

BORIS DIPLOMAT II

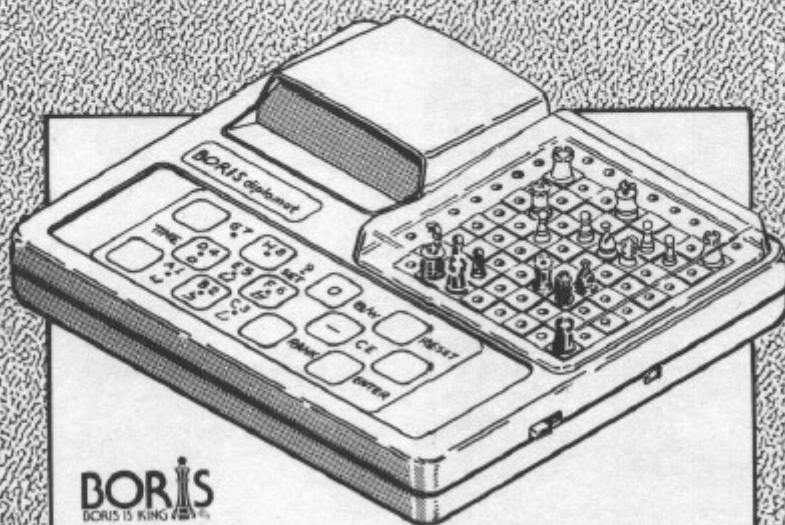


APPLIED CONCEPTS INC.

Skandinavisk Generalagent:

RAJAH SCHACK & COMPUTERS AB, MALMÖ

BORIS diplomat
ELECTRONIC CHESS COMPUTER



BORIS
BORIS IS KING

OPERATION MANUAL

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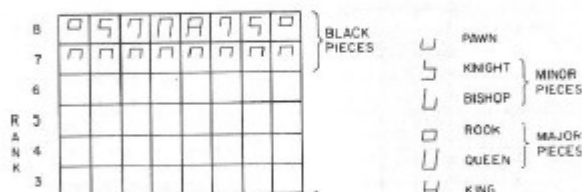
I THE GAME OF CHESS

The history of chess

In the fifth century A.D., a game called "chaturanga" made its appearance in historical records in northwestern India. "Chaturanga" as it was played then is easily recognizable, with few differences, as our modern chess. The game spread west into Persia, and from thence along the ancient trade routes to the shores of the Mediterranean, reaching Europe by about 1000 A.D. The Norman Conquest brought chess with it into England; the Spanish soldiers and French explorers introduced it first into the New World of the Americas. By the 17th century chess had developed the exact form we enjoy today, although slight rule variations have been added, and fashions in strategy continue to change from decade to decade.

The game

Chess is the classic game of maneuver and control. It is played on an 8x8 board between two players, each with initial armies of 16 pieces set up as shown (Figure 1):



The Pawn, represented by [P], can advance along its file in the direction of its open end one square per turn onto an unoccupied square, as shown by the solid arrow in Figure 2. It is, however, able to capture an enemy piece diagonally ahead of it, as shown by the dotted arrows, and is the only chess piece to move and capture differently. The Pawn is the foot soldier of chess, needing support from the other pieces to advance safely, but vital in holding territory. See also Double Advance, En Passant, and Queening below.

The Knight, represented by [N], moves obliquely, 2 squares laterally and 1 to either side, as shown in Figure 2. It does not travel directly over any other squares and therefore cannot be blocked, making the Knight ideal for behind-the-lines raids. It is worth about three pawns.

The Bishop, represented by [B], moves diagonally any number of empty squares as shown in Figure 2. It may capture an enemy encountered on the diagonal, but cannot continue beyond an occupied square. A Bishop can never encounter its brother since they are confined to squares of opposite color, but is a nimble piece, able to cross the board in a single move. It is worth about three pawns.

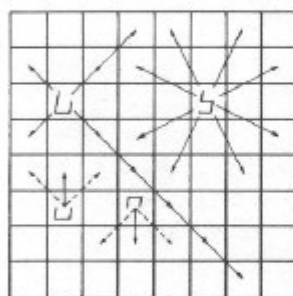


Figure 2

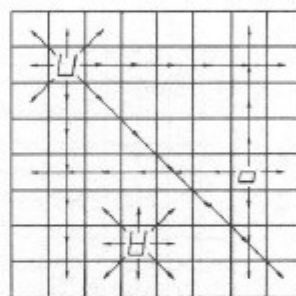


Figure 3

The Rook, represented by [R], moves laterally any number of empty squares as shown in Figure 3. It may capture any enemy encountered, but cannot continue beyond an occupied square. Although too valuable and confined to risk in the opening game, it is a powerful piece, able to force checkmate of a lone enemy king. It is worth about five pawns. See Castling below.

The Queen, represented by [Q], moves diagonally or laterally any number of empty squares as shown in Figure 3. It combines the moves of bishop and rook and is the most powerful piece by far, but must be used carefully since its uncompensated loss is generally fatal. It is worth about nine pawns.

The Pawn, represented by [♙], can advance along its file in the direction of its open end one square per turn onto an unoccupied square, as shown by the solid arrow in Figure 2. It is, however, able to capture an enemy piece diagonally ahead of it, as shown by the dotted arrows, and is the only chess piece to move and capture differently. The Pawn is the foot soldier of chess, needing support from the other pieces to advance safely, but vital in holding territory. See also Double Advance, En Passant, and Queening below.

The Knight, represented by [♞], moves obliquely, 2 squares laterally and 1 to either side, as shown in Figure 2. It does not travel directly over any other squares and therefore cannot be blocked, making the Knight ideal for behind-the-lines raids. It is worth about three pawns.

The Bishop, represented by [♗], moves diagonally any number of empty squares as shown in Figure 2. It may capture an enemy encountered on the diagonal, but cannot continue beyond an occupied square. A Bishop can never encounter its brother since they are confined to squares of opposite color, but is a nimble piece, able to cross the board in a single move. It is worth about three pawns.

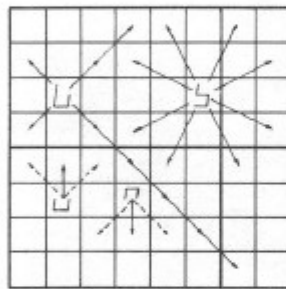


Figure 2

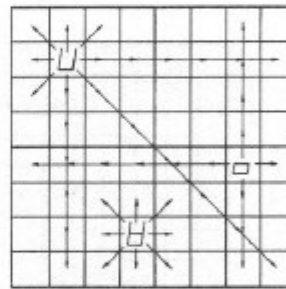


Figure 3

The Rook, represented by [♖], moves laterally any number of empty squares as shown in Figure 3. It may capture any enemy encountered, but cannot continue beyond an occupied square. Although too valuable and confined to risk in the opening game, it is a powerful piece, able to force checkmate of a lone enemy king. It is worth about five pawns. See Castling below.

The Queen, represented by [♚], moves diagonally or laterally any number of empty squares as shown in Figure 3. It combines the moves of bishop and rook and is the most powerful piece by far, but must be used carefully since its uncompensated loss is generally fatal. It is worth about nine pawns.

The King, represented by [K], moves one square in any direction as shown in Figure 3. It is vulnerable to attack if exposed, but must nonetheless be ready to play an active role once the major pieces have been captured. It is of course invaluable; any other piece must be sacrificed if necessary to save the King. See Castling below.

If a player moves so that he could capture the enemy King with his next move, the King is said to be in *check*, and is customary to warn the opponent of this. It is illegal for a player to expose his own King to check, or to leave it in check when it can be saved. If it cannot be saved, the check is *checkmate*, and the game is then ended before the King is actually captured. A game is considered a draw if neither player can proceed to checkmate. A player must move when it is his turn, but if every move would expose his King to capture and thus be illegal, the game is considered a *stalemate* or draw; achieving this may be the strategem of last resort for a losing side.

Special moves

To improve the pace of the game, the following special moves have been added:

Double Advance and En Passant. For faster development, a pawn may advance two squares, provided they are unoccupied, from its initial position. However, this is not intended as a move to bypass an enemy pawn that would have been able to capture had a single advance been made. In such a situation (Figure 4), the double advance is permitted, but the opponent has the *en passant* option, for his next turn only, of returning the pawn to a single advance and capturing it there.

Queening If a pawn successfully reaches the opposite edge of the board, it is *promoted* to any other piece, except a duplicate king. The choice is usually a queen, and this dramatic increase of power makes the advance and *queening* of a pawn the critical feature of the end of many games.

Castling safeguards the king while centralizing the rook. If a previously unmoved rook can move next to the previously unmoved king and be unattacked there, the player may place the king on the other side of the rook (Figure 5). Castling out of check is not permitted.

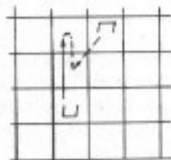


Figure 4

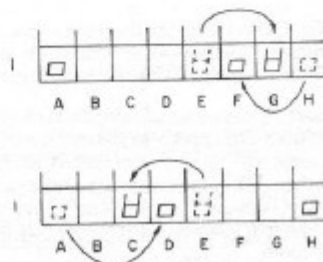


Figure 5

II BASIC OPERATION

Your BORIS Diplomat unit

BORIS Diplomat has been designed for ease and flexibility of operation, using the most dependable circuitry available. He should provide you with many hundreds of hours of chess enjoyment. Here are several things you should know in order to get the most out of BORIS Diplomat:

BORIS Diplomat operates off 6 nonrechargeable alkaline AA battery cells, or through his AC power adapter plugged into a 110 volt wall outlet. To open the battery compartment for changing batteries, slide a pen knife, nail file, or similar tool under the edge of the compartment lid and snap it open.

Note that when the power adapter is in use, the batteries are automatically disconnected, thus prolonging battery life.

BORIS Diplomat's power adapter is a small transformer. It is normal for it to be slightly warm and emit a low volume buzzing sound when in use. If you are interrupted during a game, you may leave BORIS Diplomat switched on for several days safely. BORIS Diplomat will be ready to continue as soon as you are.

BORIS Diplomat's design encourages mobile chess playing. The peg-in chess pieces will not slip off the board, losing a hard won position, if the unit is moved. The 16 holes at the side and top of the board are used to set aside captured pieces during a game. Using alkaline batteries, BORIS Diplomat should be able to play up to 9 hours of chess with you — anywhere.

Playing a game with BORIS Diplomat

1. Set up the chessboard.
2. Switch BORIS Diplomat on. BORIS Diplomat will display:



The OOs refer to the timer (see Special Features). The hyphen shows the side to move, — for the near, or White side, and — for the far, or Black side. Since BORIS Diplomat plays Black, he is waiting for you to move.

3. Each square on the chessboard is identified by a file letter and a rank number. Note BORIS Diplomat's keyboard has keys identified with both letters (A-H) and numbers (0-9). These keys give BORIS Diplomat the file-rank coordinates for your moves. Six of these keys are also identified with BORIS Diplomat's special chess piece symbols. The piece symbol keys are used in advanced play to modify BORIS Diplomat's internal chessboard (see Modifying the Board in the Special Features section).

Move your piece on the chess board, and key in the square you moved from, immediately followed by the square you moved to, using the multi-purpose keys.

Example: After advancing your King Pawn two squares, press these four keys:

[E] [2] [E] [4]

E 2 - E 4 0 0

4. Check that the display shows your move correctly. If there is an error, clear the entry, using [CE] and start over.
5. When the display is correct, enter the move, using [ENTER]. BORIS Diplomat will flash the display while he is computing, then show his response. Example:

E 7 - E 5 0 0

Note that BORIS Diplomat will not always make the same response. The hyphen here indicated this is a move for Black. Move BORIS Diplomat's piece, and enter your next move as in step 3. Do not press [CE] or [ENTER] before entering your move; BORIS Diplomat will automatically clear the display and reverse the hyphen to your side when you start to enter your move.

BORIS Diplomat will show [♞] or [♟] at the right of the display when he checks or mates you. If you make an illegal move, BORIS Diplomat will display [♞] and refuse to enter the move. After displaying [♞], BORIS Diplomat will redisplay the move coordinates for you, so you can note why it is illegal. Press [CE] to clear; then enter a legal move. This feature is useful for catching inadvertent keystroke errors, as well as correcting novice players.

Sample game

The following shows the start of a game with BORIS Diplomat. BORIS Diplomat is designed to vary his play, so he will not always respond with these moves.

Operation	Display	Description
Power-On	- 0 0	Player to move first
[E] [2] [E] [4]	E 2 - E 4 0 0	Player advances King Pawn
[ENTER]	E 7 - E 5 0 0	BORIS offers Queen Pawn
[E] [4] [D] [5]	E 4 - E 5 0 0	Player captures Pawn
[ENTER]	E 8 - E 5 0 0	BORIS recaptures with Queen
[B] [1] [C] [3]	B 1 - C 3 0 0	Player threatens with Knight
[ENTER]	E 5 - E 6 C 1	BORIS retreats and checks
[F] [1] [E] [2]	F 1 - E 2 0 0	Player interposes Bishop
[ENTER]	G 8 - F 6 0 0	BORIS develops King Knight
[G] [1] [F] [3]	G 1 - F 3 0 0	Player develops King Knight
[ENTER]	B 6 - C 6 0 0	Boris develops Queen Knight
[E] [1] [G] [1]	E 1 - G 1 0 0	Player castles, Kingside

III SPECIAL FEATURES

Setting the timer for advanced play

BORIS Diplomat can perform a deeper analysis, up to four moves ahead for each side, if you give him more time using his built-in 100 hour timer. To set the timer, press [SET]. BORIS Diplomat now displays the current timer setting in hours, minutes and seconds. If it is other than 00-00-00, press [CE] to clear. Now key in your desired time setting using the [0] - [9] keys, and enter it into BORIS Diplomat's timer using [ENTER] when it shows correctly in the display. As soon as the timer is set, BORIS Diplomat will begin counting down the seconds in the right of the display. For example, to set BORIS Diplomat to 30 seconds per move, press:

[SET] [3] [0] [ENTER]

0 0 - 0 0 - 3 0

With the above interval set, BORIS Diplomat will almost always find any mate in one.

Longer intervals are set the same way. For example, to set 3 hours, 15 minutes and 10 seconds, press:

[SET] [3] [1] [5] [1] [0] [ENTER]

0 3 - 1 5 - 1 0

When you enter a move, the timer is reset, and BORIS Diplomat will compute a response at successively deeper levels until his time is exhausted. He will automatically proceed to a deeper analysis as the number of moves to be considered is reduced by the progress of the game.

To recall the time, press the [TIME] key. This displays the hours, minutes and seconds remaining while pressed.

To inspect the interval without resetting the timer, press [SET] [RANK] [ENTER].

Note that BORIS Diplomat's timer is not designed as an accurate timepiece, but will chronicle standardized time units for comparative play.

Stopping BORIS Diplomat

To stop an analysis ahead of time, press [SET] [CE] [ENTER].

This resets the timer to immediate response, and causes BORIS Diplomat to respond with one of the best moves he has found so far.

Giving BORIS Diplomat more time

To keep BORIS Diplomat working on an analysis, you may modify the interval and reset the timer while he is computing as above, or reset the timer to the same interval again by pressing [SET] [ENTER].

Playing against the timer

You will notice that BORIS Diplomat resets the timer to the current interval when he returns with a move. The timer is now timing you, offering you the challenge of replying before it reaches zero. If you do not respond in time there is no penalty; it simply means you are not moving in the time you have allowed BORIS Diplomat.

Selecting your level

BORIS Diplomat can conduct a deeper analysis and respond with more subtle moves if you give him a longer computing time. Therefore, you can select a level of play by programming the timer.

Some suggested levels:

- A- Do not set timer. BORIS Diplomat will automatically respond at his minimum response time. At this level, BORIS Diplomat leaves himself open for your attack, giving you many opportunities to defeat him. A good beginner's level.

When playing at the following levels, you may want to set the timer only after the opening moves have already been played, as these will vary little even with increased times.

- B- 20 seconds. Defeating BORIS Diplomat at this level indicates you have a good understanding of basic strategy.
- C- 2 minutes. Good competition for an average player.
- D- 10 minutes. Challenging competition for an accomplished player.
- E- 1 hour or more. A game that should keep a master's attention.

Recalling the board

BORIS Diplomat's internal processor automatically alters his internal board as you play, so that he always knows where all remaining pieces are. You may recall BORIS Diplomat's internal board for display at any time by using the [RANK] key. This steps through the board from rank 1 to 8, showing the rank number while pressed, and the pieces in position on that rank when released. The symbols used are described in Section I. The display returns to showing the moves following display of rank 8.

Note that BORIS Diplomat does not enter his latest move into memory until you begin to make your response. Therefore, if BORIS Diplomat was last to move before you request rank display, his latest move will not be reflected in his internal board.

Changing Sides

You may change sides with BORIS Diplomat at any time during a game. This is useful if you want to use BORIS Diplomat as a chess tutor, to see what he would do in your place, as an aid to analyzing positions, or just for fun. If you wish BORIS Diplomat to play White from the start of a game, press [B/W] [ENTER] as soon as BORIS Diplomat indicates he is ready to play. BORIS Diplomat will then lead off with a move for White. If you wish to change sides again, press [ENTER] after BORIS Diplomat has suggested a move. His next move will be for Black. You may change sides as often as you like.

Modifying the board

Any piece can be added to or removed from the board as follows:

1. Step up to its rank using the [RANK] key. Clear the rank if necessary using the [CE] key.
 2. Step across to its square using the [] key. The [] starts in file A and advances one square when pressed. After reaching the right-most square, the hyphen returns to the left.
 3. Change the color of the piece located at the hyphen by using the [B/W] key if necessary; note the hyphen will form the base of the new piece. The [B/W] will invert the hyphen, displaying it while pressed, and may be used to find the hyphen without advancing it.
 4. Create the new piece using the []-[] keys. The [0] key erases the piece on a square. The hyphen is then advanced to the next square automatically.
-
1. Switch BORIS Diplomat on.
 2. Press [RANK] to display the pieces set up on rank 1. Since you need to remove most of the pieces, press [CE] to clear the entire rank. Then press the [] key, creating a white rook on A1.
 3. Press [RANK] to advance to the second rank, then [CE] to clear the entire rank. Press [RANK] repeatedly to advance to the sixth rank.
 4. The hyphen is now used to locate pieces on the desired file. On each file, the hyphen starts out in the left-most square. Pressing [] moves the hyphen to the right. Remember that the [B/W] key can always be used to locate the hyphen without moving it. Press [] once to advance to file B on rank 6. Press [] to create a pawn on B6.
 5. Press [RANK] to advance to the seventh rank. Press [CE] to clear the rank. Press [B/W] to indicate that you now want to enter the Black pieces. Enter the two Black pawns by pressing [] twice.
 6. Press [RANK] to advance to the eighth rank, then [CE] to clear off the rank. Enter the Black king and bishop with the [] and [] keys. Press [B/W] to indicate that you now want to enter a White piece. Press [] to enter the White king.
 7. Press [RANK] again to exit from rank mode and return to play.
 8. Set the timer. BORIS Diplomat will solve any mate in two problem, but the time it may take varies. To be sure to allow enough, set the timer for a generous interval of several hours. As soon as BORIS Diplomat has found the mate sequence, his display stops flashing on the move that leads to mate.

To see the solution, press [B/W] and place the hyphen in the black position. Press [ENTER] to allow BORIS Diplomat to make White's move. Press [ENTER] again for Black's response, then [ENTER] again to see BORIS Diplomat make the actual move for checkmate.

Note: BORIS Diplomat solves this problem in less than two minutes. Other problems may take much longer, depending on the complexity of the position. In order to solve a mate in two problem, BORIS Diplomat may have to generate and evaluate thousands of moves. This will take anywhere from minutes to hours; thus we suggest setting BORIS Diplomat's timer to several hours to be sure to give him enough time to solve the particular problem.

Playing from a position

You may use the modifying technique to set up an arbitrary position, entering the pieces rank by rank as above. Set the hyphen for your side after completing changes, key in a move if it is your turn, and press [ENTER].

Correcting blunders

If you wish to change your last move after seeing BORIS Diplomat's response, you may move your piece back to its original square by using the modifying procedure. BORIS Diplomat does not perform his move until you enter your response, and cancels his last move when you begin to change the board. Modify the board to reflect your new move, and be sure the hyphen is set for your side after any changes are complete. Press [ENTER] to request BORIS Diplomat's new response and continue the game.

Using BORIS Diplomat as teacher

This feature is especially useful for students learning to play chess. Simply switch BORIS Diplomat on, press [B/W] then [ENTER] repeatedly, and BORIS Diplomat will make moves for one side, then the other. BORIS Diplomat will continue to play both sides as long as you keep pressing [ENTER]. A student can watch the way the pieces move, see which moves seem to work well, and which lead to disaster.

Asking BORIS Diplomat again

BORIS Diplomat is designed to provide some variety in his play in a position where he has several equally good responses. You may ask BORIS Diplomat to compute again on a position, to see if he responds differently, by pressing [CE] [B/W] [ENTER]

This cancels his last move, returns the hyphen to your side, and tells him to recompute on the same position as before.

Watching BORIS Diplomat compute

While BORIS Diplomat is analyzing the board, you can see the moves he is contemplating flashing in the display. He will select the best move he has reached when his response time has elapsed. Press [RANK] while he is thinking, and you can watch him moving the pieces while he is scanning for his best move. If he reaches a decision while you are still holding [RANK] he will automatically override the rank control and display his move.

Illegal moves

If BORIS Diplomat appears to make an illegal move, you and he have probably read a move differently. During play, be sure to wait for BORIS Diplomat to display his responses before you move his pieces; do not try to anticipate him, even on the most obvious capture moves. BORIS Diplomat may not have chosen an obvious move, and second-guessing may cause problems later in the game.

BORIS Diplomat's special display is designed to be viewed from directly in front of it. If you look at the display from an angle, it is possible to misread a board position and move a piece incorrectly. This will result in [♞] displayed at a valid later move, because the computer has the pieces at one position and you have them at another.

When illegal move confusion occurs, use the [RANK] key to view BORIS Diplomat's board and restore it to the position before the error occurred. Set the hyphen to your side, key in your move if it is your turn, and press [ENTER] to proceed correctly.

If BORIS Diplomat rejects your move as illegal, again be sure you and he do not disagree on the position. Remember BORIS Diplomat will not allow you to move your king into check or leave him there. Also, BORIS Diplomat will not allow you to move his pieces unless you use [B/W] to change sides, so be sure the hyphen is set for your side of the board. Of course, if you really have no legal moves, BORIS Diplomat has stalemated you and the game is a draw.

Underpromotion

BORIS Diplomat automatically promotes a pawn to a queen when it reaches the eighth rank. If you want to advance and promote a pawn to a lesser piece than a queen, you may perform your move by modifying the board. Press any move entry key to tell BORIS Diplomat you accept his last move, then modify the board to remove your pawn on the seventh rank and create the promoted piece on the eighth rank. Then press [ENTER] to tell BORIS Diplomat to compute his response.

Factory Service

If BORIS Diplomat does not perform as described and you are following the instructions, try using a different electrical outlet.

Play verification may be made by letting BORIS Diplomat play against himself as described in the instructions above. Verify that he makes legal moves for both sides. If a problem is still noted, record the events and moves leading to the problem and contact the factory by mail or phone.

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