User's Guide
Apple II 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 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. During the player's move, the chosen level of difficulty is displayed. 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 AND LOADING

To play this version of SARGON II you will need your Apple II computer with at least 24K of memory, a video monitor, either a disk drive or a cassette tape recorder and appropriate connecting cables. Separate instructions for both tape and disk follow.

Apple II Disk with Autostart

Insert the SARGON II disk in the disk drive and close the drive door. Turn ON the Apple, and the game will load automatically. The screen first displays the title page, followed by a second screen which includes the program options.

Apple II Disk without Autostart

Insert the SARGON II disk in the disk drive and close the drive door. Turn ON the Apple. Your screen will display either a basic prompt or an asterisk (*).

If you have a basic prompt, type PR#6 **RETURN**.

If you have an asterisk, type the slot number into which you have plugged your disk drive (6 is standard). Press **CTRL** and either **P** or **K** simultaneously. Release them and press **RETURN**.

Your screen next displays the title page, followed by a second screen which includes the program options.

Apple II Tape

Turn ON the Apple. When the asterisk prompt (*) appears, insert the SARGON II tape in the cassette recorder.

The proper volume level will vary from one recorder to another. If the program does not load properly, vary the level up or down slightly until you find the proper level. The tone control, if your recorder has one, should be high, about 9 on a scale of 0 to 10.

Now type on your Apple keyboard:

30.3FFR

Press the **PLAY** button on your recorder and immediately press **RETURN** on the Apple. Your screen will display the title page, followed by a pause of about a minute and a quarter while the Apple loads the SARGON II program from the tape. When the loading is complete, your screen displays the first program options.

Now go directly to the "Using SARGON II" section of this manual for instructions on preparing the board for play.

Using SARGON II

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

NEW GAME OR CHANGE BOARD? (G,C,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:

YOUR COLOR? (B,W):

Enter **B** or **W** as you wish, but remember that chess rules specify white moves first. Complete your color choice by pressing **RETURN**.

SARGON II will now ask:

LEVEL OF PLAY? (0-6):

Enter the level of play you choose (followed by **RETURN**). 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 ⅓ 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

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The Board

Moves must be entered in 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	

To Enter a Move

When SARGON II goes into execution, you will see text on the screen but not on the board. You can toggle, or flip back and forth between the board and the text by pressing **ESCAPE** (marked ESC) each time you want to flip. You can enter a move with the board displayed, but the listing of that move will not appear unless the screen is in text.

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

E2-E4 RETURN

(Actually you can use anything in place of either the "–" or **RETURN**.) If SARGON II responded with the corresponding move, it would print:

E7-E5

If you make an error, press ◄█ 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's side, enter:

E1-G1 RETURN

You will see both your king and rook move. SARGON II lists it as 0-0-0 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**.

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Audible Signals

SARGON II will beep to tell you that it has finished thinking and made a move. It will honk to signal that your move was illegal. It will **not** audibly signal a check, although it will note a check on the listing. It will beep rapidly several times in succession to signal a check mate by either side.

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 **CTRL K**.

> **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 move listing is displayed you will see the Level # you have selected labeled and displayed on the upper right-hand portion of the screen. Once SARGON II gets beyond its opening "book" moves you will also see the Ply # (unlabeled) displayed in the upper right-hand corner of the screen directly above 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 countermoves, and is currently examining its possible replies to your countermoves. 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.

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To End a Game or Take Back a Move

Wait until it is your turn. Then, if you have the board displayed, press **ESCAPE** to go back to the 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 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:

A ➡ leaves the contents of the square unchanged and blinks the next squre 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 ⬅ 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 ⬆ 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 to the top in a similar manner.

Pressing any key not otherwise listed here will empty the square.

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

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Piece Code:
K – King   **B** – Bishop
Q – Queen   **N** – Knight
R – Rook   **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:
PBO

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,W):

Enter **B** or **W** (followed by **RETURN**). The next prompt is:
MOVE NUMBER? (NN):

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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:

YOUR COLOR? (B,W):

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

LEVEL OF PLAY? (0-6):

When you enter the number you wish (followed by **RETURN**) the game will begin.

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