

OMEGA

CHESS COMPUTER



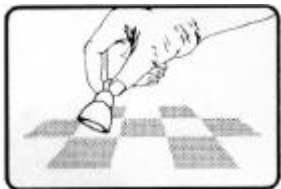
User Manual

IMPORTANT INFORMATION

USE OF CHESS PIECES

If you are using pieces with magnets in the bases and your move does not seem to have registered, press down with the **EDGE** of the pieces.

Magnets in bases of chess pieces are **NOT** essential to the proper operation of the computer. If a magnet falls out of the base of a piece, continue to use it in the normal way without the magnet and the computer will function correctly.



RESET SWITCH

Sometimes computers malfunction due to electrostatic discharge or other electrical disturbances, or when batteries are inserted. If this happens push a thin rod into the **RESET** hole in the base of the computer and press down for about one second. This Resets the computer, clears its memory and returns it to normal operation.

NOTE: this product is not designed to be immune to the effects of electrostatic discharge, strong electromagnetic radiation or other electrical disturbances since malfunction under such conditions is non-critical. The reset switch is included in the design to allow unit to be reset to normal operation and a new game started in the event of malfunction.

WARNING

The chess pieces supplied with this chess computer may be small enough to be swallowed. Please keep the chess pieces out of the reach of small children.

NOT SUITABLE FOR CHILDREN UNDER AGE 3 YEARS.

This Product conforms to the EMC-Requirements as laid down by the Council Directive 89/336/eec.

PLEASE KEEP THIS MANUAL FOR FUTURE REFERENCE.

CHOICE OF LANGUAGE

~~OMEGA~~ offers you a choice of languages for the spoken messages. To select the options, press the **NEW GAME** key, then press **SOUND**. The display will show one of the following:

- L En** (=English)
- L Fr** (=French)
- L ES** (=Spanish)
- L nL** (=Dutch)

If you now press the **SOUND** key several times, the available options will be shown in rotation. When the display shows the language that you want, press any other key, or any square of the chessboard. Play may then proceed.

VOLUME

The volume of ~~OMEGA~~ has been tuned to its optional level at the factory. It is not necessary for users to adjust the volume using the volume key, which has been disabled.

CONTENTS

Part 1 -- How to Play Chess

1.1 THE BOARD AND PIECES.....	1
1.2 THE MOVES.....	1
1.3 CHECK AND MATE-- WINNING THE GAME	4
1.4 CASTLING.....	5
1.5 STALEMATE -- DRAWN GAME.....	6
1.6 HINT FOR BEGINNERS.....	6

Part 2 -- Using the Computer

2.1 GETTING STARTED	7
2.2 THE CHESSBOARD.....	8
2.3 MAKING MOVES.....	8
2.4 ERRORS.....	9
2.5 SPECIAL MOVES.....	9
2.6 CHECK, CHECKMATE, ETC.....	10
2.7 NEW GAME	10
2.8 INTERRUPTING THE COMPUTER AND CHANGING SIDES.....	11
2.9 LEVELS OF PLAY.....	12
2.10 PLAYING BOTH SIDES.....	13
2.11 VERIFYING THE POSITION	13
2.12 TAKING MOVES BACK.....	13
2.13 HINT	14
2.14 EVALUATING THE POSITION.....	14
2.15 SOUNDS.....	15
2.16 SWITCHING ON AND OFF.....	15

Part 3 -- Learning from the Computer

3.1 EXPLAINING THE MOVES.....	16
3.2 TEACHING AND WARNING MESSAGES.....	16
3.3 "CHALLENGE" MODE: SCORES FOR YOUR MOVES.....	18

Part 4 -- Advanced Features













4.1 SETTING UP A POSITION.....	20
4.2 SOLVING CHESS PROBLEMS.....	21
4.3 STYLES OF PLAY.....	21
4.4 RATING YOUR GAMES.....	22
4.5 CLASSIC GAMES.....	23

PART 1 -- HOW TO PLAY CHESS

1.1 THE BOARD AND PIECES

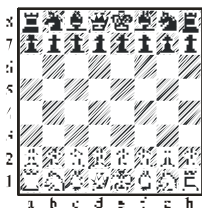
Chess is played between two opponents using a chequered board of 64 squares. Each of the players (“ White” and “ Black”) begins with 16 chessmen, or pieces, of his own colour.

The pieces are of 6 types. At the start, each player has one *king*, one *queen*, two *rooks*, two *bishops*, two *knights* and eight *pawns*. The following table shows how they are represented in the diagrams in this manual:--

King			Bishop		
Queen			Knight		
Rook			Pawn		

The most important piece is the king, since *the object of the game is to put your opponent’s king in a position where it cannot avoid being captured*.

At the start of the game, the pieces are arranged like this:--



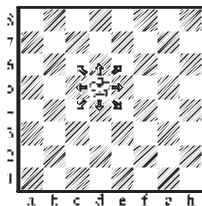
Note that each player has a light-coloured (“ white”) square in the bottom corner on his right; also that each queen is on a square of its own colour.

1.2 THE MOVES

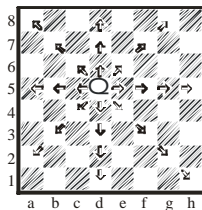
White makes the first move, then the players move alternately. When it is his turn, a player must move one of his pieces onto a square which is either vacant or occupied by an enemy piece. In the latter case the

enemy piece is “ captured”, i.e. removed from the board. Each type of piece has its characteristic way of moving.

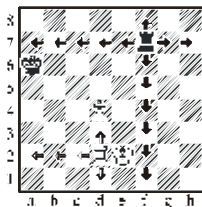
(a) *The king* moves one square at a time, in any direction -- forwards, backwards, sideways or diagonally.



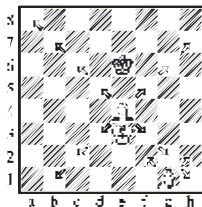
(b) *The queen* can move any number of squares at once, in a straight line -- horizontally, vertically or diagonally.



(c) *The rook* moves horizontally or vertically, any number of squares at once.

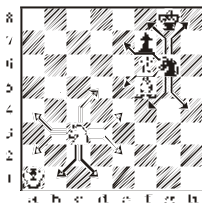


(d) *The bishop* moves diagonally, any number of squares at a time.



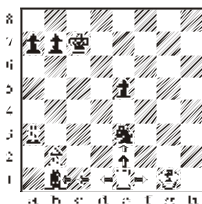
The queen, rook and bishop can travel from one end of the board to the other in a single move, but they cannot “jump across” another piece. The sole exception (where the rook “jumps over” the king) is the special move known as “castling” -- as will be explained.

(e) *The knight’s move* is like an “L -shape”: two squares horizontally or vertically, then one square at right-angles. The knight is able to jump over other pieces (of either colour).



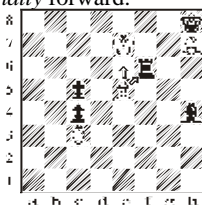
The pieces we have dealt with so far can *capture* enemy pieces by moving in their usual way.

Here, the white rook may capture the black bishop or knight (or move to any of the other squares indicated).



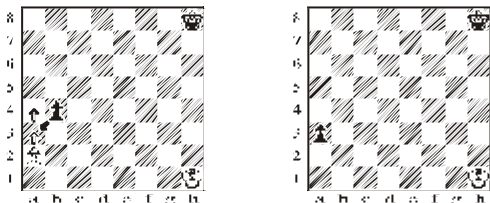
(f) The ordinary move of *the pawn* is simply one square straight forward. Unlike the other pieces, it cannot retreat. When making a *capture*, the pawn moves one square *diagonally* forward.

In this position, the white pawn may move one square forward or capture the black rook. The black pawns cannot move.



On its first move, the pawn may go *two* squares straight forward if the player wishes (and the two squares ahead are vacant). There are also 2 more special kinds of pawn move: the capture *en passant* (French for “in passing”), and pawn promotion.

Suppose that one of your pawns is on its starting square, and there is an enemy pawn ready to capture it if it moves one square forward. The rules state that even if your pawn goes two squares forward, the opposing pawn may still capture it on the next move (but not later), just as if it had only advanced one square.



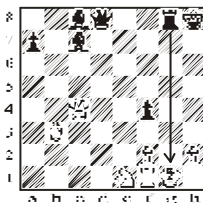
The white pawn can advance one square or two. In either case the black pawn may capture it, giving the position on the right.

On reaching the far end of the board, a pawn is “promoted”, i.e. changed into a queen, rook, bishop or knight. The player chooses which piece he wants (normally a queen), and places it on the square to which his pawn has just advanced. The pawn is removed from the board.

1.3 CHECK AND MATE -- WINNING THE GAME

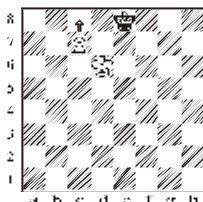
A piece is said to be under attack if an enemy piece is in a position to capture it next move. (Also a square may be “under attack”, meaning that if you moved a piece there it could be captured.) If your opponent’s last move has placed your king under attack, the king is said to be in *check*. You must now move out of check. A move which leaves (or puts) your own king under attack is illegal.

Here, White’s king is in check from the black rook. White has 3 possible moves: he can move his king into the corner, place his knight in front of the king, or capture the rook with his queen.



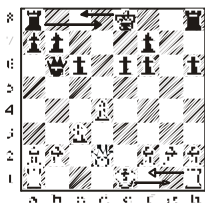
If a player whose king is in check is unable to move out of check, the game is over. His opponent has delivered *checkmate* (or “mate”), and has won.

In this position, White can deliver checkmate by promoting his pawn to a queen.

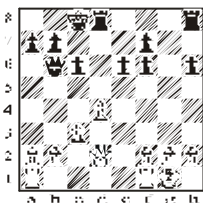


1.4 CASTLING

Castling is a special move which a player makes with his king and one of his rooks. The king moves two squares towards the rook; the rook jumps over the king, landing on the square next to it. See the next two diagrams.



Before castling.

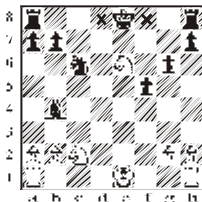


*White has castled king's side;
Black has castled queen's side.*

Note carefully that a player may *not* castle if:

- (a) there is any piece (of either colour) in between the king and the rook; or
- (b) the king, or the rook with which the player wants to castle, has moved earlier in the game; or
- (c) the king is at present in check; or
- (d) the square over which the king must pass (or, of course, the square where the king would arrive) is under attack from an enemy piece.

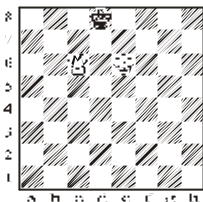
White cannot castle because he is in check. However, if he replies to the check by capturing the black bishop, he may castle later if he wishes. Black cannot castle next move (on either side), because his king would be crossing a square attacked by the white knight.



1.5 STALEMATE -- DRAWN GAME

If the player to move *cannot* make any legal move *and his king is not in check*, the game is a draw. This is called stalemate.

Here, it is Black's move. His king is not in check, but any move he makes with it would put it in check. Black therefore has no legal moves; he is *stalemated*, and the game is a draw.



A draw may also be claimed if (a) exactly the same position occurs three times, with the same player to move; or (b) during a sequence of 50 moves, no capture is made and no pawn is advanced. (For counting, "one move" means a move by one player together with his opponent's reply.)

A draw may also come about simply by agreement between the players.

1.6 HINT FOR BEGINNERS

Obviously the various types of piece have different powers and values. The following table will serve as a useful guide: --

Pawn = 1 point

Knight = 3 points

Bishop = 3 points

Rook = 5 points

Queen = 9 points

PART 2 -- USING THE COMPUTER

2.1 GETTING STARTED

On the underside of the computer you will find the lid of the battery compartment and a label telling you which type of battery to use. Make sure each battery is inserted the right way round: the “ positive” tip (labelled “ +”) must match up with a “ +” sign inside the compartment. When the batteries are all in place, you should hear a “ beep” . Now look at the *Liquid Crystal Display* (LCD). You should see the “ White” symbol (□) in the top left-hand corner, and a number on the right.



If the display doesn't look like this, push a thin object (e.g. a paper clip) into the hole marked RESET (on the underside), and press down with it.

Set up the pieces in the starting position. The white pieces must be at the end near the controls. The computer is now ready for a game. Its “ level” of playing strength will automatically be set to 10. (For full details on the levels, see section 2.9.)

On level 10, whenever it is your move, you will see a number on the display, “ counting down” second by second, from 10 to 0. If you want to play at the same speed as the computer, you must make your move before the 10 seconds are up. *You may, however, ignore the countdown and take as long as you like over your moves.*

If you have not just loaded new batteries, switch on the computer by pressing the **ON/OFF** key. The computer will remember the position which was on the board when you last switched off.

2.2 THE CHESSBOARD

Every square on the board is marked with a letter and a number. A horizontal row of 8 squares is called a *rank*. A vertical column is called a *file*.

The squares at the left edge carry the letter A; every other file has its own letter, from B to H. Each rank has its own number, from 1 to 8. The letter and number on a square are called its *co-ordinates*, and are used by the computer to communicate its moves to you.

2.3 MAKING MOVES

We suggest you play your first game with the white pieces. Press down with the piece that you want to move. *If you are using pieces with magnets in the base, the best way is to tilt the piece slightly and press down with it on the centre of the square.*

The computer “beeps”, and displays the *co-ordinates* of the square you have pressed. Now move your piece to its destination square, and press down with it again.

The symbol or shows which side is to play. If the symbol “flashes” on and off, this means that the computer is thinking about its move; during this time, none of the controls have any effect, except for the **MOVE** key (see section 2.8).

The computer indicates its move by displaying the co-ordinates, e.g.:



Press the “from” square (in this case e7). The co-ordinates of this square stop “flashing”, while those of the “to” square start flashing on and off. Press this square as you place the computer’s piece there.

2.4 ERRORS

If you press a piece on its square but then decide not to move it after all, simply press the same square again.

In general, if you press a wrong key or square, you will hear the error signal (a low buzz). Simply continue by making the correct press (acknowledged by a “ beep”).

If the error occurs after you have pressed a square to start your move, the co-ordinates will be cleared from the display. You can then start again to make a legal move.

If you try to move a piece to a square where it cannot legally go, the computer will say: “ That move is not legal.” If you like, you can ask for further explanation by pressing the **WHY?** key. The computer will then say something like:

Your bishop on f1 is not allowed to move to a5.

Or: You are not allowed to castle because the king has moved.

Now start again to make a legal move.


2.5 SPECIAL MOVES




(See “ *How to Play Chess*”, pp. 2-4.)

Captures are indicated by a flashing **:** symbol between the “ from” and “to” squares on the LCD.

En passant captures: Press the “ from” and “ to” squares of the capturing pawn. The square of the captured pawn is then displayed (flashing), followed by **0**. Press this square as you remove the pawn.

Pawn promotion: Press the “ from” and “ to” squares of the pawn. The number **5** (= “ queen”) appears “ flashing” on the display.

- (a) To promote to a queen, press the  key. The “ to” square starts “ flashing”. Press this square.

- (b) To choose a different piece: press ,  or  (to display **4**, **3** or **2**). Re-press the same key to confirm. Then press the “ to” square.

When carrying out the computer’s move, only (a) is possible.

Castling: First move the king, pressing its “ from” and “ to” squares. The computer then displays the “ from” and “ to” squares of the rook. Press down on the squares as you move the piece.

2.6 CHECK, CHECKMATE, ETC.

Check and the end of the game are announced by spoken messages and displayed as follows:

- + Check
- 10** Checkmate (White wins)
- 01** Checkmate (Black wins)
- == Stalemate
- 50=** Draw by 50-move rule
- 3=** Draw by repetition
(The computer recognizes “ simple” repetition,
i.e. the same moves back and forth 3 times.)

However, after announcing a draw by repetition or 50-move rule, the computer allows you to continue playing.






2.7 NEW GAME

You can start a new game when the previous one is finished, or at any time when the computer is waiting for you to move. However, if you are in the middle of a specific operation (e.g. carrying out the computer’s move), you must complete the operation before the next game can start (or the computer can be switched off).

Press the **NEW GAME** key. The display shows:



You now have these options: --

- (a) Press **NEW GAME** again to start a game under normal conditions.
- (b) Press the **CHALLENGE** key if you want to play a game in “ Challenge mode” (see Section 3.3).
- (c) Press **LEVEL** if you want to play through a “ classic game” (see Section 4.5).
- (d) Press  if you want a game of “ mini-chess”, with only the kings and pawns (starting on their normal squares). This gives practice to beginners.
- (e) Press , ,  or  for a version of mini-chess in which the kings and pawns are joined by one other piece type (knights, bishops, rooks or queens).
- (f) If you press a square on the board, or any key other than those listed above, this *cancels* the “ new game” command.

If you want the computer to play White, press the **MOVE** key to make it start the game.

2.8 INTERRUPTING THE COMPUTER AND CHANGING SIDES

If you press **MOVE** when the computer is thinking, it will immediately make the best move it has found so far.

If you press **MOVE** when it is your move, the computer will swap sides with you and make the next move.

Note that the **MOVE** key is inoperative on level 0 (i.e. when the user is playing for both sides) -- see Section 2.10.

2.9 LEVELS OF PLAY

The computer has 72 levels of playing strength. When first switched on, it is set to level 10.

“Countdown” levels: On levels 5, 10, 15, 20, 25 and 30, the computer will always make its move within a fixed number of seconds -- 5 seconds on level 5, 10 seconds on level 10, and so on. On these levels, you are invited to play to the same time limit as the computer. Your thinking time “counts down” on the display. When you are down to 5 seconds, you hear three warning beeps. If your time runs out, you hear six beeps. If you make your move after that, however, the computer will still accept it.

“Fun” levels: Levels 1-4 are for beginners (Level 1 is weakest.) The computer often makes deliberate mistakes. Its moves take about 4 seconds.

Additional levels: The following table gives the computer’s average thinking time per move.

Novice levels (6-9, 11-14, 16-19, 21-24):	4 secs
Intermediate levels (26-29, 31-48):	30 secs
Stronger levels (49-71):	2-3 mins
Advanced level (72):	4-5 mins

Level 0: This is a special case (see Section 2.10).

CHANGING LEVELS

To inspect the current level, press the **LEVEL** key. The display shows **L** followed by the level number. You may now alter the number by re-pressing **LEVEL**. Each press increases the number by 1; if you press **MOVE** instead, it increases by 10. After reaching 72, the number goes back to 0.

When the display shows the level that you want, press any other key or any square. This clears the level from the display, and play may continue.

2.10 PLAYING BOTH SIDES

On Level 0, the computer will not play any moves of its own; it will simply let you carry out moves for both sides. So (for example) you can play against a friend with the computer just acting as a “referee” (making sure the moves are legal, reminding you to complete any “special” moves, announcing the result, etc.). Note that on Level 0 there are no “hints” or “teaching” messages.

2.11 VERIFYING THE POSITION

If you want to check where the pieces should be (e.g. after knocking some of them over), press the **VERIFY** key. The centre of the display shows: **u**. If you now press on any square, its contents are displayed using the following code:

1 = Pawn	4 = Rook
2 = Knight	5 = Queen
3 = Bishop	6 = King
0 = vacant square	

The symbol \square or \blacksquare gives the colour of the piece.

When you have verified as many squares as you want, re-press **VERIFY** (or press any other key) to return to the game.

2.12 TAKING MOVES BACK

If you think your last move was a mistake, you may take it back; first carry out the computer’s reply, then retract the computer’s move and your own.

Press **TAKE BACK**. The LCD displays the last move in reverse, with the “to” square flashing. Press this square; its co-ordinates stop flashing, while those of the “from” square start to flash. Move the piece back to its “from” square, and press it down.

If the move was a capture, the computer will now direct you to replace the captured piece, using the same code as when pieces are “verified” (see Section 2.11). For example:



In this example, a black bishop was captured on f6. Press the square as you put the piece back. Similarly, if the move promoted a pawn, the computer reminds you to replace the pawn on the “from” square.

If the move was castling, you are directed to move the king back first, then the rook.

After taking back one move, it is normally possible to take back the previous move for the other side if you wish.

Note: When moves are taken back, the players’ castling rights are restored where appropriate. (However, any data relevant to repetition of moves or the fifty-move rule will be lost.)

2.13 HINT

If you press the **HINT** key, the computer suggests a move for you. If you then re-press **HINT**, the computer directs you to carry the move out, by “flashing” the “from” and “to” squares.

If you don’t want to take the computer’s advice, press any other square or a key. Then make whatever move you choose.

2.14 EVALUATING THE POSITION

When the computer is displaying its move, you may press the **RATING** key for an evaluation of the position. The LCD will normally show a number, indicating how big an advantage the computer thinks

one player has; 100 units are roughly equal to the value of one pawn. If instead the display shows **OPEN**, this means that the position is in the computer's library of standard chess openings.

After pressing any key or square, you can carry out the computer's move.

2.15 SOUNDS

If you prefer to play without sound signals, press the **SOUND** key. (To switch the sound on again, repeat the same key-press.)

When the sound is off, the LCD displays **?** in cases where it would normally give its error buzz or its "illegal move" message. Press any key or square to clear the **?**, then correct the error.

Note that when you press the **TEACHING** key to activate the teaching function (see Section 3.2), this automatically switches the sound on. (Conversely if you switch the sound off, the teaching function is switched off too.)

To alter the volume of the sound, press the **VOLUME** key. You have a choice of three settings; if you press the key repeatedly, the volume switches from low to medium, then high, then low again.

2.16 SWITCHING ON AND OFF

You can switch the computer off in the middle of a game, by pressing the **ON/OFF** key when it is your turn to move. The computer will retain the position in its memory while using a minimum of current. After switching on again, you can carry on from exactly where you left off.

PART 3 -- LEARNING FROM THE COMPUTER

3.1 EXPLAINING THE MOVES

If you are learning chess, the computer can show you what legal moves you have available. Press **WHERE?**, and the LCD shows:



Now press down with one of your pieces. If this piece cannot move, the LCD will show: ----, and the computer will say (e.g.) “Your rook on h1 cannot move.” If your piece has any legal moves, the computer will tell you one of them, e.g. “Your knight on b1 could move to c3.” The move also appears in the display.

You now have these options: --

- (a) Press *any* square to which your piece could move; the computer assumes you are moving it to that square. If it is a “special” move, the computer prompts you to complete it.
- (b) Press the same piece again; the computer announces a different legal move, if this piece has one. You can keep pressing it, to see all its moves in rotation.
- (c) Press a different piece, to discover whether and where it can move. When a “special” move is possible (see section 10), it will be explained fully, e.g.:

You could castle. Your king on e1
could move to g1; your rook on h1
could move to f1.

If you press **WHERE?** again (or any other key), or a square not covered by (a), (b) or (c), the display is cleared and play continues normally.

3.2 TEACHING AND WARNING MESSAGES

Certain typical kinds of weak move are frequently made by novices. If you want the computer to point out these mistakes when you make them, press the **TEACHING** key. The computer says “ Teaching on”, and the “ teaching” symbol (Ⓢ) appears on the LCD.

You will now find that after you make a move, the display remains unchanged for a few seconds. If the computer decides that you have made a mistake, it asks “ Are you sure?” and briefly displays: **SUR**E . (After that, the co-ordinates of your move will “ flash” on the display.) You now have 3 choices:

- (a) Retract your move, by pressing **TAKE BACK** and proceeding as in Section 2.12.
- (b) Press **MOVE**, to let your move stand.
- (c) Press **WHY?** for explanation.

If you press **WHY**, the computer will give you a message such as one of the following:

I can safely take that piece.

You could win material worth three pawns. [Display: **3**]

That move loses material worth one pawn. [Display:- **1**]

I can checkmate you. [Display: --]

If your move brings about a draw when you could expect to win, the computer says “ The game is a draw”, and displays: =====. If the message is “ You could checkmate me”, the display is:



After any of these messages, you have the same 3 choices as before: retract your move (press **TAKE BACK**), let it stand (press **MOVE**), or ask for more explanation. If you press **WHY?** again, the computer demonstrates a move (the good one you missed, or the one that takes advantage of your error).

Re-pressing **WHY?** switches between the 2 explanations. Finally you must retract or confirm your move.

WARNINGS OF THREATS

If you like, the computer can warn you of its own threats as well as pointing out your mistakes. If you want it to do this, press the **TEACHING** key a second time. The computer says “ Teaching level two”, and the ☉ symbol starts “ flashing” on and off.

From now on, after making its move, the computer will sometimes say “ Be careful!” and display: **CarE** . You can then press the **WHY?** key for an explanation, e.g.:

I am threatening to checkmate you.

If you press **WHY?** again, the computer indicates the particular move that is threatened, e.g.:

My queen on d8 could move to h4.

Consider your next move carefully and carry it out.

To switch off the “ teaching” function, press **TEACHING** a third time.

3.3 “CHALLENGE” MODE: SCORES FOR YOUR MOVES

Your computer has a special mode of operation in which it gives you points for your moves. This is called “ Challenge” mode.

To start a game in this mode, press **NEW GAME**, then press the **CHALLENGE** key. The ♠ symbol flashes on and off, to show that the computer is in Challenge mode. If the computer was not already set to one of the “ countdown” levels (see section 2.9), it will automatically select one of them. If you alter the level in Challenge mode, only levels 5, 10, 15, 20, 25 and 30 will be available.

In Challenge mode, after each move you make, the computer will beep and display a number. The pitch of the beep corresponds to the number of points the computer gives you for that move: the better the move, the higher the beep. The number indicates your *total* score for the game so far. It remains displayed for about 4 seconds. During that time you may press the **CHALLENGE** key to see your current percentage, e.g.:

= **60**

(A further press on **CHALLENGE** switches back to the total score.)

Normally the maximum score for a move is 10, but there is a bonus of 50 for delivering checkmate. For a very weak move, your score will be negative. If your total is negative, the computer will not give you a percentage, but will instead display:









In Challenge mode, the computer expects you to keep to the time limit for the “countdown” level. If your time runs out, you will not be given a positive score for your move. In Challenge mode you cannot ask for a “hint”, enter “set-up” mode, or take back moves.

PART 4 -- ADVANCED FEATURES

4.1 SETTING UP A POSITION

You may rearrange the pieces to set up a special position (e.g. a Chess problem). Start by pressing the **SET-UP** key. The flashing symbol # appears, to show that the computer is in “ set-up mode”. In this mode you may do any of the following:

- (a) If you want to clear the whole board, press **MOVE**. The display shows: **Cb**. Press **MOVE** again to confirm (any other press would cancel).
- (b) To insert a piece, press the corresponding “ piece type” key (     ), then press the piece down on its square. If the symbol \square is displayed, the piece will be white. To switch to the other colour, press **WHITE/BLACK**.
- (c) To clear an individual square, press it *without* first pressing a “ piece type” key.

When the position is ready, press **SET-UP**. The computer now exits from “ set-up” mode (the # symbol disappears). Continue play by making a move or pressing the **MOVE** key. (Note: There can be no castling with a rook that has been *inserted* on the board in “ set-up” mode.)

If the symbol \square is displayed when you exit from “ set-up” mode, it will be White’s turn to move next. So before exiting, you may need to press **WHITE/BLACK** to switch to the right colour.

ILLEGAL POSITIONS

When you exit from “ set-up” mode, the program tests that:

- (a) each player has one king;
- (b) the player whose turn it is to move is not giving check; and
- (c) there are no pawns on the 1st or 8th rank.

If the position does not pass these tests, it is illegal and play cannot proceed. The LCD displays: **??**. You now have these choices:

- (a) You can check the locations of pieces (see Section 2.11).
Then proceed to (b) or (c).
- (b) You can press **SET-UP** again, to return to “ set-up” mode and alter the position to make it legal.
- (c) If you want to abandon the position you have been setting up, you can start a new game in the usual way.




4.2 SOLVING CHESS PROBLEMS

The Computer can solve Chess problems for mate in two moves, unless they involve promoting a pawn to a knight, bishop or rook.


“ Set up” the problem position as described in the previous section. Select level 72. Then press **MOVE**. On discovering the forced mate, the computer will play the first move of the solution. If you play a move for the opposing side, it will reply with a checkmating move. (If there is no forced mate, the computer will simply make the best move it can find.)

4.3 STYLES OF PLAY

The computer has 5 styles. Style 1 is the most *passive* (holding pieces back), 5 is the most *aggressive* (advancing them towards your king). Style 3 is “ normal”.

To inspect the current style, press the  key. The LCD will show the "style" symbol (i.e.  and  together) and the current style number, e.g.:



If you want to change styles, keep re-pressing the  key until the required number appears. Then press a different key or square, and play can continue.

4.4 RATING YOUR GAMES

Your computer can estimate your strength as a chess player from the results you score against it. Your performance in each game is recorded -- if you want it to be -- in the form of a “rating” number, and the computer will work out your average rating over a series of games.

If you want your performance in a particular game to be “rated”, you must do the following *before starting the next game*:--

Press the **RATING** key. The LCD displays the “rating” symbol (♗) together with your previous (average) rating. If you have just loaded new batteries, this will be set to 1000.

Now press the **WIN**, **DRAW** or **LOSS** key, according to the result of the game. (The LCD shows **1**, **=** or **0** respectively.)

Press **RATING** again, to confirm. (Any other press would cancel.)

The display now shows a number, “flashing” on and off. This is your “performance rating” for the individual game. If you press **RATING** once again, you will see another number (not flashing), which represents your new overall (i.e. average) rating. By further presses on the **RATING** key, you can switch between the two displays. To clear the rating from the display, simply press any other key or square.

You may also inspect your current rating during a game (though not in “Challenge” mode), by pressing **RATING** when it is your turn to move. To clear the display, press anything other than **RATING**, **WIN**, **DRAW** or **LOSS**.

Your rating for a game depends not only on the result but on the total thinking times used by you and the computer. The computer will not give you a rating for a game in which you received any special advantage or help-- e.g. if you took any moves back, used the “teaching” feature, swapped sides with the computer, etc.

WHAT YOUR RATING MEANS

The following scale indicates your playing category: --

Below 800	absolute beginner
800-1000	novice
1000-1200	intermediate player
1200-1500	advanced player

Above 1500: you are too strong for this computer, and should think about an upgrade to a stronger model.

4.5 CLASSIC GAMES

Your computer's memory contains 40 classic games played by chess masters, which it can demonstrate move by move. Before carrying out a move by White (the winning side), you can try to guess what move it is. You score points according to how many guesses you need.

To use this feature, place the pieces on the board in the starting position, press the **NEW GAME** key, and when **PG** appears on the display, press **LEVEL**. The LCD will then show **CG** followed by a number in the range 1-40, denoting one of the classic games. You can increase this number by further presses on the **LEVEL** key (if instead you press **MOVE**, the number increases in steps of 10). After reaching 40, the number reverts to 1.

When the LCD shows the number of the game that you want to play through, press **NEW GAME** again. You will then see the symbols # and ♠ displayed together, to show that the computer is operating in "classic games" mode. You are now ready to guess White's first move.

Press down with the piece that you think should be moved. If you are right, the computer "beeps" twice and displays the "from" square. If you are wrong, it momentarily displays ?? and lets you try again. Once the "from" square is displayed, press the piece down on the square you think it is moving to. If you are wrong you can have more tries.

When you guess the right “ to” square, the computer shows your score for the move, depending on how many mistakes you made:

<u>Mistakes</u>	<u>Score</u>	<u>Mistakes</u>	<u>Score</u>
0	10	4	4
1	8	5	3
2	6	6	2
3	5		

With more than 6 mistakes your score is 0, unless you have already guessed the right “ from” square, when you score 1.

Now press a key or square, and the computer displays = followed by your percentage score for the game so far. Again press a key or square, and the LCD shows the next move for Black (the losing side). Carry it out, and you can guess the next move. (Note: When promoting a pawn, the computer simply instructs you to choose a queen.)

If you want to “give up” guessing, press the **MOVE** key. The computer will direct you to carry out or complete the move, which will be scored as if you had made more than 6 mistakes.

Eventually, after playing a move and displaying your scores, you will hear twelve beeps indicating that the game is over -- either White has given checkmate, or the player with Black resigned at this point.

Here is a list of the classic games, showing the names of the players and the reason why each game ended.

- 1 **Anderssen-Kieseritzky**: Black has been checkmated.
- 2 **Anderssen-Dufresne**: Black has been checkmated.
- 3 **Kolisch-Paulsen**: Black can't stop 25 Rf3-g3+, forcing mate.
- 4 **Steinitz-Chigorin**: 28 ... Ke5-f5 29 Qd4-f4 (or 29 g2-g4) is mate.
- 5 **Pillsbury-Winawer**: If Black moves his attacked rook, White forces mate with 22 Qh6-h8+ or 22 Qh6-f8+.
- 6 **Rubinstein-Teichmann**: Black is mated after 26 ... Bd6xe7 27 Qf5-e6+ or 26 ... Re8xe7 27 Qf5xf6 Bd6-b4 28 Rg1-h1 Re7-g7 29 Qf6-e6+.

- 7 **Alekhine-Grigoriev**: Black has been checkmated.
- 8 **Janowski-Chajes**: 26 ... Rh8xh7 27 Rd7xh7 is mate.
- 9 **Adams-Torre**: Black loses his queen or is mated, e.g. after 23 ... Qb5xb7 24 Re1xe8+.
- 10 **Rubinstein-Hromadka**: Black loses a piece, since his rook and knight are both attacked.
- 11 **Ré ti-Bogoljubow**: After 25 ... Rd8xe8 26 Qf5xf8+ or 25 ... Bf8-e7 26 Qf5-f8+, Black is mated.
- 12 **Colle-Grü nfeld**: If e.g. 27 ... Bd5-e4 then 28 Qh8-g7+ Kf7-e8 29 Qg7-g8 mate, or 27 ... Bd5-e6 28 Bc8xe6+ and 29 Qh8xa8.
- 13 **Capablanca-Spielmann**: After e.g. 26 ... Rf8xf4 27 Rb1xb6, White will queen his a-pawn.
- 14 **Sä mismisch-Engel**: On 26 ... Kh8-g8, White plays 27 Qh5-h7+ Kg8-f7 28 Bd3-g6 mate.
- 15 **Capablanca-Havasi**: Black must lose a piece; if 27 ... Rg8-d8 28 Nd5xb6 Nd7xb6, then 29 Rf7-h7+ Kh8-g8 30 Rc7-g7+ Kg8-f8 31 Rh7-h8 mate.
- 16 **Spielmann-Honlinger**: Black has been checkmated.
- 17 **Alekhine-Asgeirsson**: Black has been checkmated.
- 18 **Capablanca-Steiner**: Black has been checkmated.
- 19 **Alekhine-Alexander**: Black has no defence to 28 g4-g5, winning the knight which is pinned against his queen and king.
- 20 **Keres-Böök**: If 27 ... Qd8xe7, 28 Bb2xd4+ wins.
- 21 **Spassky-Avtonomov**: White threatens 22 Qf6-g7 mate and 22 Nf5-e7+ winning the queen; Black can't prevent both.
- 22 **Keres-Unzicker**: After 27 ... Kg8-h8 29 Rc4-g4 Qg7-a1+ 30 Kg1-h2, the threat of 31 Rf5-f8+ is decisive.
- 23 **Tal-Larsen**: White wins a piece in view of 24 ... Nf6xd7 25 Rd1xd7 Rd8xd7 26 Qc3xh8+.
- 24 **Fischer-Benko**: White has a decisive material advantage (queen against rook).
- 25 **Tal-Smyslov**: Black is the exchange and a pawn down.
- 26 **Stein-Osnos**: White threatens 25 Rd6-d8 mate, which Black can't prevent without decisive loss of material.

- 27 **Spassky-Bronstein**: After 23 ... Kh7-h8 24 Rf1xf8+ and 25 Ne5-g6+, or 23 ... g7-g6 24 Rf1xf8 and 24 Qe4xg6+, Black is mated or loses his queen.
- 28 **Fischer-Geller**: White captures whichever piece intervenes between his queen and the black king, and comes out a rook and bishop up.
- 29 **Petrosian-Korchnoi**: After 21 ... Qb8xa8, 22 Qb3-e6 wins: 22 ... Bd6-e7 23 Nd4-c6, or 22 ... Qa8-b8 23 Nd4-c6 Qb8-c7 24 Nc6-e7.
- 30 **Spassky-Evans**: Black is mated next move.
- 31 **Stein-Liberzon**: 25 ... Bg7xh6 is met by 26 Rh1xh6+ Kh8-g7 27 Rh6-h7+ Kg7xf6 28 Rd8xf8 mate.
- 32 **Fischer-Gligoric**: Black is two pieces down.
- 33 **Stein-Uhlmann**: Black must lose queen for bishop, and is left with knight against rook and two pawns.
- 34 **Zaitsev-Storoshenko**: Black has been checkmated.
- 35 **Kasparov-Kengis**: If 23 ... Qe6xe4, then 24 Ng4xf6+ Rf8xf6 25 Qa1xf6 followed by mate on g7.
- 36 **Karpov-Korchnoi**: On 28 ... Kf8-g8 or 28 ... Kf8-e7, White mates with 29 Qf3-f8.
- 37 **Kasparov-Marjanovic**: 23 ... Kh8-g7 24 Ne7-f5+ g6xf5 25 Qh4-h6 (or 24 Qh4-h6+ Kg7xf6 25 Bf4-g5) is mate.
- 38 **Kasparov-Ligterink**: Black has lost the exchange for inadequate compensation; if 24 ... Be7-f6, then 25 Rb1-b7 attacks the knight and the f7 pawn.
- 39 **Kasparov-Petrosian**: After 24 ... Qe7xc5 25 Rd1xd8+ Qc5-f8 26 Rd8xf8+ Kg8xf8 27 Rc1-c7, White wins a pawn and has a big positional advantage.
- 40 **Kasparov-Murey**: Black remains the exchange and three pawns down.

- 1 Place the game face down on a flat surface and locate the battery compartment on the bottom of the unit.
- 2 Open the battery compartment door by pressing on the tab with your thumb and lifting up.
- 3 When inserting batteries, make sure that the positive tip of each battery matches up with the + sign inside the battery compartment.
- 4 Close the battery compartment cover.

TO ENSURE PROPER FUNCTION:

- DO NOT MIX OLD AND NEW BATTERIES.
- DO NOT MIX ALKALINE, STANDARD OR RECHARGEABLE BATTERIES.
- DO NOT USE RECHARGEABLE BATTERIES.
- BATTERY INSTALLATION SHOULD BE DONE BY AN ADULT.
- NON-RECHARGEABLE BATTERIES ARE NOT TO BE RECHARGED.
- RECHARGEABLE BATTERIES ARE TO BE REMOVED FROM THE TOY BEFORE BEING CHARGED (IF REMOVABLE).
- RECHARGEABLE BATTERIES ARE ONLY TO BE CHARGED UNDER ADULT SUPERVISION (IF REMOVABLE).
- ONLY BATTERIES OF THE SAME OR EQUIVALENT TYPE AS RECOMMENDED ARE TO BE USED.
- BATTERIES ARE TO BE INSERTED WITH THE CORRECT POLARITY.
- EXHAUSTED BATTERIES ARE TO BE REMOVED FROM THE TOY.
- THE SUPPLY TERMINALS ARE NOT TO BE SHORT-CIRCUITED.
- DO NOT DISPOSE OF BATTERIES IN FIRE, BATTERIES MAY EXPLODE OR LEAK.