Best. Nr.
8185

CHESS FOR O.S.I.

Ihr Partner für
Microcomputerbücher
und Software
HOFACKER VERLAG
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LOADING CHESS

The tape is in standard OSI self loading format. To use it, bring up the system in the monitor mode (hit break and answer "M" to the C/W/M), start the tape and hit "L".

The program will load in a checksum loader and screen routine beginning at location 0D50. When that is done, the system should display "0E24 20" and begin the checksum section. If you do not get "0E24 20", reset the tone control and try again.

If an error occurs in the checksum loader section (For you new owners-that's the section that prints out lines that begin with ";18") the system will print "ERR" at the end of the line. If that happens, rewind the tape back past the beginning of that line, restart the recorder and hit "G"..

Want to go over that again just to make sure? You bring the system up in Monitor mode, start the tape, and press the "L". When the data starts, the display will go from "0000 XX" to "0D50 XX". The displayed address will increment by one each time a byte comes in. If it skips , restart the tape and play with the tone control until the display changes regularly. When the loader is in, the display will go to 0E24 and begin loading lines of data in checksum format.

Patience is recommended. 3.5K of program in checksum format takes about 4.5 minutes to load.

CHESS V1.9

THE BOARD:

The columns are numbered 0-7 from left to right. The rows are numbered 0-7 from top to bottom. Therfore the top row is numbered 00-01-02-03-04-05-06-07 and the bottom row 70=71=72=73=74=75=76=77. Got it? One more excercise. The row of white pawns is numbered 10-11-12-13-14-15-16-17. The black king pawn is 6-3. In case you forget, we printed the numbers around the edge of the screen. Unfortunately, the C1-P display did not leave enough room for numbers down the side.

THE CONTROLS:

(C) clears the board for a new game. Display goes to CC CC CC toindicate completion of clearing.

(:) Play Chess key. Tells the computer to make it's move. The computer normally plays white, so the opening sequence is (C),(:).

(F) Move Key. Moves your pieces. Can also be used to move the computers men but may louse up internal tables if used that way.

(D) Exit to OSI monitor. Used to queen pieces, correct mistakes, and fool around with the program. The program is restarted with 03AC G.

(E) Exchange key. Causes the computer to change sides and revese the board display. (The display may show the last piece captured as a "ghost" piece). You use this key to make the computer play black or make it play against itself. The display goes to EE EE EE to indicate completion of exchange.

HOW TO MOVE

First look at the display at the top center of the board. It is organised :

11 22 33

11 is the piece to be moved. You don't have to enter that on your move. The system will figure it out. 22 is the from square. 33 is the square you are moving to. To move a piece, type in the 4 numbers indicating from and to squares and hit (F). For instance, King Pawn to King Pawn 4 would be 6343F. If you misenter a number and have not yet hit (F) , just keep on typing. The program will rotate numbers through the display until you hit (F).

The system will move your piece as soon as you hit (F), but will not begin it's own move until you hit (:). That allows you to make as many moves as you want before telling the system to move. Therefore the complete move to KP4 is 6343F: .

The system does not check the legality of your move so check the display carefully before you hit (F) and figure that you will louse up a few of the early games with impossible moves.

SPECIAL MOVES:

Castling. The move is entered as two separate moves not separated by a (:). The system may castle during the opening book. If it does, it will indicate the move by moving the king over two squares. You will have to complete the move for it by moving its rook. Move the white rook, hit (F) and then go on to your own move.

En Passant. The computer does not play or plan for this move. You can make it by moving your pawn to the computers square for the capture and then on to the final square. It is two moves, similar to castling.

Queening Pawns. The program only allows allows each side one queen at a time. If you still have yours, pick another piece. The exchange takes 5 steps.

(1)enter the OSI monitor with (D)

(2)Find the pawn in the table of pieces. (The table is coming- have patience.) Enter CC in the pawns location. (Press (/CC.)

(3)Goto the address of the queen (61) and enter the number of the square the pawn has moved to. There shoud be a CC in the location, indicating a captured piece.

(4)Press (/) and enter the square the pawn was moved to. ie (07).

(5)Press (.), followed by (03ACG) to restart the program.

Should the computer push a pawn to the last row, you will have to queen it for the system using the same procedure.

THE COMPUTERS MOVES:

The sytem will indicate its move in two separate ways. It will move the piece on the board, and just in case you missed it, will display the move in the digits in the top center display. The first two will have the piece it has moved. (see table two for the code) and the second and third pairs of digits will have the from and two squares.

By watching the display, you can see what the computer is "thinking" about. It begins considering its move by looking at pawn moves and gradually works its way up to the queen. It ends with the King. It stores the best move it has found so far in the display area. The first two digits are the piece it is considering moving and the last two are where it is "thinking" about moving to. The center two are not readable in any easy manner while the machine is working.

Never depress (D) while the computer is considering its move. You will stroy several important pieces of information.

LEVEL OF PLAY:

The computer can play at three levels. Changing the data in two memory locations changes the level of play.

SUPERFAST	00	FF
FAST	00	FB
NORMAL	08	FB
LOCATION	04F2	C38B

The quality of play changes rather dramatically as a function of the time allowed.

Superfast averages 5 seconds per move, Fast averages 15 seconds and normal is 100-120 seconds per move.

MEMORY LOCATIONS FOR THE PEICES

COMPUTER PEICES		YOUR PEICES
0050	KING	0060
0051	QUEEN	0061
0052	KING ROOK	0062
0053	QUEEN ROOK	0063
0054	KING BISHOP	0064
0055	QUEEN BISHOP	0065
0056	KING KNIGHT	0067
0057	QUEEN KNIGHT	0068
0058	KING ROOK PAWN	0069
0059	QUEEN ROOK PAWN	006A
005A	KING KNIGHT PAWN	006B
005B	QUEEN KNIGHT PAWN	006C
005C	KING BISHOP PAWN	006D
005D	QUEEN BISHOP PAWN	006E
005E	QUEEN PAWN	006F
005F	KING PAWN	

The computer moves are displayed in the format shown below:

piece -- FROM square -- TO square

PIECE -- The piece which the computer is indicating that it wishes to move is encoded according to the table below:

0 - KING	4 - KING BISHOP	8 - K R PAWN	C - K B PAWN
1 - QUEEN	5 - QUEEN BISHOP	9 - Q R PAWN	D - Q B PAWN
2 - KING ROOK	6 - KING KNIGHT	A - K N PAWN	E - Q PAWN
3 - QUEEN ROOK	7 - QUEEN KNIGHT	B - Q N PAWN	F - K PAWN

-- FROM square -- The FROM and TO squares are indicated using the notation as shown on the chessboard drawing.

The display OF 13 33 indicates that the KING PAWN is to be moved from KING PAWN 2 to KING PAWN 4 (computer playing white.)

THE OPENING BOOK:

The program contains an opening book of up to nine moves per side. The computer will play the book until a move occurs that does not conform to book expectations. The system is normally shipped set up for Guioco Piano (It varies), but you can enter other openings by entering the data in the opening chart in the indicated locations. Five opening books are included.

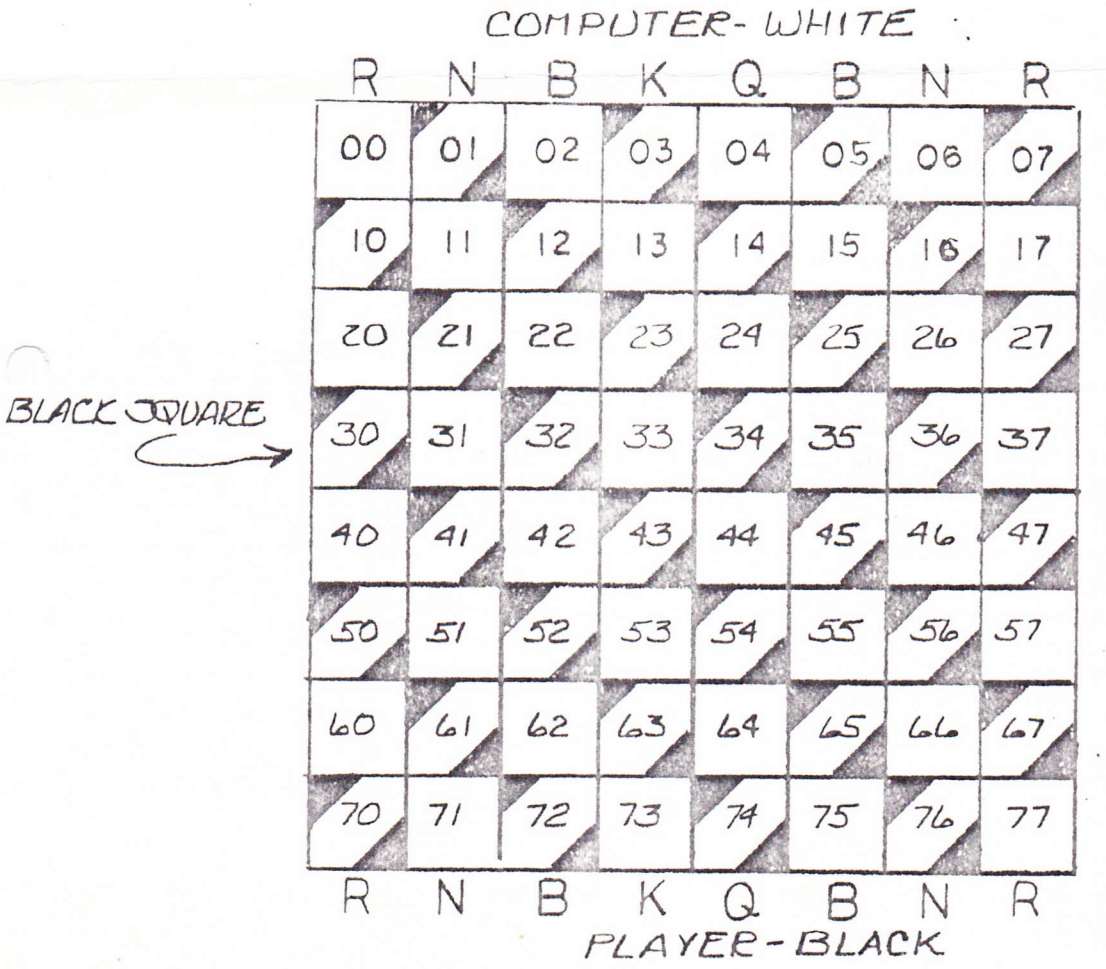
You can also program your own openings. You normally start with (CC) in location 00DB as that is the expected display at the start of the game. The next three BYTES are in order (1)piece number (2)To square (computers piece) (3)expected display in the last pair of digits after opponents move-or maybe we should say the To square of the opponents move. You can program up to nine moves a side but must end with an impossible move to break the system out of the opening book. Try 88 or 99 as the last move in the sequence.

THE STRATEGY OR-HOW IT WORKS:

The program normally only works one move ahead. It weighs the possible points in captures, adds up the number of squares a piece can control on a possible move, adds in the number of enemy pieces that can be attacked by a move, adds a bonus if the move is to a square in the center of the board or if the move is out of the back row, weighs each factor by a variable amount (it changes according to how the program is set up- when we have more complete documentation set up we'll show you how to vary the weights) and then chooses a move.

On trades, the system goes several plys deep and calculates the outcome up to 5 moves ahead.

Amaze your friends with the computer fact of the day. That one move requires over two million calculations. No wonder it takes almost two minutes.



NON-GRAPHICS USERS

The tape you have received is set up for the graphics version. The following table will help you to locate and alter the display data so that you can run the programs with or without a graphics chip.

CHESS PEICES

LOCATION	GRAPHICS VERSION	ASCII VERSION
0030	E6	4B
0031	04	51
0032	DB	52
0033	DB	52
0034	BC	42
0035	BC	42
0036	18	4E
0037	18	4E
0038	F0	50
0039	F0	50
003A	F0	50
003B	F0	50
003C	F0	50
003D	F0	50
003E	F0	50
003F	F0	50

CHESS BOARD

LOCATION	GRAPHICS VERSION	ASCII VERSION
072B	90	2D
0730	91	2D
0735	94	2D
0754	92	21
0798	95	21
07A1	93	21

DATA FOR OPENING

THE DATA BELOW ENABLES THE COMPUTER TO PLAY THE OPENINGS SPECIFIED FROM MEMORY. THE DATA IS IN A BLOCK FROM 0DC0 TO 0DDB. W SPECIFIES THAT THE COMPUTER WILL PLAY WHITE. B SPECIFIES THAT THE COMPUTER WILL PLAY BLACK

ADDR	FRENCH DEFENCE W		FRENCH DEFENCE B	GIUOCO PIANO W		GIUOCO PIANO B	RUY LOPEZ W		RUY LOPEZ B	QUEEN'S INDIAN W		QUEEN'S INDIAN B	FOUR KNIGHTS W		FOUR KNIGHTS B
DB	CC		44	CC		44	CC		44	CC		43	CC		44
DA	OF	P-K4	OF	OF	P-K4	OF	OF	P-K4	OF	OE	P-Q4	06	OF	P-K4	OF
D9	33	P-K3	24	33	P-K4	34	33	P-K4	34	34	N-KB3	25	33	P-K4	34
D8	53		43	43		55	43		55	52		42	43		55
D7	OE	PQ4	OE	06	N-KB3	07	06	N-KB3	07	OD	P-QB4	OF	06	N-KB3	07
D6	34	PQ4	33	22	N-QB3	22	22	N-QB3	22	35	P-K3	24	22	N-QB3	22
D5	44		52	55		42	55		31	53		55	55		52
D4	07	N-QB3	06	04	B-B4	04	09	B-K5	06	06	N-KB3	0B	07	N-B3	06
D3	25	N-KB3	25	35	B-B4	32	46	N-B3	25	22	P-QK3	21	25	N-B3	25
D2	52		36	45		52	52		75	56		56	52		31
D1	05	B-N5	04	0D	P-B3	06	00	O-O	06	0A	P-KN3	05	04	B-N5	04
D0	41	B-K2	14	25	N-B3	25	01	NxP	44	21	B-N2	11	46	B-N5	41
CF	63		34	52		43	33		43	66		66	36		75
CE	OF	P-K5	06	OE	P-Q4	OF	OE	P-Q4	04	04	B-N2	04	00	O-O	00
CD	43	KN-Q2	13	34	PXP	43	34	B-K2	14	11	B-K2	14	01	O-O	06
CC	64		14	34		43	63		64	63		75	72		53
CB	05	BXB	01	0D	PXP	04	01	Q-K2	06	00	O-O	00	OE	P-Q3	OE
CA	63	QXB	14	34	B-N5	41	13	N-Q3	23	01	O-O	06	24	P-Q3	23
C9	63		63	36		52	54		22	72		52	54		36
C8	01	Q-Q2	00	07	N-B3	06	09	BXN	0B	07	N-B3	06	05	B-N5	04
C7	14	O-O	06	25	NXBP	44	55	NPXB	22	25	N-K5	44	41	BXN	52
C6	72		45	33		75	55		34	33		62	25		52
C5	0C	P-B4	0D	00	O-O	06	0E	PXP	06	01	Q-B2	06	0B	PXB	01
C4	32	P-QB4	32	01	NxN	52	43	N-N2	11	15	NxN	52	25	Q-K2	14
C3	45		55	25		52	66		52	25		52	63		74
C2	06	N-B3	07	0B	PXN	04	07	N-B3	00	01	QxN	0C	02	R-K1	07
C1	22	N-QB3	22	25	BXP	52	25	O-O	06	25	P-KB4	35	03	N-Q1	03
C0	99		99	99		99	99		99	99		99	99		99