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1. INTRODUCTION

Your COUNTER-GAMBIT computer is an ideal chess opponent. It is ready to play you at any time, as often as you like, at whatever level of skill you choose. Using the machine is simple - you just move the pieces on the chessboard in the same way as you would against a human player. The "plug-in" type of board and pieces is convenient to use on a journey.

The main part of this manual explains how to use the computer. Sections 2-5 are all you need to read in order to start a game. The Appendix (pages 10-20) teaches you the main rules of chess, in case you are a beginner or novice.

2. BEFORE STARTING A GAME

The computer can be powered by a 9-volt battery. Remove the lid on the underside of the machine and install the battery in its compartment, making sure that the polarity is correct.

Alternatively you can run the computer from the mains, using the power adaptor which is available as an extra. The adaptor has a small plug which should be inserted into the socket at the back edge of the machine.

To the right and left of the chessboard, you will see two covers which can be slid outwards to reveal a compartment for captured pieces and a row of control buttons.

Plug the pieces into the chessboard in their starting positions. White should be playing "up the board", i.e. with the control panel on his right.

Turn the OFF/ON/SAVE switch to the ON position. The green light at the top right-hand corner of the chessboard indicates that the power is on. Now press the button marked N. GAME. The pair of red lights labelled YOUR MOVE will now be on, together with the lights at the right and left-hand edges of the "White" end of the board.

Before making a move, you may adjust the computer's level of playing strength if you like. See Section 7.

3. MAKING MOVES

If you want to play White, start the game like this:-

- (a) Press down with the piece you want to move.

The machine "beeps", and four red lights come on – at both ends of the rank (or horizontal row of squares) and at the top and bottom of the file (or vertical column) in which your piece is located.

- (b) Move your piece to the square where you want it to go, pressing it down as you plug it in. The machine gives another beep. It has now registered your move.

The computer may now make its reply instantaneously. If on the other hand it needs time to think, the pair of lights on the right and left-hand edges at the "Black" end will flash on and off, to show that a move is being computed for Black.

When the computer is ready with its move, it gives a characteristic sound signal and switches four lights on. The lights point towards the piece it wants to move, by showing the row and column in which this piece is to be found.

Press down with the piece indicated. The lights change, and point towards a new square. Move the computer's piece to this square, and press it down. The lights indicating "your move" come on again. Make your next move in the same way as before.

If you want to play Black, start by pressing the button labelled MOVE, and the computer will make the first move for White. Afterwards, when it is your turn, the pair of lights at the ends of Black's back rank will be on.

4. CORRECTING ERRORS

If you press with one of your pieces but then decide not to move it after all, simply press it down on its square a second time. The lights pointing to this square go out, and you are free to move any piece you like.

If you move a piece to a square where it cannot legally go, the computer gives its error signal: a low-pitched buzz. Complete a legal move with your piece, or press it down on its square again and move a different one.

The error signal is also heard if you make a mistake when carrying out a move for the computer. Simply continue making the move as indicated by the lights.

5. SPECIAL MOVES

- (a) **Captures:**

You carry out a capture (for yourself or the computer) just like any other move. The capturing piece is pressed down on its old and new squares, while the captured piece is removed from the board without being pressed. A pawn capture *en passant* is handled no differently.

- (b) **Castling:**

In order to castle, make the king's move by pressing the piece down in the usual way, but move the rook without pressure. If the computer decides to castle, the lights will indicate the move of the king only. Carry out the moves of both pieces, pressing down with the king but not with the rook.

- (c) **Promotion of Pawns:**

Whenever a pawn reaches the far end of the board, the computer assumes it is being promoted to a queen.

For the rules which apply to these special moves, see the Appendix (pages 15 and 18-19).

6. CHECK – CHECKMATE – NEW GAME

If the computer puts you in check, the corresponding pair of lights in the bottom row comes on. There is also a pair of lights to indicate checkmate, and another for stalemate.

To start a new game, rearrange the pieces and press the "N. GAME" button. You may do this at any time. The computer also assumes that a new game is starting whenever the power switch is turned from OFF to ON.

7. LEVELS OF PLAYING STRENGTH

There are sixteen levels of skill on which the COUNTER-GAMBIT may be instructed to play. On the higher levels, it naturally needs more time for computing than on the lower ones. The following table gives the approximate time taken over a move on each level:

Level	Time	Level	Time
1	3 seconds	9	1 minute 15 seconds
2	6 seconds	10	1 minute 30 seconds
3	10 seconds	11	2 minutes 30 seconds
4	15 seconds	12	4 minutes
5	20 seconds	13	7 minutes
6	30 seconds	14	10 minutes
7	45 seconds	15	13 minutes
8	1 minute	16	16 minutes

Remember that these times are only averages. On any level, the COUNTER-GAMBIT is likely to use more time in a complex position – with queens and many other pieces on the board – than in a relatively simple one.

Also note that the computer is equipped with knowledge of several standard chess openings – so the first few moves of a game are likely to be played fast, irrespective of the level.

At any time when it is your move, you can check the level on which the computer is currently playing. Press the button marked LEVEL. A number of lights will then come on, or begin flashing, at the right and left-hand edges of the chessboard. If only the bottom pair of lights comes on, the computer is on level 1. If two lights appear on each side, then it is on level 2 – and so on, up to level 8. One pair of lights flashing indicates level 9, two pairs flashing indicate level 10 – and so on, up to 16.

Once the level is displayed, you can change it, if you wish, by pressing LEVEL again, one or more times. Each press of the button takes you one level higher – or, from Level 16, back to Level 1.

When the lights display the level that you want, carry on with the game. The lights stop indicating the level when you press any other control button (except SOUND), or any piece. Until you change it again (which you may do as often as you like), the level remains the same – even when a new game is started.

Level 1 is automatically selected when the power switch is turned from OFF to ON.

8. INTERRUPTING THE COMPUTER – CHANGING SIDES

If you press MOVE while the COUNTER-GAMBIT is computing, it will cut short its calculations and make the move which is best according to its analysis so far.

Note that special operations such as changing the level or checking the position (see Sections 7 and 10) can only be carried out when it is your turn to move. It is for this reason that you may sometimes want to interrupt the computer's analysis.

If you press MOVE when it is your turn, the computer will start computing a move for the side you have been playing, and will expect you to take over the other side. You can change sides like this as often as you like. By pressing the MOVE button after every move played, you can make the computer play an entire game against itself.

9. TAKING BACK MOVES – PLAYING BOTH SIDES

If you press the button marked "T.B." while the COUNTER-GAMBIT is computing or announcing its move, this move is cancelled and you have the option of making one in place of it. This is another way of changing sides.

If it is your turn to move, you may press T.B. in order to take back the last move played. The "rank" and "file" lights come on, pointing towards the piece that was moved; press down with this piece, and the lights change to indicate the square where it came from. Move the piece back, and press it down again. Don't forget to put back any piece that was captured.

You can now make another move in place of this last one – or else press T.B. once again, to retract the preceding move. Up to four "half-moves" (i.e. two moves for each side) can be taken back at any one time.

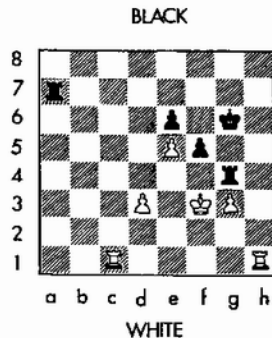
So if you play a move and then have second thoughts about it, you can press T.B. to cancel the computer's reply, then press the same key once again, retract your own move (pressing down with the piece as you do so), and make a different one. The "T.B." function may be used even after one side has been checkmated!

You can also use the T.B. button in order to make a continuous sequence of moves for both sides. Carry out a move for one side, press T.B., move for the opposing side, press T.B. again ... and so on. In this way, you can make a game begin with any opening of your choice; or you can bring about a special position to see how the computer handles it. When you want the computer to resume play, press MOVE.

10. CHECKING THE POSITION

In case of confusion, you can make the computer show you where every piece should be, according to its memory. You do this by using the six buttons marked with piece symbols ♔ ♚ ♜ ♝ ♞ ♠

As an example, suppose the correct position is as follows:-



To display the positions of the pawns, press the "pawn" button (♟). The lights at both ends of the third rank (the row of squares third from the bottom) come on, showing that this rank is the nearest one to White's end that has pawns on it. At the same time, to show which squares on this rank the pawns should be occupying, the lights come on at the top and bottom of the "d" and "g" files (the fourth and seventh columns from the left).

Now press ♟ again. The next rank that has pawns on it is the fifth. So the lights for this rank come on, together with the lights at the top and bottom of the "e" file. At the same time, the lights for the "f" file *blink* (flash on and off). This shows that the pawn on the square f5 is a black one.

Press ♟ a third time, and the lights for the sixth rank come on, while the lights for the "e" file blink. If you press ♟ a fourth time, the "error" signal tells you that there are no pawns on the board other than those already indicated. (A fifth press of the "pawn" button will have the same effect as the first one – the computer starts demonstrating the pawn positions all over again.)

In the same way, you can check the positions of the kings and rooks; a white piece is indicated by the "rank" and "file" lights continuously on, while in the case of a black piece the "file" lights blink. If you press the "queen", "bishop" or "knight" buttons, you will simply get the "error" signal, telling you that there are no such pieces on the board.

When you've checked as many pieces as you want, simply carry on with the game.

If you press a "piece" button when the computer is announcing its move, it will assume you have already carried the move out, and will indicate the piece positions accordingly.

11. SOUNDS

Press SOUND if you prefer the computer to operate without its audio signals. The sounds can be switched on again by re-pressing the same button.

12. MEMORY

If a game in progress has to be interrupted, turn the OFF/ON/SAVE switch to the SAVE position. The computer will then retain the game position in its memory while using a minimum of current. When you switch ON again, the situation in the game will be wholly unchanged, and the machine will start computing again if it was doing so previously. If necessary, the COUNTER-GAMBIT can retain a game in its memory for up to 10 years!

APPENDIX: THE MAIN RULES OF CHESS

THE CHESSBOARD AND PIECES

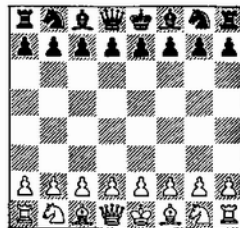
The game of chess is played between two opponents, using a chequered board of 64 squares. Each player begins the game with a set of 16 chessmen, or pieces. One player's pieces are light-coloured, his opponent's are dark-coloured. (For convenience they are called white and black, whether those are their actual colours or not; also, "White" and "Black" may refer to the players themselves.)

The pieces are of 6 types. At the start, each player has one **king**, one **queen**, two **rooks**, two **bishops**, two **knight**s and eight **pawn**s. In the diagrams in chess books and magazines, typical symbols for the pieces are as follows:-

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.

The following diagram shows how the pieces are arranged on the board at the start of the game.



Notice the way the board is placed between the two opponents: each player has a light-coloured ("white") square in the bottom corner on his right. Also, notice the positions of the kings and queens: each queen is placed on a square of its own colour.

THE MOVES

The players take it in turns to move one piece at a time. That is to say: whenever 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 immediately removed from the board (it is "captured").

For the only case in which a player moves two pieces at once, see "Castling" (page 18).

The first move of a game is always made by White.

Each type of piece has its own characteristic way of moving. We'll now look at each of them in turn.

(a) **The King.** The king is moved one square at a time, in any direction – backwards, forwards, to the right or left, or diagonally. So in the middle of an open board, it has a choice of 8 different moves.

