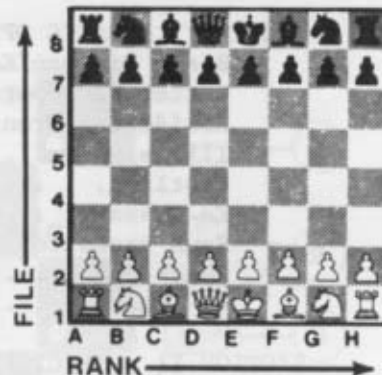


EXCEL 68000
OWNER'S MANUAL
INSTRUCTION BOOKLET
MODEL 6094



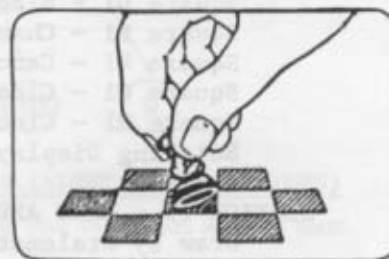
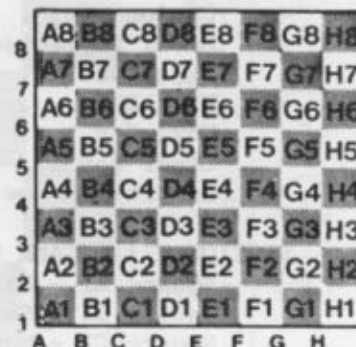
EASY STEPS TO PLAYING YOUR FIRST GAME WITH THE EXCEL 68000

1. Set up the pieces in their appropriate positions (see diagram #1).
2. Turn on computer - D (WHITE) LED will flash indicating that the computer is waiting for you to enter white's move.
3. Let's say you have chosen to move your white pawn located on the E2 square to the E4 square (see diagram #2 for the identity of each square).



Files are vertical rows of squares
Ranks are horizontal rows of squares

4. Pick up the E2 pawn and press down (see diagram #3) on the E2 square - the E2 LED will light.
5. Move the pawn to the E4 square and press down on the E4 square - your move is automatically entered and the computer will respond with its move. (If the computer needs to ponder the move, the E (Black) LED will flash to indicate the computer is thinking.)
6. The computer will beep when it responds, and light the LED of the square it wants to move FROM. Press down on that square.
7. The computer will now light the LED of the square it wants the piece moved TO. Move the piece to that square and press down on the square to register the move.
8. The D (White) LED will light to indicate that it is once again your turn to move.
9. Continue to enter your moves as in steps 4 and 5 and the computer's responses as in steps 6 and 7.



To make a move, press gently
on the center of the square.

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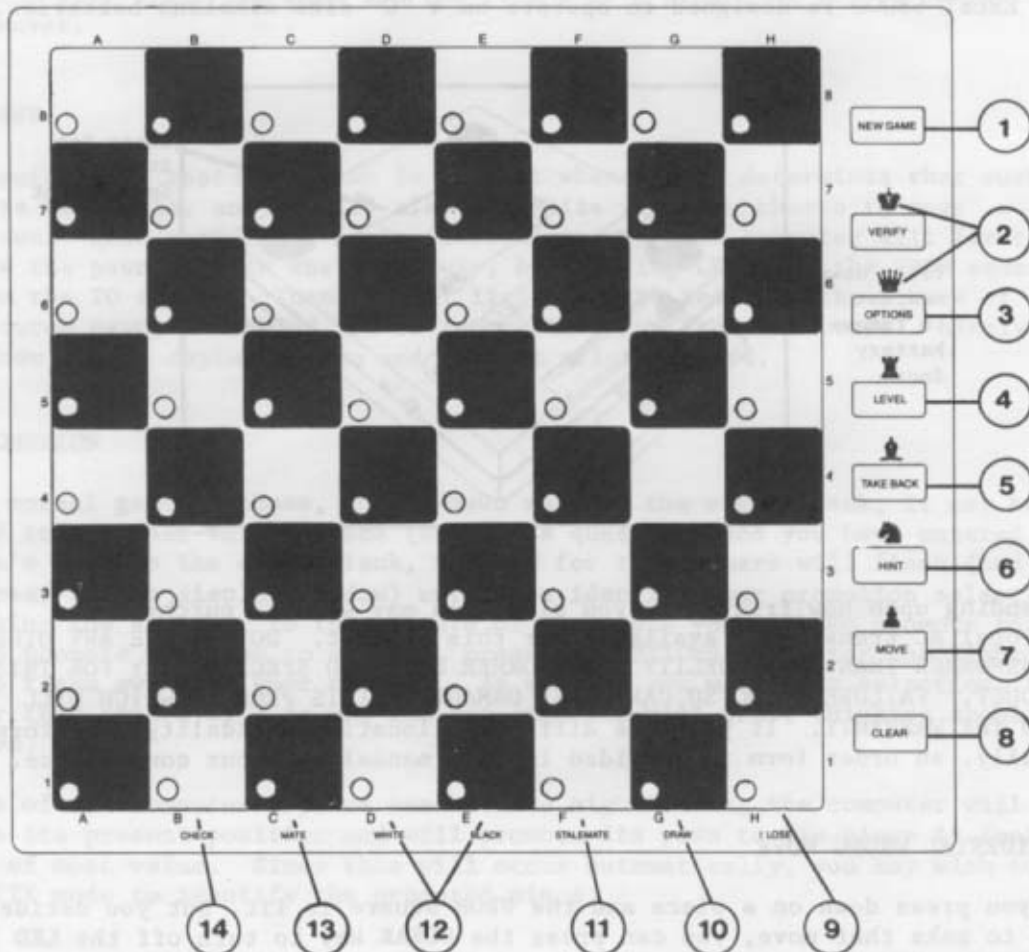
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SECTION I—BASIC OPERATION

BOARD DIAGRAM/KEYS AND LED INDICATORS



FUNCTION KEYS

- 1-NEW GAME KEY: USED TO START A NEW GAME.
- 2-VERIFY KEY: USED TO VERIFY PIECE POSITIONS.
- 3-OPTIONS KEY: USED TO ENTER SPECIAL OPTIONS.
- 4-LEVEL KEY: TO SELECT AND CHANGE LEVELS OF PLAY.
- 5-TAKE BACK KEY: USED TO TAKE BACK MOVES.
- 6-HINT KEY: USED TO OBTAIN SUGGESTED MOVE.
- 7-MOVE KEY: TO CHANGE SIDES WITH THE COMPUTER/
WATCH COMPUTER PLAY BOTH SIDES.
- 8-CLEAR KEY: USED TO EXIT FROM OPTIONS MODE AND PROBLEM
MODE. TO CANCEL ILLEGAL MOVE INDICATION OR TO CLEAR A
"FROM" SQUARE ENTRY BEFORE YOU MOVE TO THE "TO" SQUARE.

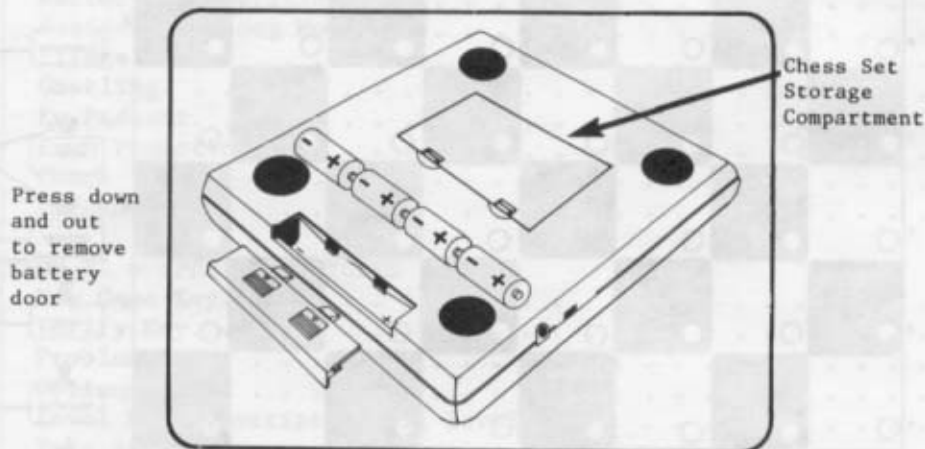
LED'S (LIGHT EMITTING DIODES)

ALL 64 LED'S ARE USED TO INDICATE MOVES ON BOARD.

- 9-I LOSE LED: INDICATES COMPUTER LOSS WHEN LIT.
- 10-DRAW LED: INDICATES DRAW WHEN LIT.
- 11-STALEMATE LED: WILL LIGHT IN CONJUNCTION WITH DRAW
LED WHEN DRAW BY STALEMATE OCCURS.
- 12-COLOR LED'S (WHITE AND BLACK): 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.
- 14-CHECK LED: WILL FLASH WHENEVER THERE IS A CHECK
SITUATION ON THE BOARD.

BATTERY/AC OPERATION

The Excel 68000 is designed to operate on 4 "C" size alkaline batteries.



Depending upon how frequently you play, you may wish to purchase the optional AC transformer available for this product. DO NOT USE ANY OTHER TRANSFORMER THAN THE FIDELITY TRANSFORMER DESIGNED SPECIFICALLY FOR THIS PRODUCT. FAILURE TO DO SO CAN CAUSE DAMAGE TO THIS PRODUCT WHICH WILL VOID THE WARRANTY. If you have difficulty locating a Fidelity transformer locally, an order form is provided in this manual for your convenience.

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 press the CLEAR key to turn off the LED and enter the move of your choice.

ILLEGAL MOVE

The 68000 will only allow moves that are in compliance with the rules of chess. The computer will notify you of an illegal or incorrect move by emitting a downscale beep. If this occurs while you are attempting to make your move, press CLEAR and make the correct move. If this occurs while you are entering the computer's move, it will keep the correct square lit until you are able to locate it and register the proper computer move.

CASTLING

The 68000 will castle by first performing the king move. Once you have entered the computer's king move, the rook move will be displayed and must also be entered.

You may castle your king in a similar manner by first entering the king move. Once the king move is entered the computer will recognize that you wish to castle and will light the LEDs for the rook's move prompting you to complete the maneuver.

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, the computer 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 LED 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.

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). Once you have entered the pawn's move to the eighth rank, the LED for that square will flash (and **Pr** will appear in the display window) until you identify your promotion selection by pressing the key next to the picture of the piece you wish to promote to (i.e. 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 the computer'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.

CHECK

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

CHECKMATE

If the computer determines that you will soon be mated, it will illuminate the C (Mate) LED and show **n #** in the display window (X=number of moves until checkmate). Press CLEAR to see the computer's move. Once the computer's mating move is entered, the display window will read **n**, and the MATE LED will flash.

If you checkmate the computer, the display window will read **n**, and the I LOSE LED will flash.

SECTION II--SPECIAL FEATURES

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/or 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 the previous level or game options selected (FULL RESET), press the OPTIONS KEY AND THEN THE NEW GAME KEY. By doing this, you are erasing all previous entries and options and starting a completely new game (same as unplugging the unit and plugging it back in again). NOTE: Whether you are plugging the unit in or using the Full Reset Option, the computer will always be set on Level A1, and the pieces will be returned to their initial starting positions.

VERIFY KEY

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 (Problem Mode).

The VERIFY key enables you to verify the positions of all pieces--both white and black--at any time before or during a game, or whenever it is your turn to move. To verify the position of any piece type, first press the VERIFY key (display window reads "Pb"). Then press the key 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, the entire board is activated to indicate where all pieces of that type are located. If the piece is white, the square LED lights steadily. If the piece is black, the square LED flashes. If no pieces of that type are on the board no LEDs will light.

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

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 (Pb will appear in the display window), and then the VERIFY key (Pb will appear in the display window), 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 using Mate Finder Levels.

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 A2-H2 LEDs are all lit steadily. This indicates that all white pawns occupy squares A2-H2. Also note that the A7-H7 LEDs are flashing. This indicates that all black pawns occupy squares A7-H7.
3. Now press down on square H7. Note that the H7 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 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. Set up all pieces in their original starting positions.
2. Press OPTIONS key.
3. Press VERIFY key.
4. Press the key next to the pawn symbol (MOVE). 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 E2 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. Now 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). Note LEDs are steadily lit at squares B1 and G1 (to show location of white knights), and flashing at squares B8 and G8 (to show location of black 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.

Remember - To set up pieces in any arrangement:

1. No square LED lit means an empty square. Press an empty square and it becomes a white piece.
2. A steadily lit square LED means a white piece of that type is on that square. Press a white piece and it becomes a black piece.
3. A flashing square LED means a black piece of that type is on that square. Press a black piece and it becomes an empty square.
4. To exit Problem Mode you must press CLEAR. If you would like to clear all the pieces off the board at once, refer to Section III.

If the board position you have entered is set up for white to move, either enter white's move, or press the MOVE key for the computer to make white's move. If the board position you have entered is set up for black to move, refer to Option Square E1 in Section III.

OPTIONS KEY

As the OPTIONS key is pressed, the display window will read **-O P** to signify that you have entered Option Select Mode. Please refer to Section III for full details on using the OPTIONS key to select various game options.

LEVEL KEY

The 68000 has 33 levels of play for you to choose from. Level A1 is automatically selected when the computer is first turned on. The first time the LEVEL key is pressed, the A1 LED will light (and the display window will read **LE A1**) to indicate that level A1 is currently activated. To select an alternative level, simply press down on the appropriate board square (after you have pressed the LEVEL key). For your reference, a diagram of the board squares used to activate each level appears below with brief descriptions inside each square. A more detailed description of the various levels follows the diagram.

CHART OF PLAYING LEVELS

PRESET LEVELS
AVG. TIME/MOVE
TOTAL # MOVES/
TIME

**COUNTDOWN
LEVELS**

SELECT ANY SQUARE FOR INFINITE LEVEL

**FIXED DEPTH
LEVELS**

**MATEFINDER
LEVELS**

PRESET LEVELS AVG. TIME/MOVE TOTAL # MOVES/ TIME	COUNTDOWN LEVELS	SELECT ANY SQUARE FOR INFINITE LEVEL				FIXED DEPTH LEVELS	MATEFINDER LEVELS
AVG. RESPONSE 3.5 MINUTES 40/2.5 HOURS A8	3 HOURS PER SIDE B8	C8	D8	E8	F8	8 PLY G8	MATE IN 8 H8
AVG. RESPONSE 3 MINUTES 40/2 HOURS A7	2 HOURS PER SIDE B7	C7	SELECT ANY D7	E7	SELECT ANY F7	7 PLY G7	MATE IN 7 H7
AVG. RESPONSE 2 MINUTES 30/60 MINUTES A6	1 HOUR PER SIDE B6	C6	D6	E6	F6	6 PLY G6	MATE IN 6 H6
AVG. RESPONSE 1 MINUTE 60/60 MINUTES A5	30 MINUTES PER SIDE B5	C5	ONE OF THESE D5	E5	ONE OF THESE F5	5 PLY G5	MATE IN 5 H5
AVG. RESPONSE 30 SECONDS 60/30 MINUTES A4	20 MINUTES PER SIDE B4	C4	D4	E4	F4	4 PLY G4	MATE IN 4 H4
AVG. RESPONSE 15 SECONDS 60/15 MINUTES A3	15 MINUTES PER SIDE B3	C3	SQUARES FOR D3	E3	SQUARES FOR F3	3 PLY G3	MATE IN 3 H3
AVG. RESPONSE 10 SECONDS 60/10 MINUTES A2	10 MINUTES PER SIDE B2	C2	D2	E2	F2	2 PLY G2	MATE IN 2 H2
AVG. RESPONSE 5 SECONDS 60/5 MINUTES A1	5 MINUTES PER SIDE B1	C1	INFINITE LEVEL D1	E1	INFINITE LEVEL F1	1 PLY G1	MATE IN 1 H1

Preset Levels (A1 - A8)

Playing levels with preset time controls may be selected by pressing LEVEL, one of the A file (A1-A8) squares and CLEAR. For your convenience, the chart of playing levels shows the average response time for each of the preset levels within the appropriate square (i.e. select square A1 for an average response time of five seconds per move), and the overall time control the computer is using (i.e. square A1 will make 60 moves within five minutes).

Countdown Levels (B1-B8)

Playing levels with preset total times for each side may be selected by pressing LEVEL, one of the B file (B1-B8) squares and CLEAR. These levels start at the total time for each player and count down to zero time. If either player should run out of time before checkmate is achieved, the clock will flash to indicate time forfeit for the player with zero time remaining. While using one of these levels the computer's display will split into two 2-digit clocks so time for both sides may be viewed simultaneously (first minutes are counted down and then seconds will appear during last minute).

Fixed Depth Levels (G1-G8)

Fixed depth levels may be selected by pressing LEVEL, one of the G file (G1-G8) squares and CLEAR. On these levels the only preset condition is the computer's ability to look ahead. For example, level G2 restricts the computer's look ahead to two plies or two half-moves (one half move = one move for one player). As you utilize the fixed depth levels you will always know how far ahead your opponent is analyzing its next move. Using these levels can train you to improve your ability to see further into a game and you can measure your success by your number of wins!

Mate Finder Levels (H1-H8)

Mate finder levels may be selected by pressing LEVEL, one of the H file (H1-H8) squares and CLEAR. These levels allow you to set up mate problems for the computer to solve. For example, if you set up a problem and want the 68000 to search for a mate in 6 moves, set the computer to level H6. On this level the computer will search for a mate in 6 moves. If a mate-in-6 is found, the display will show **05** and the mate LED will light. Press CLEAR to see the move and enter it. At this point 1) If you would like to see an alternate mate-in-6 solution, press the MOVE key immediately after entering the computer's move and it will search for an alternate solution, OR 2) If you want to see the computer's next move for the mate it has found, activate level H5 (because the problem is now a mate in 5) enter the opponent's move and the computer will display the next move to mate, OR 3) If no mate is found, the display will show **-00-**.

Infinite Level

To select infinite level, press LEVEL and any board square in files C,D,E, or F. This level 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, the 68000 will make the best move it has found thus far in its search. You can halt the computer's thinking at any time by pressing the MOVE key. If you would like to see how deep the computer is searching before you force it to respond, see DISPLAY WINDOW.

TAKE BACK KEY

The Take Back feature allows you to take back any move you make or any move made by the computer. The 68000 will allow you to take back up to 256 half moves (128 moves per side) in a single game! To use this feature, simply press TAKE BACK when it is your turn to move, and the LED indicating the TO square of the last move will light. Press down on the indicated square, and the LED showing the FROM portion will light. Press that square, and the LED will go out. You have thus completed the take back of the computer's last move. At this point, you are permitted to enter an alternate move for the computer's side if you wish or take back your last move. To enter an alternate move for the computer, enter the desired move as you normally would and proceed with your next move. To take back your last move, simply press the TAKE BACK key again and proceed as outlined above. You may effectively take back as many moves as you like using this procedure.

As you take back moves, the computer will remind you to return a captured piece to the board by lighting up the square of the previously captured piece. Return the captured piece to the board and press down on the indicated square. If you do not recall the identity of the captured piece, press down on the indicated square and use the VERIFY key to find out what type of piece belongs on that square.

At any point during a game you may take back the entire game played thus far (when it is your turn to move) by pressing OPTIONS and then TAKE BACK. The computer will retain memory of the moves taken back (unless NEW GAME is activated) and you can see the moves replayed using HINT (see HINT key).

HINT KEY

If it is your turn to move and you would like the 68000 to suggest a move, press the HINT key. Once you have pressed HINT, the computer will display a suggested move by lighting the FROM square LED and flashing the TO square LED of the suggested move. If you opt to make the suggested move, enter it as you normally would. If you decide to make a different move, press CLEAR and make the move of your choice.

If you have taken back moves and decide that you would like to see them replayed, pressing the HINT key will cause the computer to display the LEDs of the last move taken back. Simply enter that move, and the computer will display the next move taken back. As you enter moves taken back, the computer will continue to display the next move made until you have reached the last move made in the game. At that point the 68000 will emit a series of beeps to signal that you have entered the last move played thus far.

If you decide to stop playing moves forward at some point before the last move made, stop entering moves at the desired position and press CLEAR to continue a regular game from that position.

MOVE KEY

If during a game you decide to change sides with the computer, press the MOVE key when it is your turn to move, the computer will then take over your pieces and make a move. At this point you may enter a move for the computer's side and continue to play the same game. If you would like to watch the computer play against itself, press the MOVE key, enter the move displayed and continue to repeat this procedure. Pressing the MOVE key while the computer is thinking will force it to move instantly at any level.

CLEAR KEY

The CLEAR key has several uses:

1. If you accidentally activate an unwanted FROM square, press CLEAR and you are free to activate the desired square.
2. Press CLEAR to erase illegal move indication.
3. Press CLEAR to exit Options Mode, Playing Forward Mode (Hint), or Problem Mode.
4. After you have selected a level, press CLEAR to resume play.
5. If you would like to know how much total time the computer has taken to make its moves during a game, hold down the CLEAR key for 2-3 seconds WHILE THE COMPUTER IS THINKING ABOUT ITS MOVE and the display will convert from showing time taken for the computer's current move to total time taken by the computer thus far. To see the total time you have used to make your moves, wait until your turn to move and hold down the CLEAR key for 2-3 seconds. The display will convert from showing time taken for your current move to total time taken for your moves thus far.

DISPLAY WINDOW

The display window has been provided in order to give the computer a means (other than the board LEDs) with which to communicate further information to you. If no special options have been selected, the display window will count up the time taken by you for the move you are currently considering. Once you have entered that move, the display begins to count time taken by the computer for its response. Once the computer responds with its reply, the appropriate square LED will light to signal the computer's move and the display confirms the identity of both the FROM and the TO squares for this same move. The display window may also be used to show additional information as outlined under ROTATING DISPLAY section of this manual. If you prefer to have the computer COUNT DOWN the time for each of its moves, see Section III under Square H1.

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 68000. 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.

1	EASY MODE <input type="radio"/>	SOUND OFF <input type="radio"/>	MONITOR MODE <input type="radio"/>	BLACK FROM THE BOTTOM <input type="radio"/>	CHANGE COLOR WITH MOVE <input type="radio"/>	CANCEL TOURNAMENT BOOK <input type="radio"/>	CLEAR BOARD <input type="radio"/>	COUNT DOWN CLOCK <input type="radio"/>
	A	B	C	D	E	F	G	H

Press the OPTIONS key to enter Option Select Mode. Whenever you are in this mode, the display window will read "-OP-" 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 a number of options at the same time, as desired. After selecting your option(s), always press the CLEAR key to exit Option Select Mode.

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, D1, F1, or H1 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 and G1, because they represent either a one-time selection (Clear Board) or an option which must be entered separately each time for it to take effect (Change Color). 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.

SQUARE A1 - EASY MODE

Press OPTIONS, Square A1 and CLEAR.

Easy Mode is an option which weakens all playing levels without affecting the computer's time controls. This is accomplished by restricting the computer's use of its allotted time. Ordinarily, the 68000 will do some of its thinking on your time--while you are contemplating your next move. This feature is part of what makes the 68000 such a tough opponent. For example: If you set the

computer on Level A1 to give it roughly five seconds per move, but you take two minutes to consider your move, and the computer 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 selected a higher level!

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.

SQUARE B1 - SOUND OFF

Press OPTIONS, Square B1 and CLEAR.

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.

SQUARE C1 - MONITOR MODE

Press OPTIONS, Square C1 and CLEAR.

This option allows humans to play both sides of the game, while the computer acts as referee checking each move for legality and keeping track of times taken per move by each player. Certain other features remain active during monitor mode as follows: Hold down CLEAR key for total time of player yet to move, Take Back, and the Play Forward feature (Hint). The MOVE key will also function but after the computer makes the move, Monitor Mode will remain in effect. To exit Monitor Mode and continue playing the game against the computer, press OPTIONS, SQUARE C1, and CLEAR. Then simply make your next move and the computer will respond as in a regular game.

SQUARE D1 - BLACK FROM THE BOTTOM

Press OPTIONS, Square D1 and CLEAR.

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 the pieces up correctly. Use the Verify key to be certain of where the pieces should be placed. Once you have verified proper piece locations, press the MOVE key to make the computer start thinking. SWITCHING TO THIS OPTION DURING A GAME IS NOT ADVISED.

SQUARE E1 - CHANGE COLOR WITH MOVE

Press OPTIONS, Square E1 and CLEAR.

This option is primarily used in conjunction with Problem Mode. If you enter Problem Mode to set up a position, the computer will remember whichever color was to move next when you exit Problem Mode. To change the color to move, set up the desired position, exit Problem Mode and activate OPTION E1. The computer will now expect the opposite color to move first.

SQUARE F1 - CANCEL TOURNAMENT BOOK

Choosing Option F1 locks out the computer's tournament opening book library. When this option is in effect, the computer will select from a greater variety of book opening lines. If this options is not activated, the computer will play only those opening lines it feels are best. To activate this feature press OPTIONS, F1, CLEAR.

SQUARE G1 - CLEAR BOARD

Pressing OPTIONS, Square G1 and CLEAR will remove all the chess pieces from the board in the computer's internal memory. This feature is especially valuable for setting up problems that involve few pieces.

NOTE: After pressing CLEAR, the F (Stalemate) and G (Draw) LEDs will flash because the board is void of all pieces including the kings. Simply press CLEAR again, and then OPTIONS, VERIFY to enter Problem Mode. You may now place the kings in their appropriate positions along with the other pieces of your choice.

SQUARE H1 - CLOCK OPTION (For all levels except B1-B8)

Press OPTIONS, Square H1 and CLEAR.

This feature is especially handy if you play the computer at its higher levels and want to be able to walk away from the board for a few minutes. While this option is engaged, the computer will display the amount of total time it expects to take for the move, and COUNT DOWN the time instead of up. The computer knows the approximate amount of time it will allot itself based upon the level selected and, therefore, is able to tell you ahead of time approximately how long it will take to move. If the computer sees any major obstacles while searching for the best move, it may allot itself more time and the clock will change to reflect this. It will not, however, ever take LESS time than the amount originally displayed when it began to think.

Since levels B1-B8 are already countdown levels, activating H1 while using one of these levels will provide you a different option. Normally, the computer will display both players' time remaining using a "split clock" format (two-digit display for each player side by side) while using the countdown levels. If OPTION H1 is activated in conjunction with a countdown level, however, the clock will show only one player's time remaining (while it is that player's turn to move) in a four-digit format. In this way, the player can see the more exact time that remains for his side because seconds will also be shown.

ROTATING DISPLAY

The built-in display window is provided to communicate additional information to you upon your request. If you simply turn on the computer and begin to play, it will display time for the player to move and also show the computer's board move once it has finished thinking about that move. If you would like to obtain additional information, however, you may do so by activating one of the squares on the first rank WHILE THE COMPUTER IS THINKING. The following "menu" shows which square to activate for the type of information you are interested in:

1	MOVE TIME <input type="radio"/>	COMPUTER'S SEARCH DEPTH <input type="radio"/>	SCORE <input type="radio"/>	NODES PER SECOND <input type="radio"/>	1ST MOVE PRINCIPLE VARIATION <input type="radio"/>	2ND MOVE PRINCIPLE VARIATION <input type="radio"/>	3RD MOVE PRINCIPLE VARIATION <input type="radio"/>	4TH MOVE PRINCIPLE VARIATION <input type="radio"/>
	A	B	C	D	E	F	G	H

It is important to note that these display features can only be activated WHILE THE COMPUTER IS THINKING. You will, therefore, need to wait until the computer is no longer playing from its opening library, because it will respond instantly in the early moves of the game if the moves played are preprogrammed into its memory of chess openings. If further into the game, you choose to deactivate a display feature you selected earlier, simply press down on the same square WHILE THE COMPUTER IS THINKING, and the display will no longer show that particular information. If you have selected multiple display features, the information will be "rotated" in one-second increments. More details regarding each display feature immediately follow this paragraph.

Square A1 - Since move time is automatically selected when the computer is turned on, there is no need to activate A1 to select time initially. You may, however, wish to deactivate move time if you are using many of the other display features and are not interested in move time. To deactivate move time, press down on square A1 WHILE THE COMPUTER IS THINKING. If you wish to reactivate move time later in a game, press down on square A1 again WHILE THE COMPUTER IS THINKING. IMPORTANT NOTE: YOU CANNOT DEACTIVATE MOVE TIME IF NO OTHER DISPLAY FEATURES ARE ACTIVATED. IF NO DISPLAY FEATURES ARE ACTIVATED, THE COMPUTER AUTOMATICALLY DEFAULTS TO DISPLAY MOVE TIME.

Square B1 - If you would like to see how far the computer looks ahead while it is pondering a move, press down on square B1 WHILE THE COMPUTER IS THINKING. The display will show ply depth and the number of computer moves in that ply that have been examined thus far (i.e. 12 3 = computer is currently examining the third ply and has reviewed 12 moves so far).

Square C1 - If you would like to see the computer's opinion of the current board position, press down on square C1 WHILE THE COMPUTER IS THINKING (i.e. -0.00 = computer currently believes that it is at a disadvantage valued at 1/100 of a pawn. Absence of the (-) symbol indicates the same value, only in the computer's favor.

Square D1 - If you would like to see how many chess positions the computer is examining per second, press down on square D1, WHILE THE COMPUTER IS THINKING. The number displayed will usually be a four-digit number due to the speed at which the computer processes information.

Square E1 - If you would like to see the first move of the computer's "principle variation", or the line of play the computer currently believes to be best, press down on square E1 WHILE THE COMPUTER IS THINKING.

Square F1 - If you would like to see the second move of the computer's principle variation, press down on square F1 WHILE THE COMPUTER IS THINKING.

Square G1 - If you would like to see the third move of the computer's principle variation, press down on square G1 WHILE THE COMPUTER IS THINKING.

Square H1 - If you would like to see the fourth move of the computer's principle variation, press down on square H1 WHILE THE COMPUTER IS THINKING.

SECTION IV – MATE AND DRAW ANNOUNCEMENT

The Excel 68000 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. Please refer to the appropriate sections that follow for details regarding specific draw announcements.

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 displaying **dr** in the window and flashing the STALEMATE and DRAW LEDs. If this occurs, the game is over and cannot be continued.

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. If the computer detects that this has happened, it will claim a draw by flashing the DRAW LED and displaying **dr 50**.

Draw By Three-Time Repetition

If 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. If 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 display **dr 3**. If 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 displaying **dr H3**.

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