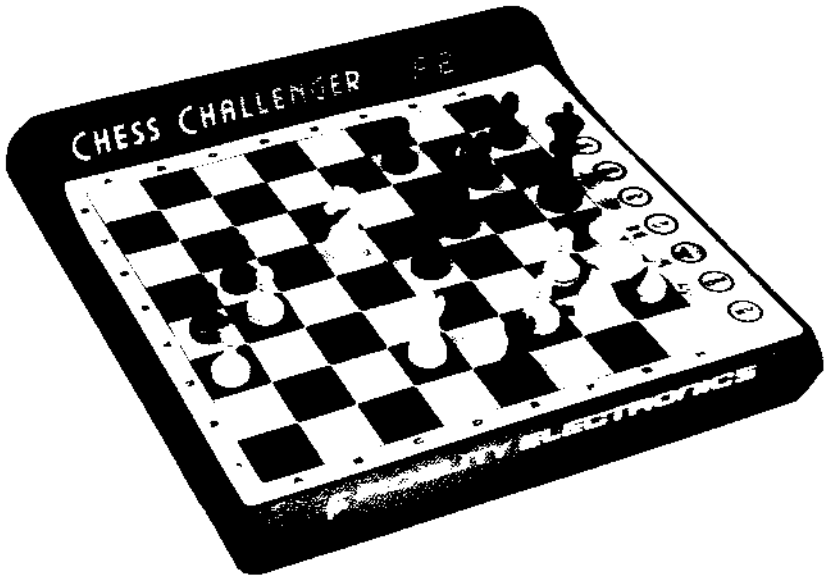
SENSORY CHESS CHALLENGER® "6"



OWNER'S MANUAL
INSTRUCTION BOOKLET

MODEL SC6
SENSORY CHESS CHALLENGER® "6"

Patent No. 4,235,442
Quality Made in U.S.A.
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SECTION ONE—OPERATION

KEYS AND INDICATOR

DISPLAY WINDOW
Used to communicate Challenger's move to the player.

PIECE KEYS—Used to verify the location of a piece type. Also used in Problem Mode to add or remove pieces on the board.

RESET—Resets Challenger to start a new game.

CLEAR—Used to clear an unwanted FROM square.

PROBLEM MODE—Permits the Player to set up special move situations.

POSITION VERIFICATION—Verifies position of all pieces.

LEVEL SELECT—Changes levels of play.

TAKE-BACK—Takes back a move and other features as described in manual.

DISPLAY MOVE—Used to display a recommended move and other features as described in the manual.

REVERSE—Used to change sides with Challenger and other features as described in the manual.

INTRODUCTION

Your SENSORY CHESS CHALLENGER "6" is a sophisticated and challenging, yet patient and helpful chess computer—specifically designed for both beginning and advanced chess players. Fidelity's state-of-the-art technology provides you with an amazing computerized opponent that plays chess with skill and cunning, yet allows you to control the level of difficulty. The remarkable sensory playing surface enables the computer to automatically sense all game moves, and Challenger's unique modular capability will facilitate future upgrading. Battery-operated and fully portable, containing a handy storage area in the base for your chess pieces, Challenger can be your chess opponent wherever and whenever you desire.

Your enjoyment of Sensory Chess Challenger "6" will be enhanced if you take the time to familiarize yourself with this Owner's Manual before attempting to engage the computer in a game of chess. The instructions which follow will help you understand how to operate the computer, and will enable you to take advantage of all of Challenger's special features. For beginners who are as yet unfamiliar with the game of chess, a handy booklet entitled "Let's Play Chess" is included.

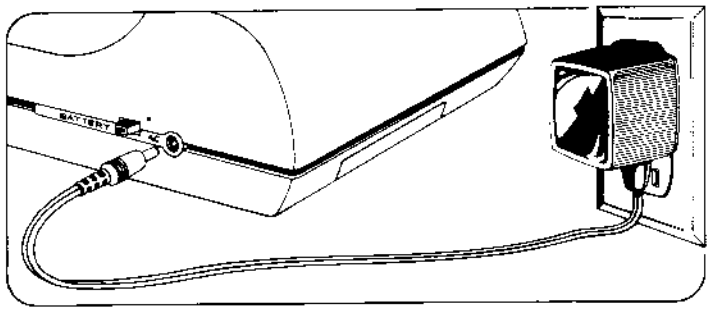
POWER ON

Set the BATTERY/AC switch to the desired position. In the AC position, the transformer is plugged into an AC wall outlet and the transformer line cord is plugged into the game. In the BATTERY position, the game will run on battery power whether the transformer is plugged in or not.

The transformer provided with your Sensory Chess Challenger has been specifically designed for use with this game. We strongly recommend against the use of any transformer or power source other than the transformer provided by the manufacturer.

IMPORTANT: To prolong battery life, turn off battery power when the game is not in use. The average useful battery life is approximately 22 hours, based on the performance of four fully charged batteries. Please note that, as the batteries begin to weaken and can no longer provide full power, the game may begin to malfunction. We recommend that you use the transformer whenever AC is available.

A new game is started when you first turn on the power (battery or AC) or when the RE (Reset) Key is pressed.



SET-UP

In a standard game of chess, where the chess pieces are set up with white at the bottom of the board, Sensory Challenger will always presume that you are going to play white. According to the rules of chess, white has the first move, and thus you should make the first move to begin the game.

Each square on the chess board is designated, in accordance with international chess notation, by a letter of the alphabet and a number (printed along the sides of the playing surface). Horizontal squares

are numbered from 1 to 8, and vertical squares are lettered from A to H. Thus, when the game begins, the white King is on square E1; the black King is on square E8.

SELECTING DEFENSE

If you would like Challenger to play the white pieces from the top of the board, set up the pieces with the white King on square D8 and the black King on square D1. Then simply press the TB (Top of the Board) Key, and Challenger will automatically display its move for white, playing from the top.

SELECTING CHESS LEVEL

When the game is first plugged in, or when the RE Key is pressed, Chess Level One is automatically selected. The display will correspondingly show L1. To change the playing level, simply press the LV Key until the desired level shows in the display. The playing level may be changed at any time during a game after Challenger's move is completed and before you make your next move. NOTE: Level Six is used for special problems like Mate-in-Two, etc. (see PROBLEM MODE).

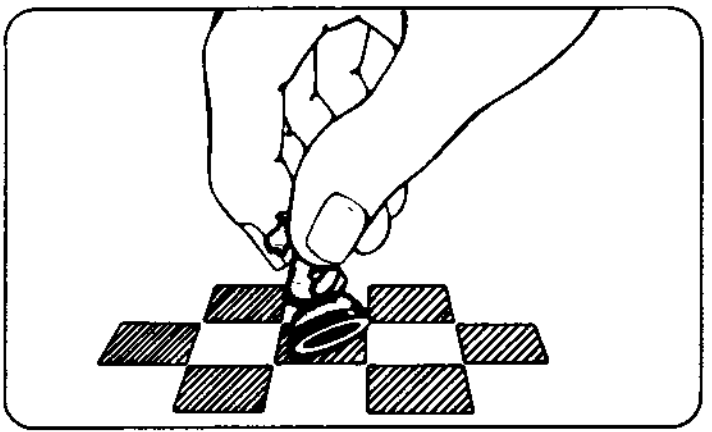
Average response times for each playing level are shown below. These times refer to the average amount of time allowed Challenger to consider various responses before it decides on its next move.

PLAYING LEVEL	AVERAGE RESPONSE TIME
Level One	7 seconds
Level Two	30 seconds
Level Three	1 minute
Level Four	2 minutes
Level Five	3 minutes.
Level Six	Infinite

THE PLAY

Playing chess with Sensory Challenger is like playing with a human opponent—you make your move and Challenger responds with its move. The only difference, of course, is that you must make the actual physical move of the piece for Challenger. Because of the sensory characteristic of the playing surface, which senses the presence of a piece located on the square, it is necessary to press the piece down on each square—press down (gently) first on the FROM square, then on the TO square.

The display will always show one half-move at a time. For example: If you wish to start the game with a Pawn move from D2 to D4, press down on the white Pawn on D2 first. D2 will appear in the display, showing the FROM portion of your move. Move the Pawn and press it down on square D4 to signal the move to Challenger. The computer will register the move immediately, and will begin thinking about its countermove. NOTE: When you are entering your moves, the TO



portion (D4 in the above example) will not appear in the display since Challenger automatically senses that the move has been made and starts thinking immediately.

While Challenger is "thinking" about its move, a thinking symbol will move up and down in the display (unless Challenger thinks of a move instantly and does not need time to think). After the computer has decided on a move, the first half of its move (the FROM portion) will show in the display. Make the move for Challenger by pressing down on the piece which is indicated in the display. The display will then automatically show you the TO portion of Challenger's move. The display will then clear (indicated by two dashes), signifying that Challenger's move is complete, and it is now your turn to move again.

ACCIDENTAL WRONG MOVE

If you press down on a piece and the FROM portion of the move is in the display, but you decide not to make that move (before the TO square is pressed), simply press the CL (Clear) Key. Challenger will clear the display and await another move. To undo a move after the TO square has been pressed and Challenger has started thinking, see section on TAKE BACK.

ILLEGAL MOVE

Challenger notifies you of an incorrect or illegal move by flashing in the display the square to which you moved your last piece. To undo the wrong move, press the piece down first on the flashing TO square (the FROM square will then be flashing in the display), and then on the flashing FROM square. This ensures that the incorrectly moved piece is returned to its original location. Challenger then waits for you to make another move.

I LOSE

When Challenger loses, LL will appear in the display to signify the loss. In cases where Challenger sees that a mate is pending, the computer will sometimes resign by displaying LL before the actual mate.

CHECK

When Challenger places your King in check, CH will appear in the display.

CHECK & MATE

When Challenger wins, the move that causes checkmate will flash in the display. After the move has been made, the display will show CH to signify the checkmate. If Challenger sees that it will mate your King in two moves, the deciding move will flash in the display.

SECTION TWO—SPECIAL FEATURES

POSITION VERIFICATION (PV)

An outstanding feature of Sensory Chess Challenger is its ability to verify the exact position of each of the pieces—both yours and the computer's—at any time during the course of the game (after one of Challenger's moves is completed) or just before making your first move of a new game. The following steps should be taken:

1. Press the PV Key when it is your turn to move.
2. Press one of the keys adjacent to a picture of the piece type you are interested in. With each successive press of the key, the computer will display, in turn, all of the squares which contain that particular piece type. The white pieces will be shown in the display as steadily on, and the black pieces will be shown as flashing. NOTE: When Challenger has shown you all of the occupied squares for that piece type, the display will show [redacted]. You can then cycle through all of the positions again, if desired.
3. By repeating this process for each piece type, every piece on the board can be correctly located.
4. To return to normal play, press CL or simply make your next move.

NOTE: When Challenger plays the white pieces from the top of the board (see SELECTING DEFENSE), the Position Verification display is reversed. In this situation, the display will be steadily on for the black pieces and will show as flashing for the white pieces. The same will be true when Challenger plays white from the top and you go into Problem Mode.

PROBLEM MODE (PB)

The Problem Mode enables you to perform numerous special moves at any time before or during a game. By using the Problem Mode before starting a game, it is possible to set up various chess problems and Mate-in-Two puzzles, as desired. Moreover, by using the Problem Mode during game play, it is possible to alter the direction of the game: strengthen your side or Challenger's side, resurrect lost pieces, or even move your King out of an imminent checkmate situation. You may enter the Problem Mode at any time after Challenger has completed one of its moves.

To set up a particular problem at the *beginning* of a game, proceed as follows: Enter Problem Mode by pressing the PB Key. The display will show E1 to indicate that the white King is on E1 (this is because the King piece type symbol is next to the PB Key, and thus is automatically selected when you enter Problem Mode). Pressing the King symbol again will show E8 flashing, indicating that the black King is on square E8. NOTE: It is important to remember that when Problem Mode is entered at the beginning of a game, the board is automatically cleared of all pieces except the two Kings, which are their standard squares (E1 and E8). Thus, if the Kings must be moved in order to set up your problem, be sure to go through the steps as described below to move them. All other pieces can be then added to the board as desired.

To add a piece to the board, simply press the key for the particular piece type you wish to add. To put a white piece of that type on a specific square, press that square once, and the square will be shown in the display steadily. Do this for all white pieces of that type. For black pieces, simply press down twice on the square which is to contain the black piece, and that position will be flashing in the display. To remove a specific piece from a particular square, press that square twice for a white piece and once for a black piece. Proceed to the next piece type you wish to set up and repeat the above process.

When a piece type key is pushed and there are no pieces of that

type on the board, [redacted] will show in the display. To terminate Problem Mode, press CL and continue with the game.

To add, remove, or rearrange pieces *during* a game, the above instructions should be followed, with the exception that all pieces will be in their actual board positions upon entering Problem Mode. NOTE: If you wish to put a piece on a square that is already occupied by a different piece type, you do not have to go through the standard removal process. Simply push down on the piece type key you want to add, and press the occupied square once. The piece which was on the square will then be removed, and you can add your new piece as desired.

As an example of using Problem Mode during a game, suppose you want to remove Challenger's black Queen and put back a white Knight you lost:

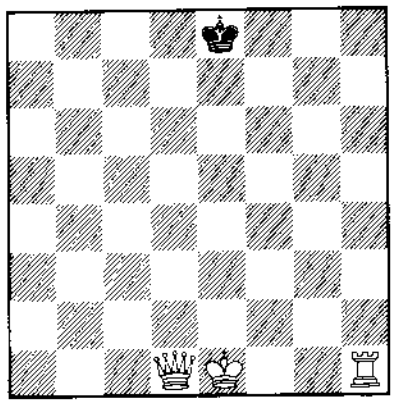
1. When it is your turn, press the PB Key.
2. Press the key adjacent to the Queen symbol.
3. Press down once on the square which the black Queen is on, and the black Queen will be removed from Challenger's memory. Remove the black Queen from the board.
4. Press the key adjacent to the Knight symbol.
5. Place a white Knight on the desired open square, and press down once on that square. The designation for that square will now appear in the display, indicating that a white Knight is entered in that position.
7. Press the CL Key to exit the Problem Mode.
8. Make your move to continue the game.

MATE-IN-TWO

When Challenger finds that it will mate your King in two moves, the deciding move will flash in the display. As practice in using the Problem Mode, you might want to try setting up the following Mate-in-Two problem:

1. Press the RE Key to start a new game.
2. Press the PB Key to enter Problem Mode. The Kings must stay in their original positions (E1 and E8) for this particular problem. so do not change the positions of the Kings.
3. Press the Queen symbol Key. Enter a white Queen on square D1.
4. Press the Rook symbol Key. Enter a white Rook on square H1.
5. Press the CL Key to exit Problem Mode.

The board should now look like this:



Now select Level Six by repeatedly pressing the LV Key. Level Six is the infinite level, and is the level which should be used for Mate-in-Two problems. Press RV to reverse sides with Challenger so that it will play white. After a short time, Challenger will move H1 to H7, with the display flashing. This flashing indicates that Challenger sees the Mate-in-Two. Move the Rook by pressing the Rook on H1, and then pressing down on square H7. To return to normal play, press the RE Key.

TAKE BACK/TOP OF THE BOARD (TB)

The TB Key is used to take back the last move that you made and the last move that the computer made. in a case where you have already entered a complete move but would rather make another one. In order to use the Take Back feature. simply press the TB Key. and the display will show the TO portion of your last move. Press down on the indicated square, and the FROM portion will show in the display. Press this square, and Challenger will display its last TO and FROM moves, which you then take back in the same manner. You can now make another move and continue the game. NOTE: Do not use the Take Back feature if either side's last move was a castle.

The TB Key can also be used if you would like Challenger to play the white pieces from the top of the board (see SELECTING DEFENSE).

DISPLAY MOVE (DM)

The DM Key may be pressed to request the computer to recommend a move for you to make. By pressing DM when it is your turn to move, Challenger will display a move suggestion. NOTE: Challenger will not give suggested moves while it is in a book opening pattern. At lower levels, there may also be times when the DM Key does not offer a move suggestion, due to the computer's limited search depth at that particular level.

The DM Key can also be used on all levels to stop Challenger from "thinking" during its turn and force it to make a move.

REVERSE SIDES (RV)

The RV Key is used to change sides with Challenger. For example. at the beginning of a game, you may decide to have Challenger make the first move with the white pieces at the bottom of the board. Simply press the RV Key. (To have Challenger make the first move with the white pieces at the top of the board. see SELECTING DEFENSE.)

During a game, you may want to have Challenger make your next move. Press RV and Challenger will display a move for the color you were playing. Press RV again. and Challenger will return to its original color. By pressing RV after each move that Challenger makes. you can have it first play white. then black. then white again. You can actually watch Challenger play against itself through an entire game..

RANDOM PLAY

When a choice of advantageous moves is available, Challenger will choose a move at random. so that most games will be different. You should thus enjoy many hours of exciting chess play.

BOOK OPENINGS

Challenger is programmed to respond to a variety of book opening moves, and, in fact. the computer's opening book contains over 100 half-moves. Challenger will continue to follow a patterned book response until the player departs from the pattern.

TONE ON/OFF

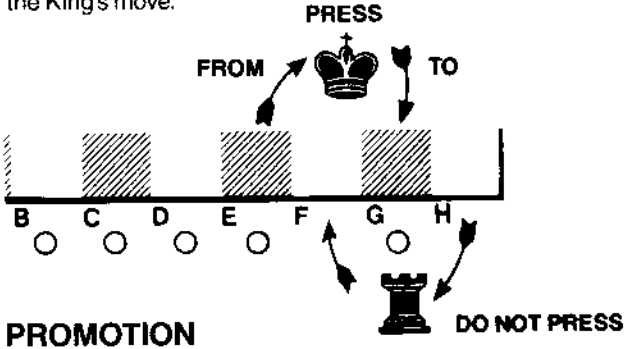
Challenger normally responds with a beep tone when any key or square on the board is pressed. In order to turn the tone off, simply press down on square A8 before you start a new game. NOTE: The tone can only be turned off at the beginning of a new game, after pressing Reset. Once the tone has been turned off, it cannot be turned back on until Reset has been pressed again to start a new game.

EN PASSANT

Challenger will perform the En Passant maneuver when it deems such a move is appropriate, and will also recognize when you choose to execute an En Passant move. Do not forget to remove the captured Pawn when making this move.

CASTLING

Challenger will castle by internally first performing a King move and then a Rook move. Only the King move needs to be acknowledged in the usual manner by pressing the FROM square and then the TO square. Do not forget to move Challenger's Rook. You may castle your King in a similar manner by pressing only the squares occupied by the King. Do not forget to move your Rook after making the King move. It is not necessary to press down on the square occupied by the Rook, as Challenger recognizes the castling maneuver by the King's move.



PAWN PROMOTION

As in a normal game of chess, when a Pawn reaches the "8th Rank," Challenger will automatically promote the Pawn to Queen. However, if you choose to promote a Pawn to some piece other than a Queen, use the Problem Mode to substitute a Knight or any other piece desired.

SOLID STATE

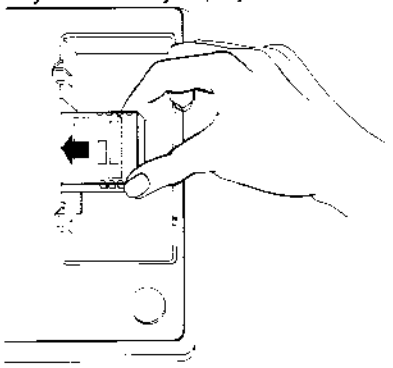
Turning the game OFF or pressing the RE Key automatically resets the program. For length games (using the transformer), leave the game on, since Challenger is all solid state and is designed to be left on for days or weeks, as desired.

MODULES

The modular capability of the Sensory Chess Challenger "6" makes it easily upgradable in the future. Special modules such as "Chess Book Openings" and "Great Chess Games" are available to add to your enjoyment and help improve your chess skills.

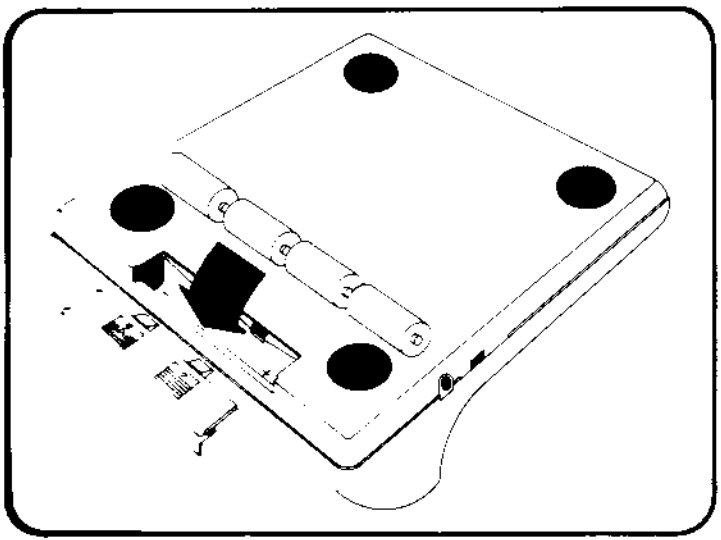
To use a module with Challenger, first open the piece storage compartment on the underside of the unit. Remove the plastic module receptacle shield with a screwdriver and discard it. Place the module into the compartment, and plug it in (see diagram). Put the compartment cover back on, and you are ready to play.

WARNING:
Do not remove or replace module while power is on. To remove or replace module, place the power switch in the off position.



BATTERY REPLACEMENT

Use four "C" size alkaline batteries only. See illustration below for battery replacement.



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