

**SARGON II**  
for the  
**Commodore/Atari**

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# User's Guide to SARGON II

SARGON II represents a significant evolution from the original SARGON chess program. The changes make the program easier and more convenient to use, and offer a much tougher computer opponent. In addition, a new beginner's level (level 0) has been added, in which SARGON's response is much faster than in other levels.

The playing algorithm for the chess game has changed considerably from the original program. SARGON II plays a vastly superior and much faster game. The use of computer algebraic notation allows you to enter a move easily. During the computer's move, the ply number (the number of half moves ahead which the computer is thinking) is displayed.

At higher levels of play the time between moves can be considerable; a flashing asterisk indicates the computer is thinking and hasn't accidentally hung up. For those players who need occasional help, a hint or kibitz mode allows you to ask the computer to suggest a good (but not necessarily the best) move you can make. Finally, setting up a board to analyze a specific playing situation has been simplified by new commands which allow you to reach any square directly instead of cycling through the whole board.

## **HARDWARE REQUIREMENTS**

### **Commodore**

Tape Version: Commodore 64 computer, Datasette recorder and TV (or monitor and 5-Pin Din audio cable).

Disk Version: Commodore 64 computer, VIC 1541 disk drive and TV (or monitor and 5-Pin Din audio cable).

### **Atari**

You will need an Atari 800XL computer, a cassette recorder or disk drive and a video monitor.

## LOADING INSTRUCTIONS

### Commodore

#### Tape Version

1. Turn **ON** your computer and TV or monitor.
2. Insert the SARGON II tape into the Datasette recorder. Press **REWIND** on the recorder until the tape rewinds completely, then press **STOP**.
3. When **READY** appears on the screen, type **LOAD "SARGON.II", 1, 1** and press **RETURN**. The screen will display the message **PRESS PLAY ON TAPE**.
4. Press **PLAY** on the recorder. The screen goes blank for about 10 minutes while the program loads into memory.
5. When **READY** appears, type **SYS 12288** and press **RETURN**. The title screen will appear immediately.
6. Press **STOP** on the recorder and press **F1** on the keyboard to begin the game.

#### Disk Version

1. Make sure your computer is turned **OFF**.
2. Turn **ON** the disk drive.
3. When the red error light on the disk drive goes out, open the drive door. Insert the SARGON II disk, label side up. Close the drive door.
4. Turn **ON** the TV or monitor; then turn **ON** the computer. It is important that the computer be turned on last.
5. When **READY** appears on the screen, type **LOAD "\*", 8** and press **RETURN**. The screen will display the message **SEARCHING FOR \*** followed by the word **LOADING**.
6. When **READY** appears on the screen, type **RUN** and press **RETURN**. When the title screen appears, press **F1** to begin the game.

### Atari

#### Tape Version

Remove all cartridges from the computer and make sure it is turned **OFF**. Insert the SARGON II tape into the recorder and rewind the tape. Turn the

Atari **ON** while holding down the **START**, **SELECT** and **OPTION** keys. Release the key(s) when you hear the tone. Next, press the **PLAY** button on the recorder. Then press any keyboard key except the **BRK** or **RESET** key. SARGON II will now load automatically.

#### Disk Version

Remove all cartridges from the computer. Insert the SARGON II disk in the disk drive with the label side up and turn the drive **ON**. Next, turn the Atari **ON** while holding down the **SELECT** and **OPTION** keys. SARGON II will now load automatically.

## Using SARGON II

### BEGINNING THE GAME

SARGON II has two playing options. You may either play a new game from the beginning or set up a midgame board to analyze a specific playing situation. The screen displays your options as follows:

**NEW GAME, CHANGE BOARD OR EXIT?**

**ENTER (G, C, or X):**

You may respond:

**G RETURN** for a new game

**C RETURN** to change the board

**X RETURN** to exit

### WHEN YOU CHOOSE A NEW GAME

SARGON II will ask:

**CHOOSE COLOR (B or W):**

Enter **B** or **W** as you wish, but remember that chess rules specify white moves first.

SARGON II will now ask:

**LEVEL OF PLAY? (0-6):**

Enter the level of play you choose. At higher levels SARGON II's playing skill and computation time increase. Even within the same playing level, as pieces are captured and material on the board decreases, SARGON II takes

more time to consider its options. In the chart that follows playing times per move are averages. The actual time for any specific move may vary from 1/3 to 3 times the chart time.

Level 0	Immediate Response
1	20 seconds
2	1 minute
3	2 minutes
4	6 minutes
5	40 minutes
6	4 hours

## The BOARD



Moves must be entered in computer algebraic chess notation. This means you must tell SARGON II the file and rank coordinates of the squares you are moving from and to. The files are lettered A-H and the ranks are numbered 1-8. So the coordinates of the board are:

	A	B	C	D	E	F	G	H	
8	A8	B8	C8	D8	E8	F8	G8	H8	8
7	A7	B7	C7	D7	E7	F7	G7	H7	7
6	A6	B6	C6	D6	E6	F6	G6	H6	6
5	A5	B5	C5	D5	E5	F5	G5	H5	5
4	A4	B4	C4	D4	E4	F4	G4	H4	4
3	A3	B3	C3	D3	E3	F3	G3	H3	3
2	A2	B2	C2	D2	E2	F2	G2	H2	2
1	A1	B1	C1	D1	E1	F1	G1	H1	1
	A	B	C	D	E	F	G	H	

(NOTE: On the C64, you can press F7 to display the files A-H on the line beneath the board. To restore the Level # and Ply #, press F7 again.)

## To Enter a Move

When SARGON II goes into execution, you will see either the chess board or the text screen. You can toggle, or flip back and forth, between the chess board, and the text screen by pressing F1 or ESC each time you want to flip.

When the list of moves fills the screen, use the  and  keys.

The move itself is entered as FF-TT (**FROM - TO**). To play the king's pawn up two squares you would type:

### E2-E4 RETURN

If SARGON II responded with the corresponding move, it would print:

### E7-E5

If you make an error, press the INST/DEL (C64) or DELETE (Atari) key before you press RETURN to cancel your entry.

## To Castle

Enter the king's move (followed by RETURN). The rook will tag along. For example, if you are white and you wish to castle king-side, enter:

### E1-G1 RETURN

You will see both your king and rook move. SARGON II lists it as 0-0 or 0-0-0 as in normal chess notation.

## To Capture En Passant

If you wish to capture one of SARGON II's pawns using the En Passant privilege, enter your pawn's move. After your pawn move is displayed, SARGON II's pawn will blink and then vanish. When SARGON II captures En Passant, his move is displayed on the graphics board in the same way. SARGON II prints it in the move list as **PXPEP**.

## Audible Signals

SARGON II will beep to tell you that it has finished thinking and is moving. A tone will indicate that your move was illegal. It will audibly signal a check and it will note a check in the bottom border. It will beep rapidly several times and then play a tune to signal a checkmate by either side. Press **CTRL-M** to force the computer's move (Atari only).

## Kibitz

A hint to the player giving what the computer thinks is a good move is available for most non-book moves. (Ah, but will SARGON II give you a move it doesn't have an answer for?) To get the computer to look over your shoulder in this fashion press **F3** (C64) or **SHIFT?** (Atari).

**NOTE:** Kibitz does not work at level 0. Although you may occasionally get it to work at that level, the moves it advises may not even be legal. Remember also that the castle move is displayed differently from the way it is entered.

## Level # and Ply #

When the board is displayed you will see the Level # you have selected labeled and displayed on the lower left-hand portion of the screen. Once SARGON II gets beyond its opening "book" moves you will also see the Ply # displayed next to the Level #.

The Ply # is the number of half-moves ahead of the current move that the computer is currently searching. A Ply of 3, for instance, indicates that the computer has already examined its possible moves and your possible counter-moves, and is currently examining its possible replies to your counter-moves. The Level # you choose at the beginning of the game, or after changing the board, represents the **minimum** Ply to which the computer will search. (In the beginning and toward the end of the game, SARGON II will automatically search more deeply.)

At level 0, however, the computer will only examine its next move at any stage of the game except where a check is involved.

The blinking asterisk beside the Ply # assures you that SARGON II is in fact thinking and has not fallen asleep. The move listed next to the asterisk is the best move that SARGON II has found at this point, it will change until SARGON II finds the best move.

## To End a Game or Take Back a Move

### C64


Wait until it is your turn. Then press the **F5** key. SARGON II will display the sign-on screen. To end the game, choose option X. To change the board, proceed to the following section, which contains instructions for option C.


### Atari


Wait until it is your turn. Then, if you have the board displayed, press **ESCAPE** to go back to your listing. (If you don't have the listing when you perform the next step, you will lose the board position and the game, and have to reload the program.) With the listing up, press **CTRL R**. Now proceed to the next section on changing the board and follow those instructions. To end the game and leave SARGON II, choose option X.


## WHEN YOU CHOOSE TO CHANGE THE BOARD

You can now take back a move, or set up the board to play from any point in a game. If you are setting up a board from the initial blank board, it will be necessary to place black and white kings on the board. If you were already in the middle of a game the board will be displayed just as you left it. The lower left-hand square will blink. That's your signal that you can change the contents of that square, using one of the analysis commands as follows: (Note that on the Atari the **CTRL** key must be held down.)

A  leaves the contents of the square unchanged and blinks the next square to the right on the same row. If you are already at the rightmost square it wraps around to the leftmost in the same row and blinks that square.

A  (with **SHIFT** key depressed on the C64) leaves the contents of the square unchanged and blinks a square in the leftward direction. It wraps to the rightmost square in a similar manner.

A  (with **SHIFT** key depressed on the C64) leaves the contents of the square unchanged and blinks the next upward square in the same column. If you are already at the topmost square it wraps around to the bottommost square in the same column and blinks that square.

A  leaves the contents of the square unchanged and blinks the next downward square in the same column. It wraps up to the top in a similar manner.

Pressing the space bar on the C64 will empty the square. Pressing any key not otherwise listed here will empty the square on the Atari.

To place a piece in a square enter the piece code, the color code and the code indicating whether the piece has moved.

Piece Code:

**K** - King

**Q** - Queen

**R** - Rook

**B** - Bishop

**N** - Knight

**P** - Pawn

Color Code:

**W** - White

**B** - Black

Movement Code:

**0** - The piece has never moved

**1** - The piece has moved

Telling the computer whether a piece has moved ensures legal castling and pawn moves, and tells SARGON II for evaluation purposes whether the piece has ever been developed.

When you have blinked a square on which you wish to place a piece, enter the 3-part code. Do **not** press **RETURN** until you have entered all the pieces appropriate to the game you wish to set up. Some examples of entering codes follow.

To place a black pawn on its original square:

**PB0**

To place a white king back on its original square from which it has moved:

**KW1**

Press **RETURN** to terminate the blinking cycle. SARGON II will ask:  
**COLOR TO MOVE NEXT (B or W)?**

Enter **B** or **W** (followed by **RETURN** on the C64). The next prompt is:  
**ENTER MOVE NUMBER (NN):**

Enter a move number appropriate to the stage of the game you are setting up. This number is used by SARGON II to choose strategy which corresponds to the game's stage of development. SARGON II will then ask:

**CHOOSE COLOR (B or W):**

Enter the appropriate letter (followed by **RETURN** on the C64). The last question is:

**LEVEL OF PLAY? (0-6):**

When you enter the number you wish (and press **RETURN** on the C64) the game will begin.

**Limited Warranty.** If during the first 90 days from purchase the disk is found to be defective, return disk to Hayden for a free replacement. After 90 days, send your disk and \$10.00 for replacement. To obtain this warranty you must complete and return the enclosed registration card.

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