

IMPORTANT NOTICE

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna
- Relocate the computer with respect to the receiver
- Move the computer away from the receiver
- Plug the computer into a different outlet so that computer and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:

"How to Identify and Resolve Radio TV Interference Problems."

This booklet is available from the U.S. Government Printing Office, Washington, DC 20402. Stock No. 001-000-00315-4.

FCP

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SENSORY 12 CHESS CHALLENGER

Winner of
World Microcomputer
Chess Championship
Budapest, Hungary 1983

**OWNER'S MANUAL
MODEL SC12**

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Miami, Florida 33178

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INTRODUCTION

Congratulations on the purchase of your new SENSORY 12 CHESS CHALLENGER. Created by Fidelity Computer Products, Inc., the world's leading manufacturer of microprocessor-based board games, this remarkable chess computer is truly one of a kind. This unit boasts an award-winning chess program inside a housing which is unique and beautifully designed, yet affordable. The elegant styling, special features, and price/performance ratio of this computer lend the Sensory 12 the distinction of being the best of all possible worlds!

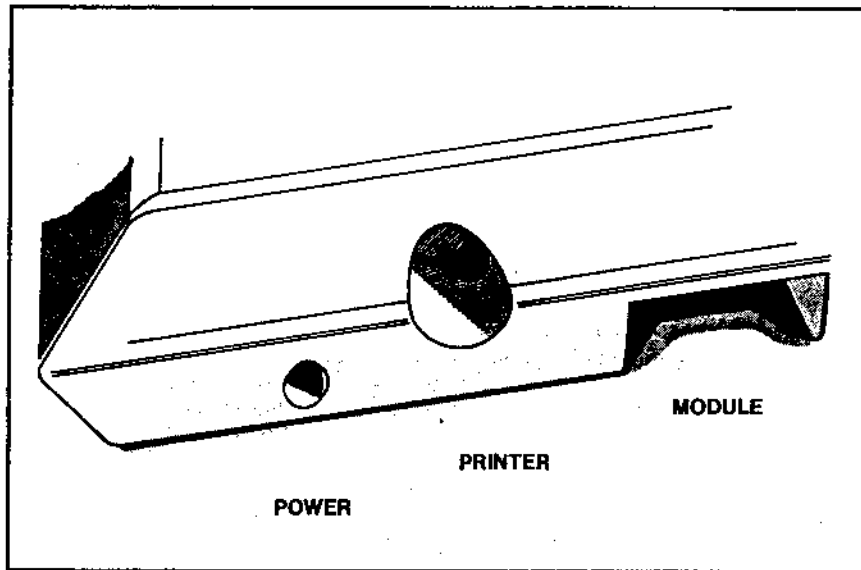
The instructions contained in this manual describe how to operate and communicate with your Sensory 12, and do not relate to the actual playing strategies of the game of chess. For the beginner, a handy booklet entitled "Let's Play Chess" is provided with your game.

Section One provides you with all of the information you will need to play an actual game of chess. Subsequent sections are devoted to the Sensory 12's numerous special functions and options: Section Two (Special Features), Section Three (Game Options), Section Four (Mate and Draw Announcements), and Section Five (General Information).

This unit's many features and playing options will certainly enhance your enjoyment of the game. However, it is recommended that you first familiarize yourself with Section One before attempting to understand and implement all of the special features. Once you are comfortable with the basic operation of the game, it will be easier and more enjoyable to study and use all of the additional features.

SECTION I—BASIC OPERATION

CONNECTORS



1.1 KEYS AND INDICATORS

PIECE SYMBOL

KEYS: Used to verify locations of piece types. Also used in Problem Mode to add or remove pieces on the board.



RESET KEY: Used to enter Option Select Mode. Does NOT reset for a new game.



CLEAR KEY: Used to clear an unwanted FROM square; several other uses, as noted in manual.



PROBLEM MODE KEY: Permits player to set up special board positions; used with RE to print total time of game.



POSITION VERIFICATION KEY: Used to verify positions of all pieces; used with RE to print game board.



LEVEL KEY: Used to select and change levels of play.



TAKE-BACK KEY: Used to take back moves.



DISPLAY MOVE KEY: Used to obtain a move suggestion from the computer; enables you to see moves the computer is considering.



REVERSE KEY: Used to change sides with Challenger; halts computer's thinking process; other uses as noted in manual.

The lights (LEDs) located at the bottom and to the left of the chess board are used to indicate moves during a game. These same LEDs also have a variety of other functions. Since some of the features associated with these LEDs are printed directly on the computer's housing, a quick glance will give you a good idea of the functions served by these LEDs. However, all of these features are explained in full detail later on in this manual.

NOTE: During the game (except when you are selecting options or the computer is thinking), the YOUR MOVE LEDs (along with the appropriate LED for WHITE or BLACK) will come on to indicate your color and the fact that it is your turn to move. The YOUR MOVE LEDs will flash after taking back one of the computer's moves. This is simply to remind you that you can force the computer to make a specific move at that point if desired. For a full explanation, see Section 2.6.1.

1.2 POWER ON

The Sensory 12 is operated on ordinary house current. To start up the unit, simply plug the transformer into an AC wall outlet and plug the transformer line cord into the game. To turn the game off, remove the transformer cord from the game and unplug the transformer from the wall.

When the game is first plugged in, the unit will beep and the YOUR MOVE — WHITE lights will come on. At this point, none of the options or special features are activated. A new game is always started when power is turned on, and turning the power off and on again resets the program to pre-game conditions and removes all previously selected options.

Since the Sensory 12 is all solid state, the game may be left on for long periods of time, as desired. If the transformer should get warm during use, this is normal and may be disregarded. NOTE: 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 Fidelity.

Before the first move is made, the desired level (see Section 2.5) and game options (see Section 3) may be selected.

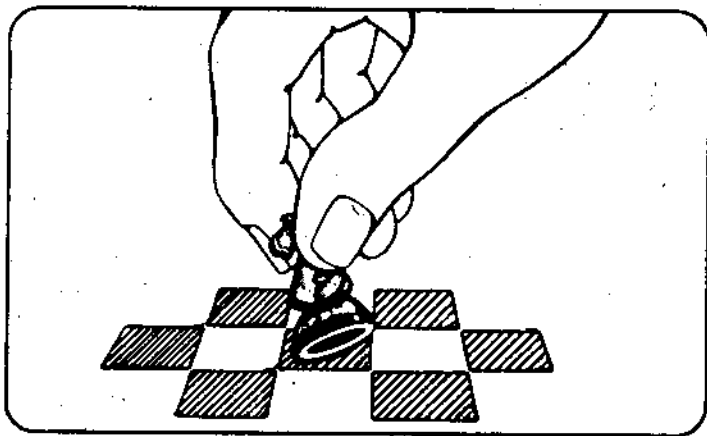
1.3 THE GAME BOARD

Set up the chess pieces with the White pieces at the bottom of the board. Each square on the chess board is designated, in accordance with international chess notation, by a letter of the alphabet designating the vertical rows (the files), and a number designating the horizontal rows (the ranks). When the game is about to begin, the White King is on square E1, and the Black King is on square E8.

1.4 THE PLAY

Playing chess against your Sensory 12 Chess Challenger is like playing with a human opponent—you make your move and Challenger responds with its move. The obvious difference, of course, is that you must make the actual physical move of the piece for the computer.

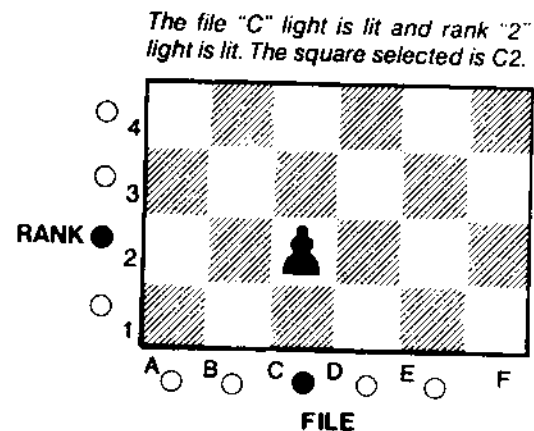
To make a move, tilt the piece and press gently on the center of the square using the edge of the piece. Press first on the FROM square, then on the TO square.



To make a move, press gently on the square.

For example: If you would like to move the White pawn from C2 to C4, first tilt the pawn and press on square C2 (the C and 2 LEDs will light); then press on square C4 (the C and 2 LEDs will go out). In that instant, Challenger will recognize the move you made. The computer will then start thinking about its move (unless it is in book, in which case it will respond immediately — see Section 1.11). While the computer is thinking, the ILLEGAL and CHECK lights will alternately flash back and forth. When the computer has decided on a move, it will show you its move by lighting two LEDs for its FROM square. Press down on the computer's chosen piece, and the FROM lights will go out. Two different LEDs will then show you the computer's TO square. Move the computer's piece and press down on the TO square. The TO lights will go out, and it is now your turn again.

For each move, remember the three basic steps: press, move, and press again.



NOTE: You may notice that, when moving YOUR piece, the TO square LEDs DO NOT light, but when moving CHALLENGER's piece, the TO square LEDs DO light. The reason for this is that, once you have moved your piece to the TO location, the computer is instantly informed of your move, and there is no need for lights. On Challenger's move, the TO square is lit to show you where to place Challenger's piece.

1.5 ACCIDENTAL WRONG MOVE

If you press down on a piece and the FROM square is lit, but you decide not to make that move, simply press the CL Key.

If you change your mind after you have entered the whole move (FROM square and TO square), then Challenger has accepted your move and is already considering its countermove. You will have to use the TAKE-BACK feature to correct your mistake. Either wait until the computer makes its next move, or press the RV Key to force Challenger to stop thinking and announce a move. Make Challenger's move in the usual way, and then press the TB Key. Back up Challenger's move by pressing the square which is indicated by the two lit LEDs. Challenger will guide you through the take-back in the same way it guides you in making moves, by first lighting the LEDs for the square the piece is on, and then lighting the LEDs for the square the piece should go back to. When you have deleted Challenger's move, press the TB Key again. Back up your move in the same way. You can now enter any move of your choice. For a detailed description of the Take-Back feature, see Section 2.6.

1.6 ILLEGAL MOVE

The computer will only allow moves that are in compliance with the rules of chess. Illegal moves are not accepted. Challenger notifies you of an illegal move by beeping, flashing the LEDs corresponding to the TO square, and lighting the ILLEGAL LED. To undo that move, simply press the piece down first on the wrong TO square (the FROM square will now flash). Now move the piece back to the flashing original FROM square, and press again. All lights will go out, and you can now try another move.

Alternatively, when the computer announces an illegal move, you may simply press the CL Key and set the piece back down in its original location. This does NOT insure that the incorrectly moved piece is returned to its original location, but rather leaves it up to you to place the piece correctly.

NOTE: To avoid confusion, please note the following circumstances where the ILLEGAL LED is lit, but does not indicate an illegal move:

1. When you are in Problem Mode or Position Verification, or when you are in the process of selecting a game option, the ILLEGAL and CHECK LEDs will flash simultaneously to indicate that you are in one of these special modes.
2. While the computer is thinking, the ILLEGAL and CHECK LEDs will flash alternately to indicate this.
3. When the computer searches for a mate but cannot find one, the NO MATE LEDs will come on. At this point, the ILLEGAL LED or the CHECK LED may also light, but should be disregarded.

1.7 EN PASSANT

Challenger will capture a pawn En Passant whenever it deems such a move is desirable, and will also recognize when you choose to do so. When performing an En Passant capture, Challenger will first indicate the pawn move in the usual way, by lighting LEDs for the FROM square and then the TO square. Then it will light two LEDs to indicate the square of the captured pawn, to remind you to remove the pawn from the board. Simply press down on the captured pawn and then remove it from the board.

1.8 CASTLING

Challenger will castle by internally first performing a King move and then a Rook move. First, the King move must be acknowledged in the usual manner by pressing the FROM square and then the TO square. Then the Rook move must be acknowledged by pressing its FROM and TO squares.

You may castle your King in a similar manner by pressing down on the King's FROM square and then its TO square. At this point, the computer will recognize that you wish to castle, and will light the LEDs for the Rook's move to prompt you to move that piece.

Remember that castling is a King move. If you attempt to castle by moving your Rook first, Challenger will acknowledge the Rook's move and immediately begin thinking. To recover from such a mistake, see Section 1.5.

1.9 PAWN PROMOTION

As in a normal game of chess, when a pawn reaches the eighth rank, it may be promoted to a higher valued piece (usually a Queen or a Knight). When your pawn reaches the eighth rank, the LEDs for that square will flash until you identify your selection by pressing the key next to the picture of the piece you wish to promote to.

As soon as you make your selection, the LEDs for that square will go out and the computer will start thinking about its next move.

When one of Challenger's pawns reaches the eighth rank, the computer will evaluate its present position and will promote its pawn to the piece it feels will be of most value. Since this will occur automatically, you may wish to check Position Verification to identify the promoted piece (see Section 2.4).

1.10 CHECK AND MATE

When Challenger has you in a CHECK situation, the CHECK LED will light.

When Challenger determines that you are soon to be mated, the computer will announce this as described in Section 4.2. When you are in checkmate, the CHECK LED and the two MATE LEDs will be lit.

When Challenger loses a game, the I LOSE LEDs will light.

1.11 BOOK OPENINGS

You may notice that at the beginning of the game, Challenger seems to move very quickly. The reason Challenger responds so fast is that it contains a library of over 3,000 opening positions from grandmaster play. If the current board set-up is in the computer's library, it will play one of the proper responses to that position from its collection of moves and will not have to think about that move choice. You can see what Challenger has in its library by going into Book Practice Mode (see Section 3.14). If you wish to cancel the computer's opening book, you may do so (see Section 3.5).

1.12 THINKING ON THE OPPONENT'S TIME

The Sensory 12 has the ability to think on its opponent's time, a function which improves playing strength on all levels.

While the computer is making its move, you are able to use that time to analyze the position and think of a countermove to the move the computer might make. Similarly, the computer also thinks ahead while you are deciding which move to make. The computer does this automatically, whenever you are thinking about your move.

If you do not want the computer to think on your time, you may cancel this feature by selecting the Easy Mode Option (see Section 3.15).

SECTION II – SPECIAL FEATURES

2.1 (RE) – RESET (GAME OPTION SELECTOR)

When the RE Key is pressed, you automatically enter Option Select Mode. Pressing RE alone DOES NOT reset the game. Please refer to Section 3 for full details on using the RE Key as a means of selecting game options.

2.2 (CL) – CLEAR

The CL Key has several uses:

1. Pressing CL will clear an illegal move (see Section 1.6).
2. If you press down on a piece and the FROM square is lit, but you decide not to make that move, press the CL Key.
3. The CL Key must be pressed when exiting Problem Mode and Position Verification; also press CL to get out of Option Select Mode after selecting the desired game options.

2.3 (PB) – PROBLEM MODE

Problem Mode is used to make changes—to remove or add pieces during a game; to relocate pieces from one square to another; or to set up special problems for Challenger to work out. Using Problem Mode, you can alter the board set-up at any time before or during a game. You can, for example, 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 can also set up mate puzzles for the computer to solve on Levels 9, 10, 11, and 12 (see Section 2.5).

You may enter Problem Mode whenever it is your turn to play. To learn how to use Problem Mode, try the following drill:

1. Start a new game and set the pieces in their initial positions.
2. Press the PB Key to enter Problem Mode. Now press the key adjacent to the pawn symbol. Note that the 2 LED and the A-H LEDs are all on steadily. This indicates that there are White pawns on squares A2-H2. Press the key next to the pawn symbol again, and the 7 LED will be on, with the A-H LEDs flashing. This shows that there are Black Pawns on squares A7-H7.
3. Now press down on square H7. Note that the H LED goes out. By pressing down on this flashing square, you have cleared the Black piece off the square. Pressing square H7 once more will turn the H LED on steadily. Now a White piece occupies that square.

By the above illustrations, it can be seen that:

1. No file LED lit means no piece of that type on that square.
2. A steadily lit file LED means a White piece of that type on that square.
3. A flashing file LED means a Black piece of that type on that square.

To set up pieces in any arrangement:

1. Press PB.
2. Press the key next to the picture of the piece type you wish to change.
3. Make changes as follows:
 - a. Press an empty square and it becomes a White piece.
 - b. Press a White piece and it becomes a Black piece.
 - c. Press a Black piece and it becomes an empty square.

To exit Problem Mode, press the CL Key.

To clear all of the pieces from the board at once, use Option A7 (see Section 3.2).

NOTE: While you are in Problem Mode, the ILLEGAL and CHECK LEDs will flash simultaneously to indicate that you are in this special mode. When you press CL to exit Problem Mode, these LEDs will go out.

2.4 (PV) – POSITION VERIFICATION

You may verify the positions of all pieces—both White and Black—at any time before or during a game, whenever it is your turn to move. To verify the position of any piece type, first press the PV Key. Then press one of the keys adjacent to the picture of the piece type you are interested in. Each time you press one of the piece symbol keys, a new row (rank) LED is lit and a column (file) LED is lit to show where the piece is located in that row. If the piece is White, the column LED lights steadily. If the piece is Black, the column LED flashes. For any given piece symbol selected, the computer will automatically only show you the rows which are occupied by one or more of those pieces (unoccupied rows will be skipped over). If there are no pieces of that type on the board at all, the 8 LED in the upper left-hand corner will light to indicate this.

By repeating this process for each piece type, every piece on the board can be correctly located. To return to normal play, press the CL Key.

NOTE: While you are in Position Verification Mode, the ILLEGAL and CHECK LEDs will flash simultaneously to indicate that you are in this special mode. When you press CL to exit Position Verification, these LEDs will go out.

2.5 (LV) – PLAYING LEVELS

Challenger has nine different levels of playing difficulty, plus three additional special mate-finding levels:

PLAYING LEVEL	TIME CONTROLS	AVERAGE RESPONSE TIME
Level 1	60 moves / 5 minutes	5 seconds
Level 2	60 moves / 15 minutes	15 seconds
Level 3	60 moves / 30 minutes	30 seconds
Level 4	60 moves / 1 hour	1 minute
Level 5	30 moves / 1 hour	2 minutes
Level 6	40 moves / 2 hours	3 minutes
Level 7	40 moves / 2½ hours	3 minutes 45 seconds
Level 8	30 moves / 3 hours	6 minutes
Level 9	Infinite Mode	No Limit
Level 10	Special Level for Mate in 2 Problems	
Level 11	Special Level for Mate in 3 Problems	
Level 12	Special Level for Mate in 4 Problems	

When the computer is first turned on, Level 1 is automatically selected. To change levels, simply press the LV Key. The first time LV is pressed, the 1 LED will light to indicate LEVEL 1. Pressing LV again will turn the 2 LED on, indicating Level 2, and so on. After lighting the 8 LED to signify Level 8, pressing LV again will light the 7 and 8 LEDs to indicate Level 9, then the 6 and 7 LEDs to indicate Level 10, the 5 and 6 LEDs to indicate Level 11, and finally the 4 and 5 LEDs to show Level 12. The surface of the chess board is marked to indicate which LEDs come on for each level so that there will be no confusion.

After you have chosen your desired level of play, press the CL Key.

2.5.1 INFINITE MODE

Level 9 allows no limit to the time used in making each move. The computer will continue to search, looking deeper and deeper until it finds a forced mate or until the search is halted by you. When halted, Challenger will make the best move it

has found thus far in its search. You can halt Challenger's thinking at any time by pressing the RV Key.

2.5.2 MATE SOLVING LEVELS

Levels 10, 11, and 12 are Challenger's mate solving levels. Set the computer on Level 10 to solve a mate in 2, Level 11 to solve a mate in 3, and Level 12 to solve a mate in 4. For longer mate problems, use Level 9 (infinite Mode). NOTE: Challenger is capable of announcing up to mate in 11.

When these mate solving levels are chosen, the computer will concentrate solely on solving mate problems you have set up. To give the computer a mate problem to solve, simply set up the board in Problem Mode (see Section 2.3), then set the desired level, and finally press the RV Key to make the computer start thinking. The computer will then think for as long as it takes to find the solution to the problem. At that point, it will beep and announce the mate by lighting the two MATE LEDs, along with the number of the LED which corresponds to the number of mating moves. For a mate in 3, for instance, Challenger would light the two MATE LEDs and the 3 LED.

If Challenger cannot find a mate at the level you have chosen, the computer will respond by lighting the NO MATE LEDs on the side of the board. Please note: Challenger will be able to find shorter mates than the number chosen, but not longer mates. For example, if you set the computer on Level 11 to find a mate in 3, but Challenger finds a mate in 2, it will announce that mate. It cannot, however, find a mate in 4 on that level.

2.6 (TB) -- TAKE BACK

The Take-Back feature allows taking back any move you make or any move made by Challenger. In order to use this feature, simply press the TB Key when it is your turn to move, and the LEDs indicating the TO portion of the last move will light. Press down on the indicated square, and the LEDs showing the FROM portion will go on. Press this square, and the lights will go out. You have then completed the take-back of that move. At this point, you can either continue to take back moves by pressing TB again and moving each piece back in turn, or you can go on and continue with the game.

If the game is still in the opening book (see Section 1.11), taking back one or two moves will not disable the opening library. Moves will continue to be played from book. You may take back as many moves as you wish — even all the way to the beginning of the game.

When taking back moves, if you are unsure of where to replace captured pieces that should be put back on the board, you may use Position Verification (see Section 2.4) to identify the proper piece. This may be done by pressing PV after a move take-back has been executed. Then press each piece type key until the missing piece has been identified. After the piece is replaced, press CL to get out of Position Verification, and continue with TB or go on with normal play.

Please note the following special circumstances in regard to taking back moves:

CASTLING: After TB is pressed, the LEDs will light for the KING's TO move (press that square) and then the King's FROM move (press that square). The castling take-back is then complete, since the computer automatically takes the Rook's move back. Therefore, simply move the Rook back to its original square (without pressing down on the squares as you are moving it back).

EN PASSANT MOVES: Taking back an en passant maneuver is just like taking back a normal move. However, please note that the computer does NOT light the square of the captured pawn — you must remember to put the pawn

back on the board (or check Position Verification). For example, if d2-d4 and then e4xd3 has been played; a take-back will light up d3 and then e4, but it is up to you to put the pawn back on square d4.

2.6.1 FORCING THE COMPUTER TO MAKE A SPECIFIC MOVE

After using TB to take back one of the computer's moves, the computer will not start thinking again until you have pressed the RV Key. At this point, however, you also have the option of making the next move for the computer's side. If you do this, the computer will not start thinking about its next move until after you have made your own move on the board.

To remind you of this feature, the LEDs for YOUR MOVE — BLACK (or WHITE if the computer is playing White) will flash right after the take-back instead of being steadily lit as is normally the case. At this point, either (a) press RV to make Challenger start thinking again; or (b) make a move of your choice FOR Challenger, and then make your own move on the board.

2.7 (DM) -- DISPLAY MOVE

The DM Key has several different uses, depending on when it is pressed. If you press the DM Key when it is your turn to move, Challenger will recommend a move for you to play. The first press of the DM Key will light LEDs for the FROM part of the suggested move, and pressing the DM Key again will show you the TO portion of the move. Press the DM Key once more and the YOUR MOVE lights will come on.

If you press the DM Key for a suggested move while you are playing from Challenger's opening book (see Section 1.11), the suggested move will be from Challenger's book. In this case, after you have seen the first suggested move and the YOUR MOVE LEDs have come back on, simply repeat the procedure by pressing the DM Key three times again. You will be shown another book choice (if another choice is available). This procedure may be repeated to see all of the book choices that Challenger recommends in the current position.

If it is your turn to move and you are no longer in book, pressing the DM Key will still give you a suggested move, but only one move choice will be available.

While Challenger is thinking, the DM Key can enable you to display the move the computer is considering at any given moment. While the ILLEGAL and CHECK LEDs are flashing alternately to indicate that Challenger is thinking, press the DM Key and Challenger will light the LEDs for the square it is considering moving FROM. Press DM again, and Challenger will light the LEDs for the TO square. A third press of the DM Key will turn the TO square LEDs off. Please note that the beep tone does not sound during this procedure.

2.8 (RV) -- REVERSE

Like the DM Key, the RV Key also has several different uses. Pressing the RV Key when it is your turn to move changes sides with Challenger. Challenger will then take over your pieces and make a move. For example: Suppose you are White and it is your turn to make a move. If you press RV, Challenger will make the move for White. By alternately pressing RV after each move by Challenger, you can watch Challenger play itself.

Pressing the RV Key while the computer is thinking will force Challenger to make its move immediately.

For other uses of the RV Key (in Monitor Mode and Book Practice Mode), see Sections 3.13 and 3.14.

3.3 SQUARE A6—NEW GAME

If you would like to start a new game, but you want to retain the options and/or level that you selected in the previous game, press Square A6. This will place all of the chess pieces back on their original squares and prepare Challenger for a new game, but the previously selected options and level will remain in effect.

3.4 SQUARE A5—CHANGE COLOR WITH MOVE

Option A5 is primarily used in conjunction with Problem Mode (see Section 2.3). After exiting Problem Mode, you can change the color to move if desired by entering Option Select Mode and pressing Square A5.

3.5 SQUARE A4—CANCEL OPENING BOOK

Choosing Option A4 locks out the computer's opening book (see Section 1.11). When this option is in effect, Challenger will have no opening library from which to draw its moves, so it will be forced to take time to think in order to determine its own best move from the beginning of the game.

NOTE: If you would like to start a new game and select Option A4, you must first enter RE A8 CL or RE A6 CL for a new game. Then go back and enter RE D4 CL to cancel the opening book.

3.6 SQUARE A3—PRINT GAME

Option A3 is useful only when you are using a Fidelity printer with the Sensory 12. This option permits you to get a printout of the entire move list from the beginning of the game. You can request this printout whenever it is your turn to move, and the complete game will be printed, starting from move one. This enables you to make extra printed copies of special games.

CHESS CHALLENGER		
01	E2E4	E7E5
02	F2F4	E5F4
03	G1F3	G7G5
04	F1C4	F8G7
05	E1G1	H7H6
06	D2D4	D7D6
07	C2C3	B8C6
08	G2G3	G5G4
09	F3H4	F4F3
10	B1D2	G8F6
11	H4F5	C8F5
12	E4F5	E6E8
13	C4D3	D6D5
14	H2H3	H6H5

NOTE: If you have used Problem Mode at any point in the game, the computer's memory of the move list up to that point is lost. Therefore, if Option A3 is used later on in the game, the printer will first print the board position as it was when you came out of Problem Mode, and it will then print the move list starting with the first move that was made after exiting Problem Mode.

To get a printout of the board, see Section 5.1.1.

3.7 SQUARE A2—DOUBLE HEIGHT (ONLY with Model IFP printer)

Useful only when your game is connected to a Fidelity printer, Option A2 gives you a larger printout, in that the characters are printed at double the normal height.

NOTE: Using Option A2 will NOT affect the printout of the board (see Section 5.1.1). The board is always printed at normal height even when this option is selected, since a double height printout of the board would result in distortion of the squares.

CHESS CHALLENGER		
01	E2E4	E7E5
02	F2F4	E5F4
03	G1F3	G7G5
04	F1C4	F8G7
05	E1G1	H7H6
06	D2D4	D7D6

3.8 SQUARE A1—PRINT TIME (ONLY with Model IFP printer)

When a Fidelity printer is attached, choosing Option A1 will print the time taken for the moves right after printing the moves themselves.

To get a printout of the total time taken in the game so far, see Section 5.1.2.

01	D2-D4	F7-F5	00:05	00:00
02	G2-G3	G8-F6	00:03	00:00
03	F1-G2	G7-G6	00:04	00:00
04	G1-F3	F8-G7	00:07	00:14
05	E1-G1	E8-G8	00:26	00:09

3.9 SQUARE B1—RESIGN ENABLE

If Square B1 is selected as an option, the computer will announce forced mates against itself, and will resign if it sees that mate is inevitable. When this situation occurs, Challenger will flash the two I LOSE LEDs and will also flash the LED which corresponds to the number of moves until mate.

To accept the computer's resignation, press the CL Key. Challenger will then indicate its move in the usual manner. If your last move delivered mate, Challenger will light the I LOSE LEDs steadily to indicate that it has been mated.

3.10 SQUARE C1 – BLACK FROM THE BOTTOM

Option C1 allows you to play with the Black pieces set up at the bottom of the board. If you choose this option, be sure to set the pieces up correctly. Check Position Verification to be certain of where the pieces should be placed.

NOTE: Switching to this option during a game is not advised.

3.11 SQUARE D1 – SOUND OFF

For completely silent operation of the game, press Square D1 to select the SOUND OFF option. To turn the sound on again, go back into Option Select Mode and press Square D1 again. This option can be changed as often as desired during a game.

3.12 SQUARE E1 – FIGURINE ALGEBRAIC

E1 is one of the four options that can only be used when a Fidelity printer is connected to the Sensory 12. It affects only the printout of the move list. When E1 is activated, the moves of the game are printed in FIDE Informant Style Figurine Algebraic Notation. Moves are described by printing the piece symbol, followed by the TO square of that move. Piece symbols for pawns are not used.

Two departures from strict FIDE notation exist: (a) Queenside castling is printed as 0-00; and (b) when a piece is pinned against a King and cannot legally move to a given square, but another piece of the same type can and does move to the square, the move is printed as though it were legally possible for both pieces to move to that square. This results in over-describing that move on the printout.

CHESS CHALLENGER		
01	E4	E5
02	F4	EF4
03	♘F3	G5
04	♗C4	♘G7
05	0-0	H6
06	D4	D6
07	C3	♘C6
08	G3	G4
09	♘H4	F3
10	♘D2	♘F6
11	♘F5	♘F5
12	EF5	0-0
13	♗D3	D5
14	H3	H5

3.13 SQUARE F1 – MONITOR MODE

Pressing Square F1 selects Monitor Mode. This mode allows humans to play both sides of the game, with the computer acting as a referee and checking each move for legality.

If the moves played are in Challenger's opening book, Challenger will follow along in book, and the DM Key will give suggested book moves. As soon as the moves played deviate from Challenger's book, the DM Key will no longer give hints. At this point, you may see what move Challenger would make at any time in the game by pressing the RV Key. The computer will start thinking and make a move, but after moving the piece, Monitor Mode will still be in effect.

To exit this mode and continue playing the game against the computer, press RE F1 CL to cancel Monitor Mode. Then simply make your next move and Challenger will respond as in a normal game.

Monitor Mode can be used in combination with Book Practice Mode (Option G1) to provide an excellent way to learn opening lines. When both are used with the Take-Back feature, multiple variations can be studied (see Section 3.14).

3.14 SQUARE G1 – BOOK PRACTICE MODE

Choosing Option G1 puts you into Book Practice Mode. This mode enables you to use Challenger to practice your opening lines. Book Practice Mode allows the computer to play a much wider range of move choices, including weak opening moves. In normal play, Challenger will not play a weak move, but will know the correct countermove if you should do so. In Book Practice Mode, however, Challenger may play a weak opening move so that you may learn the correct response.

In Book Practice Mode, Challenger will give you a warning if you attempt to play a move not in book or if you reach the end of book. If you enter a move not in book, Challenger will beep and the TO square LEDs of the move you have attempted to make will remain on. You can then press TB to take the move back, and try again to play one in book. When either side reaches the end of book, the computer will again signal this by beeping and leaving the TO square LEDs on. At this point, you must press the RV Key to continue the game. If the computer made the last move, it will now await your next move. If you made the last move, the computer will start thinking as soon as RV is pressed.

If you play a move that is not in book and Challenger indicates that you should take it back, you may, if you wish, force Challenger to accept your move and go on playing from that position. To do this, simply press the RV Key after entering your move. Challenger will fall out of book and begin thinking about its response. If you decide to force Challenger to accept a non-book move, you can get back into book by using the Take-Back feature.

3.15 SQUARE H1 – EASY MODE

Easy Mode is an option which weakens all playing levels without affecting the computer's time controls. This is accomplished by restricting Challenger's use of its allotted time. Ordinarily, Challenger does some of its thinking on your time – while you are contemplating your next move (see Section 1.12). This feature is part of what makes Challenger such a tough opponent. For example: If you set Challenger on Level 1 to give it roughly five seconds per move, but you take two minutes to consider your move, and Challenger guesses what you are going to play, the computer would have used the whole two minutes to think about its reply. You might as well have set it on Level 5!

Selecting Easy Mode will prevent the computer from thinking on your time. Since this weakens all of the skill levels, you are thus given the option of having more playing levels to choose from.

SECTION IV—MATE AND DRAW ANNOUNCEMENTS

Challenger can indicate forced mates against the opponent, and (if Resign Enable was selected) against itself. In addition, the computer can recognize and claim four different types of draws, can recognize and respond to an opponent's offer of a draw, and will itself propose a draw if, in Challenger's estimation, neither side possesses sufficient resources to force mate.

4.1 CHECK ANNOUNCEMENT

Whenever the computer puts its opponent in check, the CHECK LED will light steadily.

4.2 MATE ANNOUNCEMENT—AGAINST OPPONENT

When Challenger discovers a forced mate against its opponent, it will flash the two MATE LEDs and will steadily light the number of moves until mate (the computer can announce up to Mate in 11). When this occurs, you can either resign or continue play by pressing the CL Key. If CL is pressed, Challenger will indicate its move in the usual way. If the move which the computer indicates is the actual mating move, as soon as the move is entered on the board, the two MATE LEDs and the CHECK LED will come on steadily to signify checkmate.

4.2.1 ALTERNATE SOLUTIONS

After Challenger has announced the solution to a mate problem, you may request the computer to search for other possible solutions to the same problem. To use this feature, you must observe the following: When the computer announces mate, press the CL Key as previously described in order to see the FROM square of the mating move. Press down on the FROM square and the computer will indicate the TO square. At this point, DO NOT press down on the lighted TO square as you would ordinarily to make the move. Instead, simply note which move the computer was going to make, and then press the RV Key. Challenger will then start thinking again, in order to search for another possible mate. This process can be repeated after each solution is found, until the computer lights the NO MATE LEDs to signify that no more solutions can be found.

4.3 MATE ANNOUNCEMENT—AGAINST CHALLENGER

When Challenger sees a forced mate against itself, it may or may not announce this ahead of time. If Resign Enable was selected (see Section 3.9), Challenger will announce the mate and offer its resignation. The computer does this by flashing the two I LOSE LEDs and the LED which corresponds to the number of moves until mate.

To accept the computer's resignation, press the CL Key. Challenger will then indicate its move in the usual manner. If your last move delivered mate, Challenger will light the I LOSE LEDs steadily to indicate that it has been mated.

4.4 NO MATE FOUND

When Challenger is set on Level 9, 10, 11 or 12, it searches for the solutions to specific mate problems. If there is no mate present or if Challenger cannot find a mate, the NO MATE LEDs will light. Pressing the CL Key will turn these LEDs off and cause Challenger to announce a move.

NOTE: Whenever the computer lights the NO MATE indication, you may notice that the CHECK LED or the ILLEGAL LED may also come on. Please disregard these two LEDs in this situation.

4.5 OFFERING CHALLENGER A DRAW

You may offer Challenger a draw any time it is your turn to move. To make the draw offer, simply press down on your King and then press down on Challenger's King. The computer will flash the DRAW OFFER LEDs to ask if you intended to offer a draw. If not, press the CL Key once, then press it again to clear the illegal move indication. To tell the computer that you did intend to offer a draw, press the RV Key. Challenger will answer with the DRAW ACCEPTED LEDs on if "yes," or the DRAW DECLINED LEDs on for "no."

4.6 CHALLENGER OFFERS YOU A DRAW

The computer will offer a draw whenever, in its estimation, neither side possesses sufficient material to bring about a mate. Challenger will make its draw offer by steadily lighting the two DRAW OFFER LEDs. If you accept the draw, the game is over. If you would rather decline the draw, press the CL Key and Challenger will start thinking about its next move.

4.7 DRAW BY THE 50-MOVE RULE

If 50 moves are played in a game without either side having pushed a pawn or captured a piece, the game is drawn by the 50-move rule. If the computer detects that this has happened, it will claim a draw by lighting the 50-MOVE RULE LEDs.

4.8 DRAW BY THREE-TIME REPETITION

When the same position occurs three times in a game of chess where the same side has the move each time, the game is drawn by repetition of position. When Challenger recognizes that its opponent has made a move that results in a third repetition, it claims the draw by lighting the 3-TIME REPETITION LEDs.

4.9 DRAW BY STALEMATE

A game of chess is drawn by stalemate if the player whose turn it is to move has no legal moves, but his King is not in check. The computer claims this draw by lighting the STALEMATE LEDs. When this occurs, the game is over and cannot be continued.

SECTION V – GENERAL INFORMATION

5.1 USING THE FIDELITY PRINTER

Plug your Fidelity printer signal cable into its receptacle on the side of Challenger's housing. Once the printer has been plugged into the Sensory 12, the printer MUST be turned ON to operate properly. The Sensory 12 will not operate if the printer is plugged in and left in OFF position. For printer operation, refer to the Fidelity Printer Operating Instructions provided with the printer.

NOTE: THE COMPUTER WILL NOT ACCEPT ANY MOVES OR COMMANDS WHILE THE PRINTER IS ACTUALLY PRINTING.

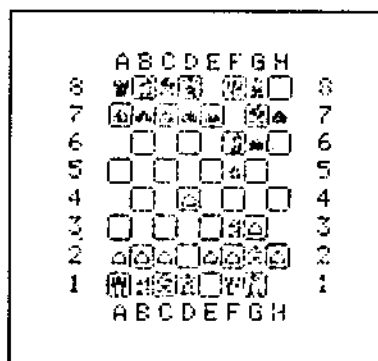
For information on the specific Game Options which are available when the printer is used, see Section 3, Options A1, A2, A3 and E1.

The Sensory 12 also offers you other exciting features that can be implemented when a Fidelity printer is used:

5.1.1 PRINTOUT OF THE BOARD

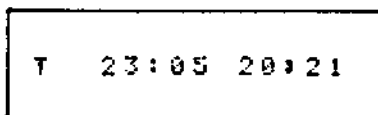
Whenever it is your turn to move, you may press the PV Key and then the RE Key to get a graphic printout of the game board. Press CL after the printout is finished, and you can continue with the game.

NOTE: If you use Problem Mode at any time while using the printer with the Sensory 12, you will automatically get a printout of the board position.



5.1.2 PRINTOUT OF TOTAL TIME (ONLY with Model IFP printer)

Pressing the PB Key and then the RE Key when it is your turn will print the total time taken for both sides in the game so far. A "T" will be printed on the left-hand side to signify the total time.



5.2 USING MODULES

The Sensory 12 Chess Challenger has the ability to accept modules which can add to its basic capability and make it an even more diversified opponent. Each module will contain a separate instruction manual describing the added features.

Modules are installed into the plug-in receptacle on the left-hand side of the computer, next to the printer cable plug. After making sure that power is off, plug in a module by inserting it into the receptacle and pushing it all the way in, using even finger pressure until the fit is snug.

WARNING: NEVER REMOVE OR REPLACE A MODULE WHILE THE POWER IS ON.

5.3 SPECIFICATIONS

POWER SOURCE: Operates on 120 Volt AC 60 Hz and 220 or 240 Volt AC 50 Hz (depending upon transformer used), 2 watts continuous use.

ELECTRONICS: All solid state.

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

SIZE: 14 x 14½ x 1¾ inches.

WEIGHT: Housing, Transformer, Chess Pieces, and Shipping Material: 7½ lbs.

PROCESSOR: 3 Megahertz 6502B

ROM (Read Only Memory): 160,000 bits.

RAM (Random Access Memory): 32,000 bits.

CLOCK: Internal clock for time control accurate to ±5%.

PROGRAM: 1983 World Microcomputer Chess Champion.

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