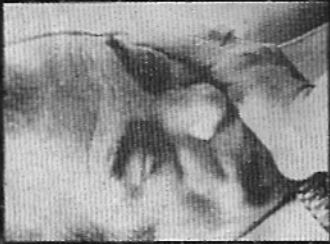


COMPUTER CHESS

MODEL NO. 7013



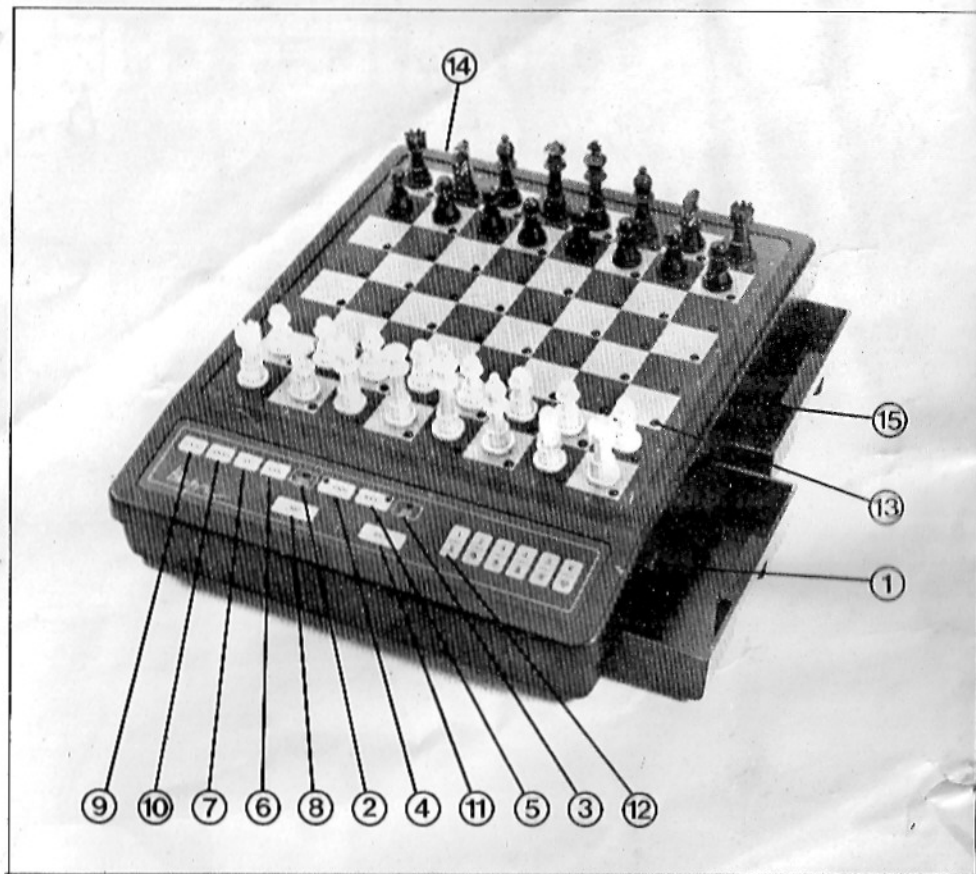
VIKTOR KORCHNOI

The programme of this Chess
Computer has been fully approved by
VIKTOR KORCHNOI



INSTRUCTION
MANUAL

MADE IN HONG KONG BY CONIC INTERNATIONAL (HK) LTD.



- | | |
|---------------------------------|---------------------------------|
| 1. POWER SWITCH | 8. HALT KEY |
| 2. POWER ON/COMPUTING INDICATOR | 9. BACKWARD KEY |
| 3. PLAYER'S MOVE INDICATOR | 10. FORWARD KEY |
| 4. MODIFY KEY/INDICATOR | 11. ENTER KEY |
| 5. COLOR SELECTOR KEY/INDICATOR | 12. PIECE/LEVEL NUMBER KEYS |
| 6. LEVEL VIEW KEY | 13. LED INDICATOR |
| 7. HINT KEY | 14. ADAPTOR SOCKET |
| | 15. CONTAINERS FOR CHESS PIECES |

I. INTRODUCTION

Model No. 7013 is a Chess Computer based on highly sophisticated microprocessor technology. It features 6 selectable levels of skill which enable all players — from beginner to the professional — to learn, improve or match their game with that of the Computer.

A full size electronic chess-board eliminates the need to enter your move into the key-board and to interpret the Computer's move from the data shown on a display. Instead simply move your piece to the desired square, LED indicator lamps on the chess board will then direct you where to place the pieces for the Computer.

Other outstanding features:

- Changing levels of play at any stage, during a game and on any move.
- Unique 6 play (3 full moves) backward and forward functions allowing restoring of board positions when a mistake was made.
- Verification of board positions and prevention of illegal moves according to the standard chess rules.
- Changing sides during game at any time, on any move.
- Starting new game from any position set-up.
- Audio feedback to indicate Computer's response, beginning and end of game and board programming.
- Special Hint function of which the Computer can suggest best move.
- Computer plays against itself.
- Modify mode to alter the board status at any stage during a game to

balance position advantages by adding or removing pieces.

- Special moves — Pawn Promotion, En Passant, Castling.
- Displaying of best move during computing. User has option to stop Computer from further computing by using HALT key.
- Keyboard operates fully on sensor-touch controls.

Opening Book:

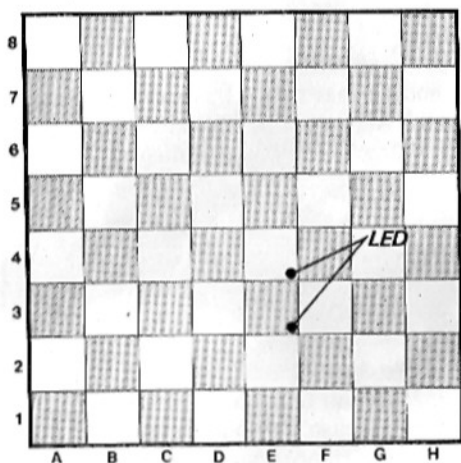
Computer has strong library of opening books which will be played randomly according to the board status.

Ruy Lopez
 French Defence
 Pirc Defence
 Sicilian Defence
 Caro-Kann Defence
 Alekhine's Defence
 Queen's Gambit
 Nimzo-Indian Defence
 Queen's Indian Defence
 Bemomi Defence
 King's Indian Defence
 Grünfeld Defence
 Dutch Defence
 English Openings
 Réti's
 Ponziani's Openings
 Steinitz's Defence
 Evans Gambit
 Danish Gambit
 Colle's
 Orthodox Defence
 Queen's Pawn Game
 Nimzowitsch's
 Bogoljubov's
 Blumenfeld Gambit

II. CONTROLS & THEIR FUNCTIONS

A. CHESS BOARD

A red LED is placed on the corner of each square. The LEDs will light up according to operations which are explained in the following chapters.



B. KEY BOARD

(1) MODIFY KEY is used to:

- program a special board position.
- change board-positions.
- verify the board status during a game.

(2) COLOR SELECTOR KEY

Pressing this key will change player's color. LED indicator is lit to show BLACK and off to show WHITE.

It is possible to change color in the midst of a game if so desired by the player by

pressing the COLOR SELECTOR KEY.

When doing so, observe the following rules:

- Changing sides (colors) during a game can only be made when the player has the move and no LED on chess board is lit up.
- When changing colors, it is always the Computer's turn to make the next move provided no restoring is made. In any case, observe the Player's Move Indicator to keep track of whose turn it is to make the next move.

(3) LEVEL VIEW KEY

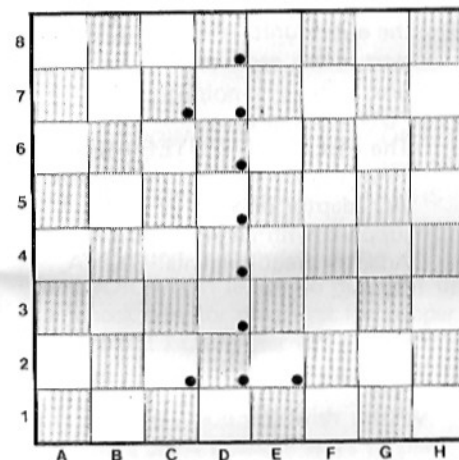
is used to change the level of skill. When it is pressed, the Computer will display the previously selected level on the board. If you do not wish to change the displayed level, press LEVEL key again or simply make your move. (All LEDs will go off) (The level of skill will be automatically set at "1" at the beginning of a new game)

If you wish to change the level, press the LEVEL VIEW KEY to display the level number. Then press the PIECE/LEVEL NUMBER KEY of your choice and your newly selected level number will be displayed on the chess board.

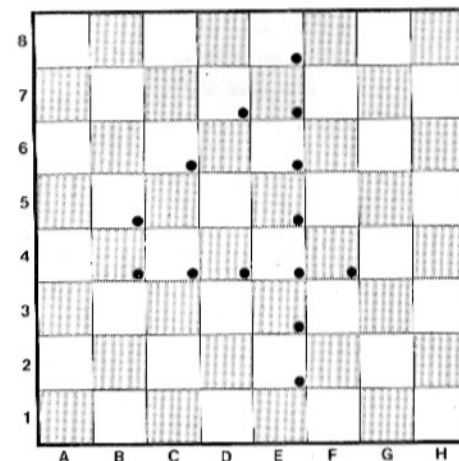
A unique display technique is employed to show the level

number by using the LEDs on each square of the chess board as shown in the following examples:

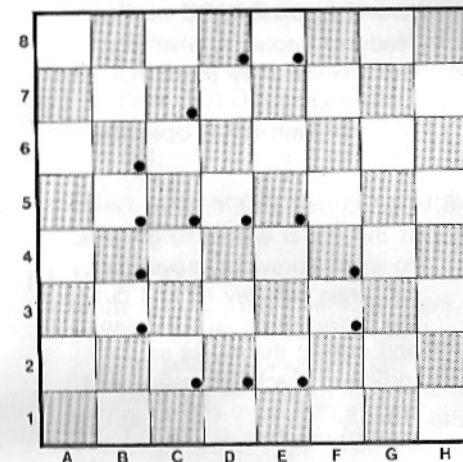
Level 1



Level 4



Level 6



(4) HINT KEY

Press HINT KEY if you wish the Computer to suggest the best move to you. You have always the option to ignore the suggested move and make your own.

(5) HALT KEY

When the Computer is computing, 2 LEDs on the chess board will be flashing to indicate the best move which is being computed at that instant. Player has the option to stop further computing by pressing the HALT KEY to force the Computer to make the move which is being displayed.

There are cases where the forced move will not match the Computer's real move. This is because the Computer

has stepped into the next best move calculation and not yet ready to display it when it is being stopped by the HALT command.

This function is not operative in LEVEL 1.

(6) **BACKWARD KEY**

If the player wishes to go back to several previous moves, he can press this key to find out the moves made step by step and restore the pieces as indicated. Each depression will restore one move and a maximum of six is allowed.

(7) **FORWARD KEY**

This key is used in conjunction with BACKWARD KEY. Each depression will advance one move which is restored previously by BACKWARD KEY. This provides greater flexibility to the player to adjust to any of the six previous moves and continue the game at a lower or higher skill level.

(8) **ENTER KEY**

is used to enter the player's move.

(9) **PIECE/LEVEL NUMBER KEYS** have dual functions:

- a) The Key-numbers are for indicating the levels of skill which can be selected by the player (see Chapter II, No. 3).
- b) The chess piece symbols are for indicating the keys which have to be pressed during programming of special board positions (see Chapter IV,

'MODIFY' and 'VERIFY' Routine).

(10) **POWER SWITCH and POWER SUPPLY**

The POWER SWITCH is used to switch on/off the power supply to the entire unit. It is also used to start a new game after finishing one.

POWER supply:

The CHESS COMPUTER Model 7013 can be used with a suitable AC adaptor only. (Every unit is supplied with an AC adaptor).

Adaptor Requirements: 500mA, 9V DC.

III. PLAYING A GAME

(1) Insert AC adaptor output plug to the power jack located at the rear of the unit.

(2) Connect the AC adaptor input plug to an AC wall outlet.

(3) Position each chess piece onto its proper position.

(4) Turn POWER SWITCH to "ON" position. (The POWER ON and PLAYER'S MOVE INDICATORS on the control panel will light up if the unit is in order. If the INDICATOR lamps do not light up, check adaptor plug first for proper contact.) Computer will play a short tune.

(5) Select the side you wish to play. There are 4 possible ways to play the game, i.e.

- a) Player playing white on control panel side,
- b) Player playing black on opposite side,
- c) Player playing white on opposite side and
- d) Player playing black on control panel side.

The selecting procedures are:

- a) White on control panel side
No Further action necessary.
- b) Black on opposite side
Press MODIFY KEY twice.
Press COLOR SELECTOR KEY once, BLACK LED indicator ON.
- c) White on opposite side
Press COLOR SELECTOR KEY once

Press MODIFY KEY twice
Press COLOR SELECTOR KEY once

d) Black on control panel side
Press COLOR SELECTOR KEY once, BLACK LED indicator ON.

(6) Select Level of Skill if other than "1" is desired.

(7) **Making a Move**

White always makes the first move.

- a) If player has white, removes the selected piece and put it onto the new location.
- b) Both LEDs on the new and old location will light up.

Note: Make sure to locate the pieces onto the center of the square. Both LEDs will be ON to indicate proper positioning.

- c) Press ENTER KEY. Both LEDs will go off to indicate that the Computer has accepted the move. When Computing, the Computer will flash 2 lamps indicating that particular move which it 'thinks' is the best move at that instant. Different sets of lamps will be flashing until the Computer completes its computing at the selected level and the final set of lamps will be lit and a short 'beep' sounds to indicate its final decision.

If the player decides that he likes the Computer to play a move which is being flashed instead of the final move, he

can do so by pressing the HALT KEY to force the Computer to stop computing and play the move which is just flashing.

Note: This function does not operate in LEVEL 1.

- d) If the player selects Black, simply press the ENTER KEY to allow the Computer to make its first move.
 - e) Move the chess piece for the Computer as indicated by the 2 LEDs and both LEDs will go off.
- (8) Capturing a Piece
- a) Remove the captured piece from the chess board.
 - b) Remove the capturing piece from the chess board.
- Note: Steps a) and b) can be reversed.
- c) Replace the capturing piece onto the location of the captured piece. The LEDs on the square of both pieces will light up.
 - d) Press ENTER KEY, both LEDs will go off.
 - e) If the Computer captured a piece, the LEDs will go off after you have placed the capturing piece onto the location of the captured piece.

IV. SPECIAL FEATURES

(1) TIMING

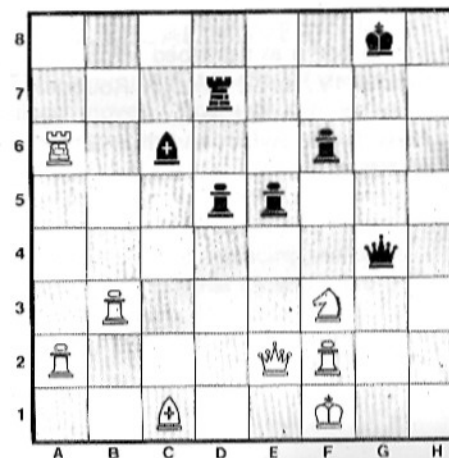
The table below indicates the approximate time taken by the Computer to make it's move at various levels.

LEVEL		AVERAGE RESPONSE TIME
1	Beginners	Instant
2	Intermediate	16 seconds
3	Experienced	1 minute
4	Advanced	3 minutes
5	Semi-professional	15 minutes
6	Professional	28 minutes

The time taken by the Computer to indicate it's move is directly proportional to the number of possible moves of every piece on the chess board.

The Computer may take long time when too many possible moves are to be computed. However, the Computer's response may be faster if an obvious move exists.

The Computer has a memory capacity of handling 6,250,000 possible moves. It is therefore extremely rare that the number of possible moves in a special board situation will exceed the Computer's capacity. If such a situation should occur, the Computer will terminate its computing process immediately and play the best move at that instant.



(2) PROGRAMMING OF SPECIAL BOARD POSITIONS ("MODIFY" Routine)

- a) Start with a clear chess board.
- b) Press MODIFY KEY, MODIFY indicator will light up.
- c) Press COLOR SELECTOR KEY, BLACK indicator will light up.
- d) Press Pawn (No. 1) Key.
- e) Place Black Pawns onto D5, E5, F6. The LEDs on these squares will light up.
- f) Press Bishop (No. 3) Key. The LEDs on the Black Pawn positions will go off. Place a Black Bishop onto C6. C6 LED will light up.
- g) Press Rook (No. 4) Key and place a Black Rook onto D7. D7 LED will light up.
- h) Press Queen (No. 5) Key and place Black Queen onto G4. G4 LED will light up.

- i) Press King (No. 6) Key and place Black King onto G8. G8 LED will light up.
- j) Press COLOR SELECTOR KEY to change to White. BLACK indicator will go off.
- k) Continue with the White pieces in the same manner.
- l) Press MODIFY KEY to terminate "MODIFY" mode. The LEDs on the squares of the pieces set last will go off. The "MODIFY" Routine is now completed and the game can be started as described in Chapter III.

(3) BOARD VERIFICATION

In the course of programming, the player may inadvertently place the pieces on the wrong location. Accordingly, a VERIFY Routine has been designed to ensure correct programming. The player simply has to press each piece key in turn and check if the LED on the squares of the corresponding pieces will light up.

Assuming that the Black Pawn (D5) and the White Knight (F3) were wrongly placed on C5 and E3 respectively. This programming error may be corrected as follows:

- a) Press MODIFY KEY, the MODIFY indicator will light up.
- b) Remove Black Pawn from C5. The Computer will automatically prepare itself to accept a new entry of Black Pawn by lighting up the LEDs on the squares which are occupied by Black Pawns. In this case, E5 and F6. The BLACK indicator will also be lit.

- c) Place the Black Pawn on D5, D5 LED will light up.
- d) Remove White Knight from E3 and note that the BLACK indicator will go off to signal readiness of accepting White Knight.
- e) Place the White Knight on F3 and F3 LED will light up.
- f) Further verification of board position can be done by pressing the PIECE/NUMBER KEYS and inspecting if the LEDs on the appropriate squares will light up.
- g) Press MODIFY KEY to terminate MODIFY mode and return to PLAY mode.

Note: The chess board is a highly sensitive mechanism and sudden shock or vibration may cause abnormal operation. It is recommended that the unit be placed on a flat surface for proper operation.

PROCEDURE:

Set-up board as described in Chapter IV, No. 2 (Modify Routine) Then set required level. Press 'Black' switch and then 'Enter' switch. Computer will start solving.

(4) COMPUTER PLAYS AGAINST ITSELF

Simply press HINT KEY whenever the player has the move and you can watch the Computer playing against itself.

Due to the architecture of the program, the HINT move will be computed one level lower than the opposing side.

Unit solves mate in 1, 2, 3, 4 moves. This is automatically done by setting level 2, 4, 5, 6 respectively.

V. ILLEGAL MOVES

The Computer is capable of detecting illegal moves. Once such a move has been made, the two LEDs on the squares where the move took place will flash and the Computer will not allow the game to continue until the move has been rectified by replacing the chess piece on its' original location and then moving it correctly.

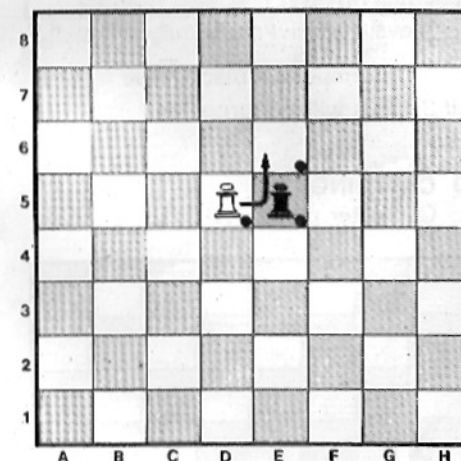
VI. SPECIAL MOVES

(1) PAWN PROMOTION (QUEENING)

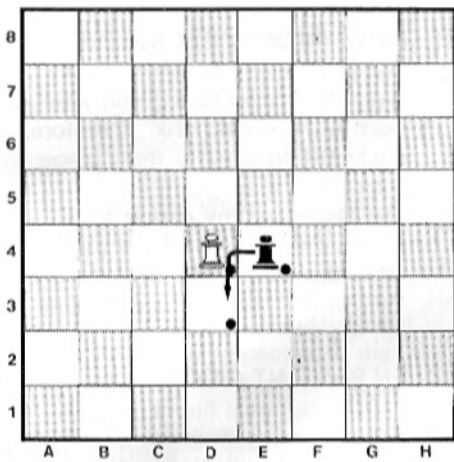
The Computer will automatically promote a pawn to a queen when it reaches the eighth rank. Therefore, remember to identify these pieces correctly.

The player has the option to promote the pawns to any piece other than the queen by using the "MODIFY" Routine (see Chapter IV, No. 2).

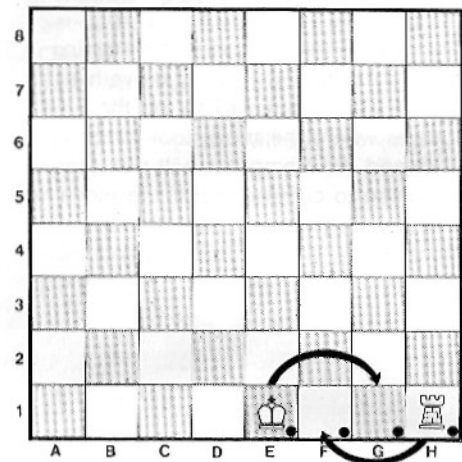
(2) EN PASSANT CAPTURE



Player's(White) Move

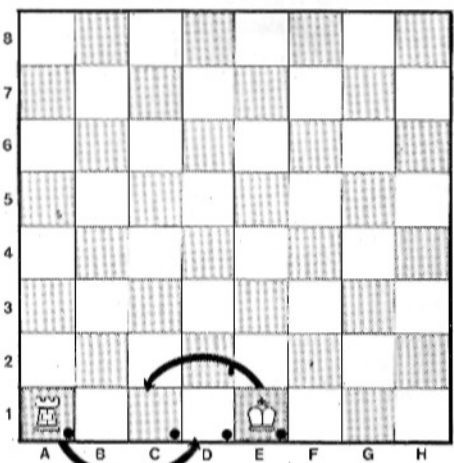


Computer's(Black)Move
All 3 LEDs will be turned on



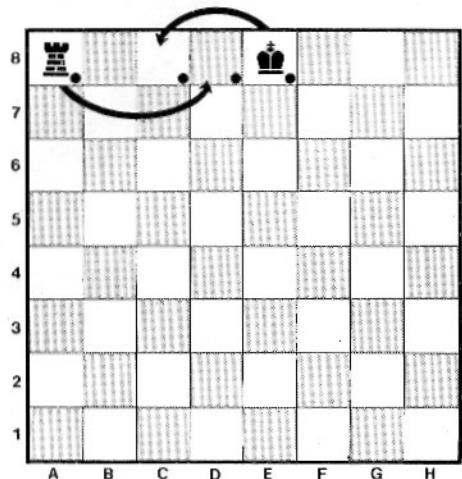
King's Side

(3) CASTLING
Computer playing WHITE:

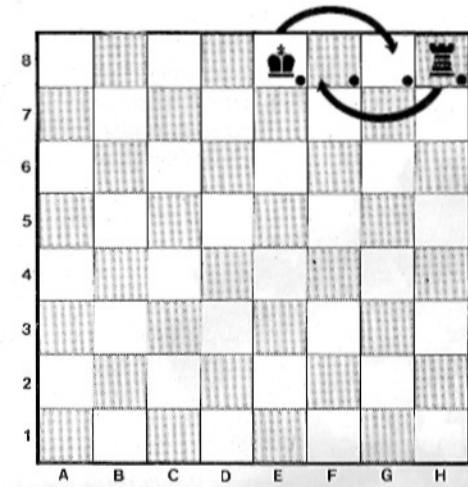


Queen's Side

Computer playing BLACK:



Queen's Side



King's Side

VII. STATUS INDICATIONS

1. **COMPUTER CHECKS**
The LED on the square of the player's King will light up to warn the player that his King is in CHECK.
2. **CHECKMATE**
The LEDs on ALL squares occupied by the winning side will light up and an end-of-game-tune will be played to indicate victory.
3. **STALEMATE**
The LEDs on ALL squares occupied by both sides will light up and an end-of-game-tune will be played.

