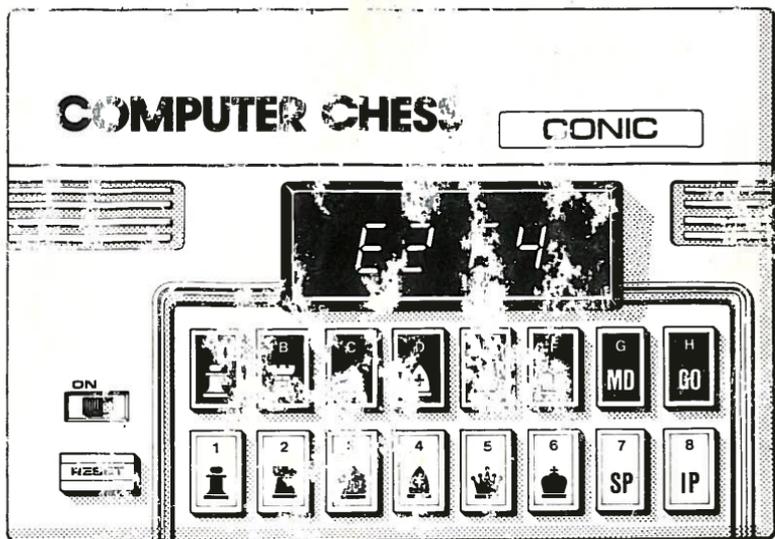


COMPUTER CHESS INSTRUCTIONS



COMPUTER CHESS

CONIC



The Computer Chess is programmed to play 6 different skill levels; each with different standard and "thinking time". The first 4 levels are designed for average players while the last 2 are for problem solving with a high degree of intelligence.

The user may choose to set up any specific game situation on an empty board and play or play a new game. The Computer Chess always plays **BLACK** and will guard against any illegal moves made by the user.

1. DEFINITIONS

1.1 DISPLAY

IP	= INSERT PIECE
SP	= SEARCH PIECE
dd	= WAITING FOR DATA
C -	= CASTLING AT HIS SIDE
C - - A	= CASTLING AT A SIDE
LOSE	= COMPUTER LOSES
bp	= BOARD POSITION
err	= ERROR
S	= SKILL LEVEL
- .	= (FLASHING DISPLAY) COMPUTER IS THINKING HARD HOW TO MOVE
$X_1 X_2 Y_1 Y_2$	= (FLASHING DISPLAY) CHECKED BY COMPUTER

($X_1 X_2 Y_1 Y_2$) being the last move made by the computer for a check.

1.2 KEYBOARD



(WK) = WHITE KING



(WN) = WHITE KNIGHT



(WQ) = WHITE QUEEN



(WR) = WHITE ROOK



(WB) = WHITE BISHOP



(WP) = WHITE PAWN



(BK) = BLACK KING



(BN) = BLACK KNIGHT



(BQ) = BLACK QUEEN



(BR) = BLACK ROOK



(BB) = BLACK BISHOP



(BP) = BLACK PAWN



(GO) = Terminate keyboard entry and bring computer into 'think' mode and compute a response.



(MD) = Computer will examine and accept/reject the last keyboard entry and wait for more data

If a correct key sequence is entered before MD is pressed the computer will display `dd td` and wait for more data.

If a wrong key sequence is entered before MD is pressed the computer will display `Er r` and wait for correct data.



(IP) = Insert piece; computer will interrupt game progress and wait for a new piece to be put onto the board.



(SP) = Search piece; computer will interrupt game progress and wait for user to select a piece and search for its location on the board.

A, B, to H = Horizontal co-ordinates of the board

1, 2, to 8 = Vertical co-ordinates of the board

1 - 6 = 6 different skill levels
(Refer to 4 for detail description)

F, G, H = 3 different board positions.
(Refer to 2.3 for detail description)

2. INITIALIZING THE GAME

2.1 Switch on power.

2.2 Depress the reset switch and 'S' will be shown on the display to wait for skill level selection. Select your desired skill level by pressing any one of the 1-6 keys.

2.3 Display will show 'BP' to wait for selection of

NEW GAME

Depress F

EMPTY BOARD

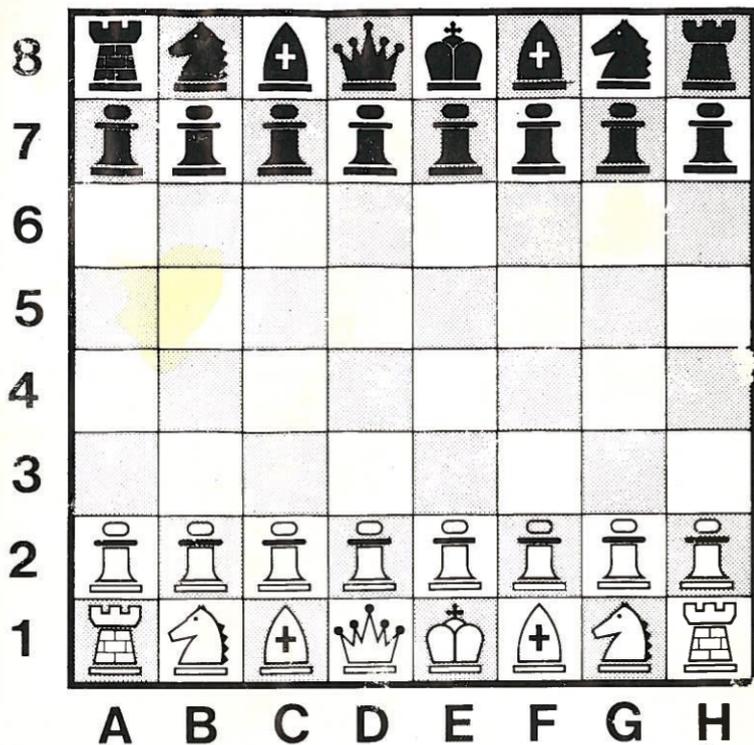
Depress G

CONTINUING A GAME IN PROGRESS

Depress H

Game is now ready to be played.

STARTING BOARD POSITION



3. HOW TO PLAY

3.1 MOVE A PIECE

To move a piece to a new position, the player should perform the following procedure:

Example - to move a knight

LEGAL MOVE B 1 C 3

ILLEGAL MOVE B 1 C 4

GO

GO

Accepted

Unaccepted

3.2 COMMAND THE COMPUTER TO MOVE A PIECE

"GO" key is used to terminate keyboard entry and bring computer into 'think' mode and compute a response.

e.g. Search piece	SP WK GO
Insert piece	IP WK A2 GO
A legal move	B2 B3 GO

While the computer is thinking, the display will flash the number of the selected skill level e.g. 6.

3.3 CANCEL MOVE

- A) Computer will not accept any keyboard entry before GO/MD is depressed. Therefore, simply key in any key except GO/MD to delete the last move, and key in the correct piece coordinates.

Example - to move a knight

	KEY SEQUENCE	DISPLAY
WRONG MOVE	B 1 C 4	b1c4
	4	Err
CORRECT MOVE	B 1 C 3	b1c3

- B) To cancel the previous move(s) - use IP function to restore the original board situation and use SP function to verify.

3.4 DELETE A PIECE

The idea of this is to insert a blank into the selected board location. The computer is designed in such a way that as the IP key is depressed twice, it will go to Insert Routine and fetch a blank. Once the location is keyed in the blank will replace any piece at that location.

Example - to erase the piece at A3

KEY SEQUENCE	DISPLAY
IP IP A 3	IP A3

3.5 SEARCH PIECE

To search a piece at all locations the key of the special piece is depressed continuously. The computer will continue to display the positions of the piece. If all positions of a piece has been displayed the computer will generate characters **00** on the display.

Example - to display the position of the WK

KEY SEQUENCE	DISPLAY
SP WK	SP 00
WK	WK 00

3.6 INSERT PIECE

To insert a piece the following steps are required.

- Depress the IP function key
- Depress the key representing the piece to be inserted
- Depress the co-ordinates of the position beginning with an alphabetic character.

Example:

KEY SEQUENCE	DISPLAY
IP WK A 3	IP A3

The user is suggested to use SP function key to verify the above performance.

3.7 PROMOTE A PAWN

When a computer's pawn reaches the eighth rank the computer will automatically promote it to a Queen but the user has the option to select any piece to replace his pawn by the method explicated below:

Example - to promote a pawn to a Queen

KEY SEQUENCE	DISPLAY
A 7 A 8	R7 AB
MD	
IP WQ A 8	IP AB
GO	

3.8 CASTLING

If the machine has done castling it will display

FP [C] - H for King's Castle/H side
 [C] - A for Queen's Castle/A side

There are two methods for the user to play castling.

Example - to play King's Castle

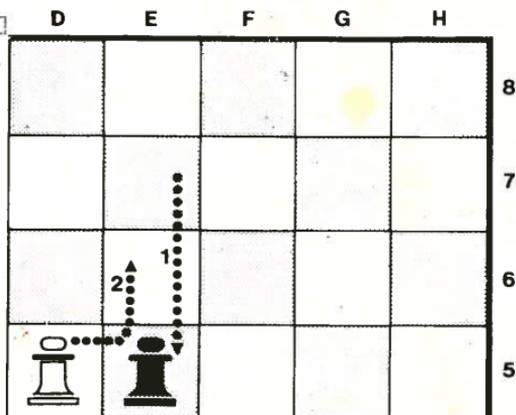
METHOD 1

- A) H 1 F 1 MD
- B) E 1 H 1 MD
- C) H 1 G 1 GO

METHOD 2

- A) H 1 F 1 MD
- B) E 1 G 1 MD
- C) SP WK WR GO

3.9 EN-PASSANT



For the case as shown in the diagram, Route 1 shows a **BP** moving from **E7** to **E5**

Route 2 shows that the **WP** is legally by-passing **BP**, taking it and settling at **E6**.

To achieve this special move one should perform the following steps:

KEY SEQUENCE	DISPLAY
D 5 E 5	D5 E5
MD	
E 5 E 6	E5 E6
GO	

4. LEVEL OF SKILL

Each level represents a certain standard. The time taken for the computer to consider a move is increased with higher level.

- | | |
|---------|--|
| level 1 | for beginner; instant response |
| level 2 | practical beginner; about 16 sec. response |
| level 3 | average player; under 15 min. response |
| level 4 | good player; under 25 min. response |
| level 5 | problem solving; up to 20 hr. response |
| level 6 | problem solving; up to 2 day response |

The user may change skill level in the middle of a game by pressing the reset button and following the procedure as described in section 2. (Never reset the game while the computer is thinking)

5. POWER SUPPLY

Use either a 7-9V DC 500mA AC adaptor or six UM-2, C size batteries. However, it is preferable to use an adaptor for long playing time.

6. SOUND EFFECTS

Additional feature of this chess game is an optional built-in tone generator which provides audible signal to the user to indicate game status. Computer will automatically sound the alarm when

- $E r r$ is displayed,
- $d d t d$ is displayed,
- after a computer's move,
- computer is checking the player.

7. GAME EXAMPLE

- Level '1' is chosen.
- A new game board is selected.
- The computer will respond in different moves when we start with

E 2 E 4

Entry	Computer
1) E 2 E 4 GO	B 8 C 6
F 1 C 4 GO	G 8 F 6
G 1 F 3 GO	F 6 E 4
C 4 D 3 GO	E 4 F 6
2) E 2 E 4 GO	E 7 E 5
F 1 C 4 GO	G 8 F 6
G 1 F 3 GO	F 6 E 4
C 4 D 3 GO	E 4 C 5

The above mentioned examples do not necessarily represent what the computer does at the beginning of a new game. The program is set at a random fashion such that the computer calculates its best move to tackle your challenge.

MODEL: 07011

P/N: 045-023

PRINTED IN HONG KONG