

THE EXCELLENCE
OWNER'S MANUAL
INSTRUCTION BOOKLET
MODEL EP12



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INSTRUCTION MANUAL

THE

(Model EP12)

INTRODUCTION

Fidelity International, Inc., takes great pride in introducing the newest addition to our line of remarkable chess computers -- the EXCELLENCE. It has been our intention with this product to provide you with the best value ever -- a truly excellent chess program in an extremely affordable housing. We feel confident that this microprocessor-based chess opponent will challenge and delight you now and for years to come.

A thorough reading of this manual will teach you exactly how to operate and enjoy your new EXCELLENCE.

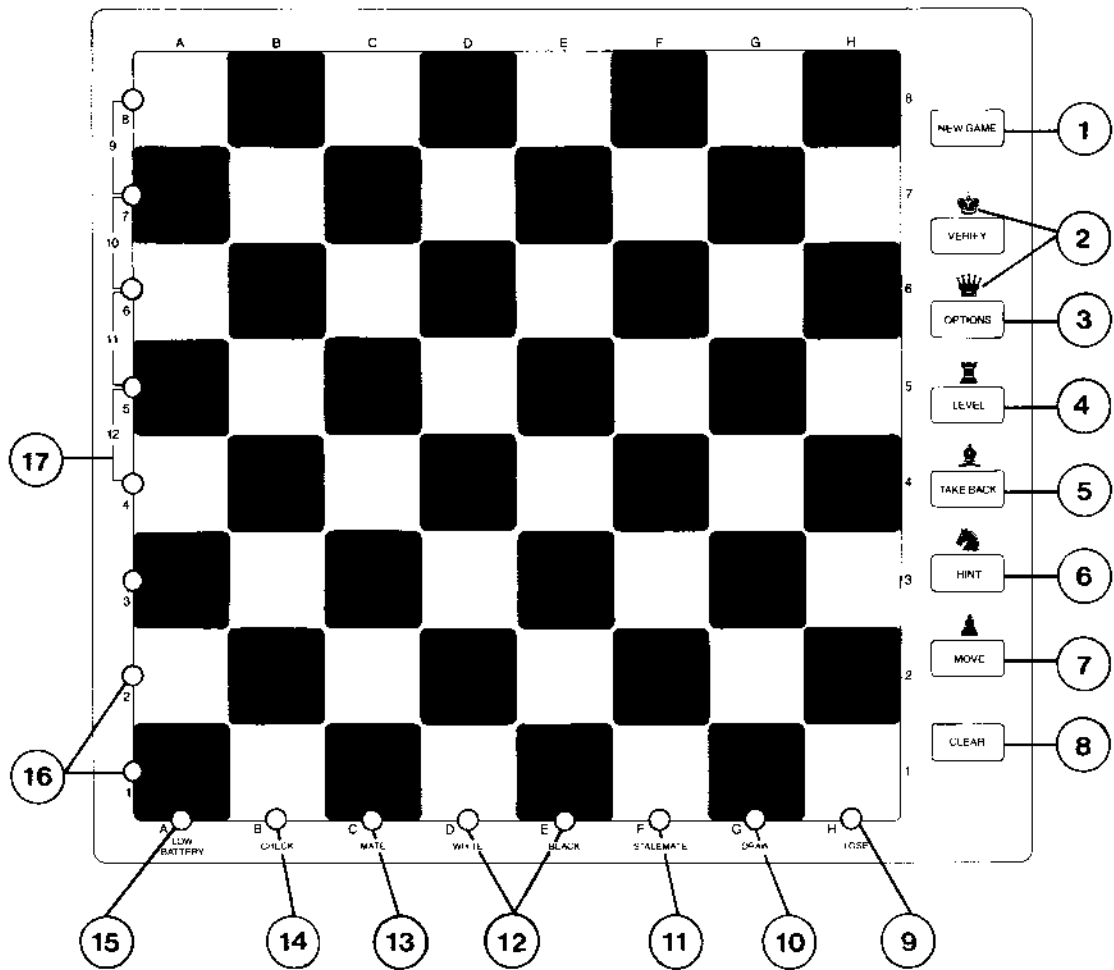
Section 1 will provide you with all the information you need to play an actual game of chess against the computer. Subsequent sections are devoted to the special features and options which make the EXCELLENCE such a versatile chess opponent. We strongly recommend that you first familiarize yourself with Section 1 before attempting to understand and implement the special functions described in later sections. Once you are comfortable with the basic operation of the game, it will be easier for you to study and enjoy the additional features which the EXCELLENCE has to offer. This manual does not, however, deal with the actual rules and playing strategies of the game of chess.

SECTION I--BASIC OPERATION

1.1 KEYS AND INDICATORS

The following is a brief description of the basic functions of the EXCELLENCE'S keys and indicators. For further information and more details on each individual feature, please note the references which are made to the appropriate sections of this manual.

1.1.1 BOARD DIAGRAM



FUNCTION KEYS:

- 1-NEW GAME KEY: USED TO START A NEW GAME, KEEPING ALL PREVIOUSLY SELECTED LEVELS AND OPTIONS.
- 2-VERIFY KEY: TO ENTER VERIFY MODE TO CHECK PIECE POSITIONS (SEE SECT. 2.2.1); ALSO USED WITH OPTIONS KEY TO ENTER PROBLEM MODE AND SET UP POSITIONS (SEE SECT. 2.2.2)
- 3-OPTIONS KEY: USED TO ENTER OPTION MODE (SEE SECT. 3); ALSO FOR PROBLEM MODE (SEE SECT. 2.2.2)
- 4-LEVEL KEY: TO SELECT AND CHANGE LEVELS OF PLAY (SEE SECT. 2.4); ALSO TO DISPLAY SEARCH DEPTH (SEE SECT. 2.4.3)
- 5-TAKE BACK KEY: USED TO TAKE BACK MOVES (SEE SECT. 2.5)
- 6-HINT KEY: USED TO OBTAIN SUGGESTED MOVE (SEE SECT. 2.6); ALSO TO SEE MOVE COMPUTER IS CONSIDERING (SEE SECT. 2.6)
- 7-MOVE KEY: TO CHANGE SIDES WITH THE COMPUTER (SEE SECT. 2.7); ALSO TO HALT THE COMPUTER THINKING (SEE SECT. 2.7)
- 8-CLEAR KEY: USED TO EXIT FROM OPTIONS MODE (SEE SECT. 3) AND PROBLEM MODE (SEE SECT. 2.2.2); CAN BE USED TO CANCEL ILLEGAL MOVE INDICATION (SEE SECT. 1.7); CAN ALSO BE USED TO TURN LED INDICATORS OFF AFTER VERIFYING POSITIONS OR SELECTING A PLAYING LEVEL.

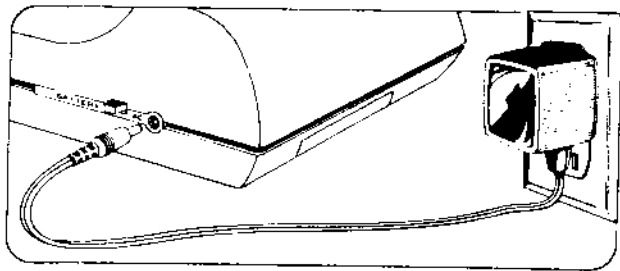
THE LIGHTS, OR LED'S (LIGHT EMITTING DIODES):

- 9-I LOSE LED: INDICATES COMPUTER LOSS WHEN LIT
- 10-DRAW LED: INDICATES DRAW WHEN LIT (SEE SECT. 4.4-4.6)

- 11-STALEMATE LED: WILL LIGHT IN CONJUNCTION WITH DRAW LED WHEN DRAW BY STALEMATE OCCURS (SEE SECT. 4.4)
- 12-COLOR LED'S: (WHITE AND BLACK) ALWAYS INDICATE WHICH SIDE IS CURRENTLY AT PLAY. IF YOU ARE WHITE AND YOU ARE CONSIDERING A MOVE TO MAKE, THE WHITE LED WILL BE FLASHING. SIMILARLY, IF THE COMPUTER IS BLACK AND IT IS THINKING, THE BLACK LED WILL FLASH. THIS ENABLES YOU TO TELL AT A GLANCE WHOSE MOVE IT IS.
- 13-MATE LED: WILL LIGHT WHEN COMPUTER HAS MATED OPPONENT (SEE SECT. 1.11); ALSO USED WITH NUMBERED LED'S FOR MATE-SOLVING LEVELS (SEE SECT. 2.4.2) AND MATE ANNOUNCEMENT AGAINST OPPONENT (SEE SECT. 4.2)
- 14-CHECK LED: WILL FLASH WHENEVER THERE IS A CHECK SITUATION ON THE BOARD.
- 15-LOW BATTERY LED: WILL FLASH TO INDICATE BATTERIES NEED REPLACEMENT (SEE SECT. 5.2.2)
- 16-NUMBERED LED'S (1-8): USED IN CONJUNCTION WITH BOTTOM ROW OF LED'S TO INDICATE LOCATION OF PIECE COMPUTER WANTS TO MOVE AND DESTINATION OF THAT PIECE (SEE SECT. 1.5); ALSO USED TO DISPLAY PLAY LEVEL (SEE SECT. 2.4). YOU WILL FIND THAT COMBINATIONS OF THESE SAME LED'S WILL ALSO LIGHT FOR MANY OF THE SPECIAL FUNCTIONS THE EXCELLENCE PERFORMS AS YOU READ FURTHER IN MANUAL.
- 17-NUMBERED LED'S (9-12): USED TO INDICATE LEVELS 9-12 BY LIGHTING THE PAIR OF LED'S CONNECTED BY BRACKETS (SEE SECT. 2.4)

1.2 POWER ON

The EXCELLENCE can be operated in the AC Mode (using optional AC transformer with ordinary house current) or in the Battery Mode (using four "C" size alkaline batteries -- see Section 5.3.1). Be sure to push the Power Switch on the side of the unit to the desired setting (AC or Battery) before starting a game. For AC operation, 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 from the wall outlet and leave the power switch in the AC position.



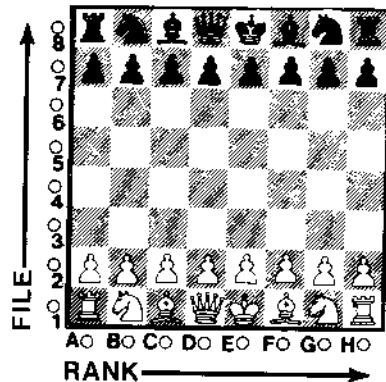
Power Supplies.

tions, or special features are in effect. 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. As you become more familiar with the operation of the EXCELLENCE you will find that using Option H1 (FULL RESET, see Section 3.8) is exactly the same as unplugging the unit and plugging it back in again, whereas using the NEW GAME KEY (see Section 2.1) will start a new game but will retain all previously selected options.

Since the EXCELLENCE 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 Fidelity transformer available for this unit has been specifically designed for use with this product. We strongly recommend against the use of any other transformer (transformer is optional and not included).

1.3 THE GAME BOARD

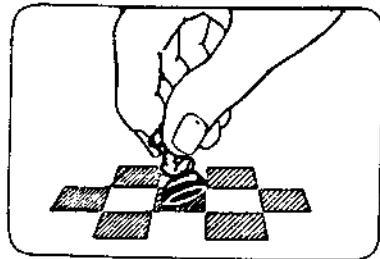
Set up the chess pieces with the White pieces at the bottom of the board. Each square on the chess board is designated, in accordance with international chess notation, by a letter of the alphabet designating the vertical rows (the files), and a number designating the horizontal rows (the ranks). When 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 EXCELLENCE is like playing with a human opponent--you make your move and the computer 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 center of the square.

1.5 YOUR FIRST MOVE

The following example will help you to start your first game with the EXCELLENCE.

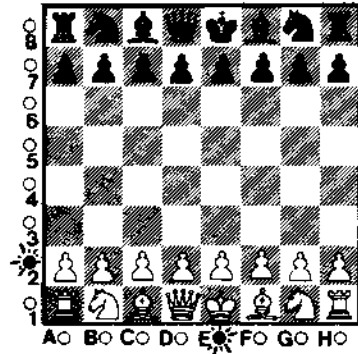
Checklist

1. Power on (Section 1.2)
2. Chess pieces set up (Section 1.3)
3. How to enter moves (Section 1.4)

Let's say you have chosen to move your white pawn located on E2 square (at intersection of file "E" and rank "2") to the E4 square:

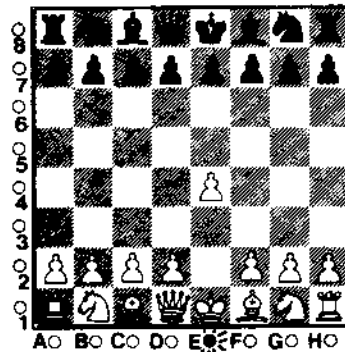
STEP #1

First tilt the pawn and press on square E2. File "E" and rank "2" will light up as shown. Therefore, the E2 square is selected.



STEP #2

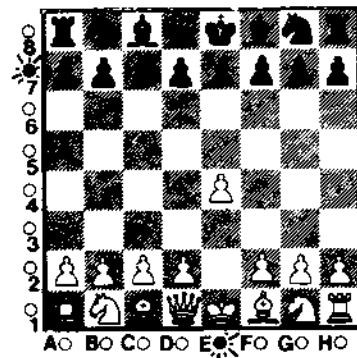
Pick up the pawn on E2, tilt the piece, and press on square E4 (the "E" and "2" lights will go out). The Excellence, at that instant, has recorded the move you made, and has begun to think about its move. (In this example, EXCELLENCE will respond instantly, so you may not even see the "Black" LED flashing).



"Black" is thinking

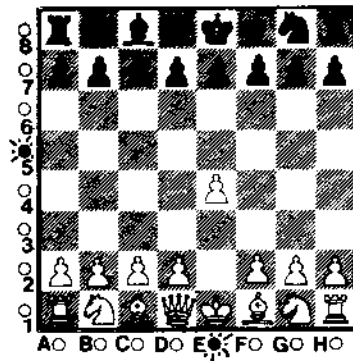
STEP #3

The computer will show you its move by lighting two LEDs for its "From" square. (We have selected the E7 square for this example - you may get a different response). The file "E" and rank "7" LEDs are lit.



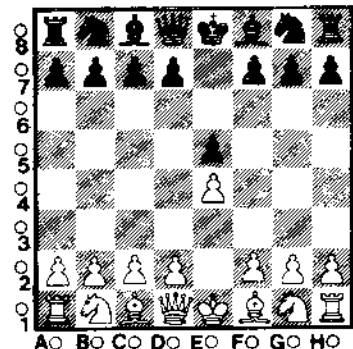
STEP #4

Press down on the black pawn at square E7. The "From" lights will go out and two different LEDs will show you the "To" location for that pawn. (We have chosen the E5 square for this example).



STEP #5

Pick up the black pawn on the E5 square, tilt the piece, and press down on the E5 square. The "To" lights will go out, and it is time for your next move.



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 EXCELLENCE'S piece, the LEDs for the TO square 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 the computer's move, the TO square is lit to show you where to place EXCELLENCE'S piece.

1.6 ACCIDENTAL WRONG MOVE

If you press down on a piece and the FROM square is lit, but you decide not to make that move, you can either (1) press down on that same (FROM) square once more, causing the LEDs for that square to go out; or (2) press the CLEAR KEY, which will also turn the LEDs off. You may now enter another move of your choice.

If you change your mind after you have entered a whole move (FROM and TO squares) then the computer has accepted your move and is already considering its counter-move. The TAKE BACK feature will correct such a mistake. First wait until the computer makes its next move (or press the MOVE KEY to force EXCELLENCE to stop thinking and display a move). Make the computer's move in the usual way, and then take it back (see Section 2.5). After you have taken back the computer's move, take back your move in the same way. You can now enter any move of your choice.

1.7 ILLEGAL MOVE

The computer will only allow moves that are in compliance with the rules of chess. Illegal moves are not accepted. EXCELLENCE notifies you of an illegal move or error by beeping a double tone and flashing the LEDs corresponding to the FROM square which was pressed. To undo the error, you have several options:

1. Pick up that piece and press it down on the square you actually intended to move it to; or,
2. Press the piece back down on the flashing FROM square (the LEDs indicating that square will go out), and then enter another move; or,
3. Press the CLEAR KEY to turn the LEDs off and put the piece back down on its original FROM square. Then enter another move of your choice.

IMPORTANT NOTE: This method does not insure that the incorrectly moved piece has been returned to its original location, but rather leaves it up to you to place the piece correctly.

Please note the following circumstances, which will also cause the computer to beep an illegal move indication:

1. Pressing down on a piece of the wrong color (e.g., it is White's turn and you press down on a Black piece).
2. Pressing down on the wrong square when making the computer's move on the board (e.g., the computer lights the LEDs for square D8 and you inadvertently press down on square D7).
3. Pressing down on an empty square without having first pressed down on a piece which could move to that square.

1.8 EN PASSANT

The computer will capture a pawn En Passant whenever it determines that such a move is desirable, and it will also recognize when you choose to move En Passant. When performing an En Passant capture, EXCELLENCE 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 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 take it off the board.

For details on taking back an En Passant move, please see Section 2.5.2.

1.9 CASTLING

EXCELLENCE will castle by 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 first 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, EXCELLENCE will acknowledge the Rook's move and immediately begin thinking. To recover from such a mistake, use the TAKE BACK feature to take the Rook move back (see Section 2.5). For specific details on taking back a castling move, see Section 2.5.1.

1.10 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. (e.g. to promote the pawn to a Queen, press the OPTIONS key after the lights begin to flash awaiting your choice). 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 EXCELLENCE'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 use Verify Mode to identify the promoted piece (see Section 2.2.1).

1.11 CHECK AND MATE

Whenever there is a check situation on the board, the CHECK LED will flash.

When EXCELLENCE determines that you will soon be mated, the computer will announce this as described in Section 4.2. When you have been checkmated, the MATE LED will flash.

When EXCELLENCE loses a game, the computer will beep a downscale series of tones, and the I LOSE LED will flash.

1.12 BOOK OPENINGS

You may notice that at the beginning of the game, EXCELLENCE seems to move very quickly. The reason the computer responds so fast is that it contains a library of almost 3,000 book opening positions from grandmaster play. (Book opening: A specialized series of moves used at the beginning of any chess game.) 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. If you wish to cancel the computer's opening book, you may do so (see Section 3.6).

1.13 THINKING ON THE OPPONENT'S TIME

The EXCELLENCE 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 3.1).

SECTION II--SPECIAL FEATURES

2.1 NEW GAME KEY

When the NEW GAME KEY is pressed, all pieces go back to their initial starting positions and the computer is ready to begin a new game of chess. Please note, however, that if you have just finished a game and you have made any level and option selections, these selections WILL REMAIN IN EFFECT for the next game if you use the NEW GAME KEY. This feature is, therefore, especially handy for those of you who tend to select the same options for most games--in this respect, the NEW GAME KEY will provide you with an easy shortcut.

NOTE: To start a completely new game WITHOUT any of the game options selected, use Option H1 (Full Reset). For details, see Section 3.8.

2.2 VERIFY KEY

As described below, the VERIFY KEY serves two specific functions--when used alone, it verifies all board positions; when used together with the OPTIONS KEY, it allows you to change board positions.

2.2.1 VERIFY MODE

Verify Mode will enable you to 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 VERIFY KEY. Then press one of the keys adjacent to the picture of the piece type you are interested in (e.g. to verify the position of pawns on the board press the VERIFY KEY and then the MOVE KEY). 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 a 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, either press the CLEAR KEY, or simply press down on any board square.

2.2.2 PROBLEM MODE

Another important function of the VERIFY KEY occurs when it is used in conjunction with the OPTIONS KEY. By first pressing the OPTIONS KEY (LEDS 1, 2, 3, and 4 will come on to indicate Option Select Mode), and then the VERIFY KEY, you will enter 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 problems for the computer 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, change the direction of the game, strengthen your side or the computer's, 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 2.4.2).

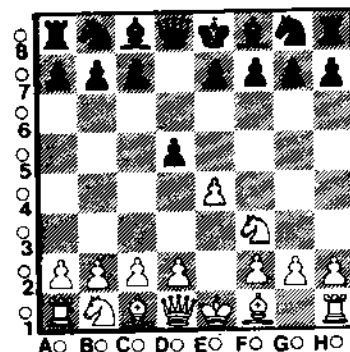
You may enter Problem Mode whenever it is your turn to play. To learn how to use

Problem Mode, try the following drill:

1. Press NEW GAME and set up the pieces in their initial positions.
2. Press the OPTIONS KEY and then the VERIFY KEY to enter Problem Mode. Now press the key adjacent to the pawn symbol (MOVE key). Note that the 2 LED and the A-H LEDs are all on steadily. This indicates that all White pawns are 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 all Black pawns are 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 pawn off the square. Pressing square H7 once more will turn the H LED on steadily. Now a White pawn occupies that square.

Before using this feature to create your own positions, familiarize yourself with problem mode by performing the following steps to set up the sample board position pictured below:

1. Press OPTIONS KEY. (LEDs 1,2,3 and 4 on the left hand side of the board will light steadily)
2. Press VERIFY KEY.
3. Press the key next to the pawn symbol (MOVE) Key.
4. Note LEDs are lighting up as described in above drill. Press down on the White pawn located at square E2. (LED will flash). Press the E2 square again, and the light will go out. You have now removed that pawn from the E2 square.
5. Move the White pawn to square E4 and press down. The LED will light up steadily. The computer has now recorded a White pawn on that square.
6. Press the key next to the pawn symbol again. (7 LED is on and A-H LEDs are flashing). Press the Black pawn on square D7 (the flashing LED will go off). Move this BLACK pawn to square D5 and press down. (The LED at square D5 will light steadily). Press down on the D5 square again, and the LED will flash. The computer has now recorded a Black pawn on square D5, and an empty square D7.
7. Press the key next to the Knight symbol (HINT) Key. Note LEDs are steadily lit at squares B1 and G1 (to show location of WHITE KNIGHTS).
8. Press down on the White Knight located on square G1 (the LED will flash). Press down on square G1 again (the LED will go off). The computer has now recorded that square G1 is unoccupied.
9. Press down on square F3. (LED will light steadily). The computer has recorded a WHITE KNIGHT located on the F3 square.
10. Press the CLEAR KEY to exit problem mode.



You have successfully entered the position pictured above into the computer's memory.

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.

Remember, to set up pieces in any arrangement:

1. Press the OPTIONS KEY and then the VERIFY KEY.
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, you MUST press the CLEAR KEY.

If you would like to clear all the pieces off the board at once, use Option G1 (Clear Board--see Section 3.7).

2.3 OPTIONS KEY

When the OPTIONS KEY is pressed, LEDs 1, 2, 3, and 4 will light to signal that you have entered Option Select Mode. Please refer to Section 3 for full details on using the OPTIONS KEY to select various game options. Another use of the OPTIONS KEY, when used along with the VERIFY KEY, is to enter Problem Mode in order to change the board. For details, see Section 2.2.2. For complicated positions, it is a good idea to verify piece locations after you have exited Problem Mode (see Section 2.2.1)

2.4 LEVEL KEY

The Excellence has nine different levels of playing difficulty, plus three additional mate-finding levels:

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

When the computer is first turned on, Level 2 is automatically selected. To change levels, simply press the LEVEL KEY. The first time the LEVEL KEY is pressed, the 2 LED will light to indicate Level 2 is currently activated. Pressing the LEVEL KEY again will turn the 3 LED on, indicating Level 3, and so on. After lighting the 8 LED to signify Level 8, pressing the LEVEL KEY 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. Pressing the LEVEL KEY once more will set the game down to Level 1. 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, either press the CLEAR KEY or press down on any board square.

2.4.1 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, EXCELLENCE will make the best move it has found thus far in its search. You can halt EXCELLENCE'S thinking at any time by pressing the MOVE KEY (see Section 2.7). If you would like to see how deep the computer is searching before you force it to respond, see Section 2.4.3.

2.4.2 MATE SOLVING LEVELS

Levels 10, 11, and 12 are EXCELLENCE'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: The computer 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, set up the board in Problem Mode (see Section 2.2.2), then set the desired mate solving level, and finally press the MOVE KEY to make the computer start thinking. The computer will think for as long as it takes to find the solution to the problem. As soon as the solution is found, the computer will beep and announce the mate by flashing both the MATE LED and the LED which corresponds to the number of mating moves. For a mate in 3, for instance, EXCELLENCE will flash the MATE LED and the 3 LED.

After EXCELLENCE has announced the solution to a mate problem, you may request the computer to search for other possible solutions to the same problem. For details on using this feature, see Section 4.2.1, Alternate Solutions.

If EXCELLENCE cannot find a mate at the level you have chosen, the computer will respond by flashing the 3 and 4 LEDs on the side of the board (see Section 4.3). NOTE: The computer 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 it finds a mate in 2, it will announce that mate. It cannot, however, find a mate in 4 on that level.

2.4.3 DISPLAY OF SEARCH DEPTH

Another use of the LEVEL KEY enables you to see how deep the computer is searching while it is thinking about a move. To make use of this function, the LEVEL KEY should be pressed at any time WHILE THE COMPUTER IS THINKING. The computer will then display the depth at which the computer is searching by flashing one of the number LEDs. The number corresponding to the LED which is flashing indicates the number of half-moves the computer is thinking ahead at that time.

After the computer makes its move and you make your next move, EXCELLENCE will automatically resume showing you the search depth display as it thinks about its next move--you need not press the LEVEL KEY again. To cancel this feature, press the CLEAR KEY WHILE THE COMPUTER IS THINKING.

2.5 TAKE BACK KEY

The TAKE BACK feature allows taking back any move you make or any move made by the computer. In order to use this feature, simply press the TAKE BACK 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 turn on. Press that square, and the lights will go out. You have thus completed the take-back of that move. Please note, however, that after you TAKE BACK one of the computer's moves, the computer's color LED (Black or White, whichever is applicable) will still be flashing, but your color will also be on solidly. This serves to remind you that you have the option of entering a move of your own choice for the computer if you wish (see Section 2.5.3). At this point, you can either continue to take back moves by pressing the TAKE BACK KEY 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 1.12), taking back one or two moves will not disable the opening library. Moves will continue to be played from book. While in book, you can take back as many moves as you wish, even all the way back to the beginning of the game. Once play is out of book, you can take back up to 31 ply (a ply is one move by either you or the computer). NOTE: If you have entered Problem Mode at any time during a game, the computer's memory of the move list up to that point will be lost. Therefore, move take-backs from that point on will only go back as far as the first move which was made upon exiting Problem Mode.

When taking back moves, if you are unsure of where to replace a captured piece which should be put back on the board, use Verify Mode (see Section 2.2.1) to identify the proper piece. This is accomplished by pressing the VERIFY KEY after a move take-back has been executed, and then pressing each piece type key until the missing piece has been identified. After the piece is replaced, press the CLEAR KEY or any board square to get out of Verify Mode, and continue taking back moves or go on with normal play.

2.5.1 TAKING BACK A CASTLING MOVE

Press the TAKE BACK KEY, and note that the LEDs will light to indicate the Rook's TO move (press that square) and then the Rook's FROM move (press that square). The appropriate LEDs for the King's TO move will then light (press that square), and finally the LEDs for the King's FROM move will light (press that square). The castling take-back is now complete.

2.5.2 TAKING BACK AN EN PASSANT MOVE

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 the position using Verify Mode--see Section 2.2.1). For example, if d2-d4 is played, and then e4xd3, a take-back will light up d3 and then e4, but it is up to you to put the pawn back on square d4.

2.5.3 FORCING THE COMPUTER TO MAKE A SPECIFIC MOVE

After using the TAKE BACK KEY to take back one of the computer's moves, EXCELLENCE will not start thinking again until after you have pressed the MOVE KEY. At this point, however, you also have the option of making the next move for the computer's side. If you do this, EXCELLENCE will not start thinking about its next move until after you have made a move of your choice FOR the computer, and then made your own move on the board.

The COLOR LEDs (WHITE and BLACK LEDs) will serve to remind you of this feature. Each time you take back one of the computer's moves, the LED for the computer's color will still be flashing, but the LED for your color will also be on solidly.

2.6 HINT KEY

The HINT KEY has several different uses, depending upon when it is pressed. If you press the HINT KEY when it is your turn to move, EXCELLENCE will recommend a move for you to play. The first press of the HINT KEY will light LEDs for the FROM part of the suggested move, and pressing the HINT KEY a second time will show you the TO portion of the move. Press the HINT KEY a third time and the COLOR LED for your move will flash again.

If you press the HINT KEY for a suggested move while you are playing from EXCELLENCE's opening book (see Section 1.12), the suggested move will be from EXCELLENCE'S book. In this case, after you have seen the first suggested move and the COLOR LED has come back on, simply repeat the procedure by pressing the HINT 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 EXCELLENCE recommends in the current position.

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

While EXCELLENCE is thinking, the HINT KEY can enable you to display the move the computer is considering at any given moment. At any time WHILE THE COMPUTER IS THINKING, press the HINT KEY and EXCELLENCE will light the LEDs for the square it is considering moving FROM. Press the HINT KEY again, and EXCELLENCE will light the LEDs for the TO square. A third press of the HINT KEY will turn the TO square LEDs OFF. Please note that the beep tone does not sound during this procedure.

2.7 MOVE KEY

Like the HINT KEY, the MOVE KEY also has several different uses. Pressing the MOVE KEY when it is your turn to move changes sides with the computer. EXCELLENCE 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 the MOVE KEY, the computer will make the move for White. By alternately pressing the MOVE KEY after each move by EXCELLENCE, you can watch the computer play against itself.

Pressing the MOVE KEY while the computer is thinking will force EXCELLENCE to make its move immediately.

The MOVE KEY also has a specific function when you are in Monitor Mode. For details, see Section 3.3.

2.8 CLEAR KEY

The CLEAR KEY has several uses:

1. Pressing the CLEAR KEY will clear an illegal move (see Section 1.7).
2. If you press down on a piece and the FROM square is lit, but you decide not to complete that move, pressing the CLEAR KEY will turn the LEDs off so that you can enter another move.
3. You MUST press the CLEAR KEY in order to exit Option Select Mode after selecting your desired game options.
4. You MUST press the CLEAR KEY to exit Problem Mode.

SECTION III-- GAME OPTIONS

In addition to the Keys and Special Features described previously, a number of additional options may be selected to enhance your enjoyment of the Excellence. These game options are user selectable (before the start of a new game, or whenever it is your turn to move during a game), and can be activated by pressing various squares on the playing surface. When Option Select Mode is chosen by pressing the OPTIONS KEY, normal game play is suspended and A1 through H1 are used to select options as illustrated.

EASY MODE	SOUND OFF	MONITOR MODE	BLACK FROM THE BOTTOM	CHANGE COLOR WITH MOVE	CANCEL BOOK	CLEAR BOARD	FULL RESET
3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8
A ●	B ●	C ●	D ●	E ●	F ●	G ●	H ●

Press the OPTIONS KEY to enter Option Select Mode. Whenever you are in this mode, LEDs 1, 2, 3, and 4 will light steadily to indicate this. After pressing the OPTIONS KEY, activate the option of your choice by PRESSING DOWN ON THE SQUARE DESIGNATED FOR THAT PARTICULAR OPTION. The LED next to that square will light to show that you have selected that option. You may choose any number of options at the same time, as desired. The only exception is that Option H1 (Full Reset) must always be selected by itself (see Section 3.8). After selecting your option(s), always press the CLEAR KEY to exit Option Select Mode.

The options which are available are found on squares A1-H1. The descriptions which follow will help you decide which options may interest you for any particular game. BE SURE TO PRESS THE OPTIONS KEY TO ENTER OPTION SELECT MODE BEFORE ATTEMPTING TO CHOOSE ANY OF THE OPTIONS DESCRIBED IN THIS SECTION.

As each option is selected by pressing the desired square, the LED next to that square will light to indicate the selected option. If you decide after selecting an option that you would rather not have that option in effect, simply press the option square again. The LED next to it will go out to indicate that it is no longer in effect.

If you decide you want to cancel an option after you have already pressed the CLEAR KEY to get out of Option Select Mode, simply press the OPTIONS KEY again to get back into that mode. Note that the LEDs for Options A1, B1, C1, or D1 are on if they have been selected and are in effect. To cancel any of them, press the appropriate option squares and the LEDs in those squares will go out. Then press the CLEAR KEY to exit Option Select Mode. NOTE: This rule does not apply to Options E1, F1, G1, and H1, because they represent either a one-time selection (Cancel Book and Clear Board) or an option which must be entered separately each time for it to take effect (Change Color and Full Reset). If any of these options are chosen, therefore, once you go back into Option Select Mode, their LEDs will NOT be on, even though they may have been selected.

3.1 SQUARE A1 - EASY MODE

Easy Mode is an option which weakens all playing levels without affecting the computer's time controls. This is accomplished by restricting EXCELLENCE's use of its allotted time. Ordinarily, the Excellence will do some of its thinking on your time--while you are contemplating your next move (see Section 1.13). This feature is part of what makes EXCELLENCE such a tough opponent. For example: If you set

EXCELLENCE on Level 2 to give it roughly five seconds per move, but you take two minutes to consider your move, and EXCELLENCE 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 6!

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.

3.2 SQUARE B1 - SOUND OFF

For completely silent operation of the game, press Square B1 to select the Sound OFF option. To turn the sound on again, go back into Option Select Mode and press Square B1 again. This option can be changed as often as desired during a game. NOTE: When selecting or canceling Sound Off, this option does not actually take effect until AFTER the CLEAR KEY is pressed to exit Option Select Mode.

3.3 SQUARE C1 - MONITOR MODE

Pressing Square C1 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 EXCELLENCE'S opening book, EXCELLENCE will follow along in book, and the HINT KEY will give suggested book moves. As soon as the moves played deviate from EXCELLENCE'S book, the HINT KEY will no longer give hints. When this occurs, you may see what move EXCELLENCE would make at any time in the game by pressing the MOVE 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 the OPTIONS KEY, SQUARE C1, and the CLEAR KEY to cancel Monitor Mode. Then simply make your next move and EXCELLENCE will respond as in a normal game.

3.4 SQUARE D1 - BLACK FROM THE BOTTOM

Option D1 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 to set the pieces up correctly. Use the Verify Mode (see Section 2.2.1) to be certain of where the pieces should be placed.

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

3.5 SQUARE E1 - CHANGE COLOR WITH MOVE

Option E1 is primarily used in conjunction with Problem Mode (see Section 2.2.2). After exiting Problem Mode, you may change the color to move by entering Option Select Mode and Pressing Square E1.

3.6 SQUARE F1 - CANCEL OPENING BOOK

Choosing Option 1 locks out the computer's opening book (see Section 1.12). When this option is in effect, EXCELLENCE 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 use the Full Reset Option (see Section 3.8) to start a new game, and

you want to cancel the opening book, you must first press OPTIONS, SQUARE H1, CLEAR to reset the game, and THEN go back into Option Select Mode and choose Cancel opening Book by pressing OPTIONS, SQUARE F1, and CLEAR.

3.7 SQUARE G1 - CLEAR BOARD

Pressing Square G1 will remove all the chess pieces from the board in EXCELLENCE'S internal memory. This feature is extremely valuable for setting up problems, and it is, therefore, generally used in conjunction with Problem Mode (see Section 2.2.2).

NOTE: After clearing the board with Option G1 and then exiting Option Select Mode, the computer will flash the STALEMATE and DRAW LEDs. This simply alerts you to the fact that play cannot continue until both Kings are on the board. When you go into Problem Mode to set up the board, be sure to enter both Kings along with the other desired pieces.

3.8 SQUARE H1 - FULL RESET

Choosing the Full Reset Option is the same as unplugging the unit and plugging it back in again. By pressing Square H1, you are erasing all previous entries and options and starting a completely new game. The pieces are all returned to their initial starting positions and Level 2 is in effect. NOTE: Whether you are plugging the unit in or using the Full Reset Option, the computer will always be set on Level 2 initially. To change Levels, see Section 2.4.

If you would like to begin a new game, but you would like to retain all of the options you have selected, use the NEW GAME KEY instead of Option H1 (see Section 2.1),

NOTE: Full Reset is the only option which MUST BE SELECTED ON ITS OWN and CANNOT BE COMBINED WITH ANY OTHER OPTION SELECTIONS. For example, if you would like to start a completely new game and select Easy Mode and Sound Off, you must first press the OPTIONS KEY, then SQUARE H1, and then the CLEAR KEY in order to completely reset the game. Then press the OPTIONS KEY again to re-enter Option Select Mode, and press A1 (Easy Mode), B1 (Sound Off), and then CLEAR.

SECTION IV - MATE AND DRAW ANNOUNCEMENT

Your EXCELLENCE has the ability to announce forced mates against its opponent. In addition, the computer can recognize and claim three different types of draws: draw by stalemate, draw by the 50-move rule, and draw by three-time repetition.

NOTE: The Excellence uses different combinations of LEDs to signify the different types of draws. Please refer to the appropriate sections for details on the specific draw announcements.

4.1 CHECK ANNOUNCEMENT

Whenever there is a check situation on the board, the CHECK LED will flash.

4.2 MATE ANNOUNCEMENT AGAINST OPPONENT

When EXCELLENCE discovers a forced mate against its opponent, it will flash the MATE LED and the LED on the left-hand side of the board which corresponds to the number of moves until mate (the Excellence is capable of announcing up to mate in 11). When this occurs, you can either resign or press the CLEAR KEY to continue play. If the CLEAR KEY is pressed, EXCELLENCE will indicate its move in the usual way. If the move which the computer displays is the actual mating move, as soon as the move is entered on the board, the MATE LED will flash by itself to signify checkmate.

4.2.1 ALTERNATE SOLUTIONS

After EXCELLENCE 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 CLEAR 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 do to make the move. Instead, simply note which move the computer was going to make, and then press the MOVE KEY. The computer 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 indicates that no more solutions can be found (see Section 4.3).

4.3 NO MATE FOUND

When EXCELLENCE 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 EXCELLENCE cannot find a mate, the computer will flash LEDs 3 and 4. Pressing the CLEAR KEY will turn these LEDs off and cause the Excellence to announce a move.



4.4 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 flashing the STALEMATE and DRAW LEDs. When this occurs, the game is over and cannot be continued.

NOTE: The computer will also flash the STALEMATE and DRAW LEDs whenever you try to play with one or both Kings missing from the board. This will occur after clearing the board (see Section 3.7), or after exiting Problem Mode and inadvertently leaving the King(s) off the board. To continue play, simply go into Problem Mode and add the missing King(s) to the board as described in Section 2.2.2.

4.5 DRAW BY THE 50-MOVE RULE

If 50 moves are played in a game without either side having moved a pawn or captured a piece, the game is drawn by the 50-move rule. When the computer detects that this has happened, it will claim a draw by flashing the DRAW LED and LEDs 1 and 2. At this point, you may continue the game if you wish by pressing the CLEAR KEY.

● 2
● 1

4.6 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 the computer is about to make a move that will result in the same position being repeated for the third time, it will flash the DRAW LED and LEDs 2 and 3. Pressing the CLEAR KEY at this point will display Excellence's drawing move, allowing you to continue the game if you wish.

● 3
● 2

When the computer recognizes that its opponent has made a move that results in a third repetition, it claims the draw by flashing the DRAW LED and LEDs 2, 3, and 4. Press the CLEAR KEY to continue playing the game.

● 4
● 3
● 2

SECTION V — GENERAL INFORMATION

5.1 PIECE STORAGE

A handy piece storage compartment is located on the underside of the Excellence. This compartment will enable you to store your pieces safely when you travel and when you are not using the unit.

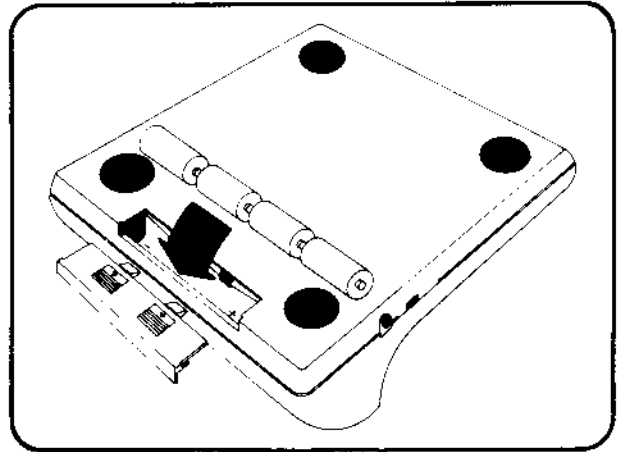
5.2 BATTERY OPERATION

The option of battery operation makes the Excellence a truly portable chess computer. Be sure to follow the procedures outlined below for correct installation of batteries.

5.2.1 BATTERY INSTALLATION/REPLACEMENT

To install or replace batteries:

1. Be sure that the optional transformer (if applicable) is unplugged from the unit.
2. Locate the battery compartment on the underside of the unit, and gently push down to disengage the battery cover snap-locks.
3. Slide the battery cover clear of the guide notches in the case.
4. Remove and discard old batteries.
5. Ensure that the battery clips are clean and rust-free.
6. Install four (4) "C" size alkaline batteries so that their positive (+) terminals all point toward the side of the game with the Battery/AC Switch.
7. Replace battery cover.



When you are ready to play, push the Power Switch to the BATTERY setting and start your game.

5.2.2 LOW BATTERY INDICATOR

The expected useful life of a set of new batteries is approximately 100-250 hours. Since weakened or damaged batteries may cause inaccurate operation or malfunction of the computer, the LOW BATTERY LED will flash to alert you when the batteries should be replaced.

5.3 SPECIFICATIONS

Power Source: DC (AC optional)

ROM (Read only Memory): 128K bits

Size: 11¼" X 10 5/8" X 1 5/8"

RAM (Random Access Memory): 16K bits

Processor: 65C02

Authors: Dan and Kathe Spracklen



FIDELITY INTERNATIONAL, INC.

13900 N.W. 58 Ct., Miami, Florida 33014 Telephone: (305) 557-9800