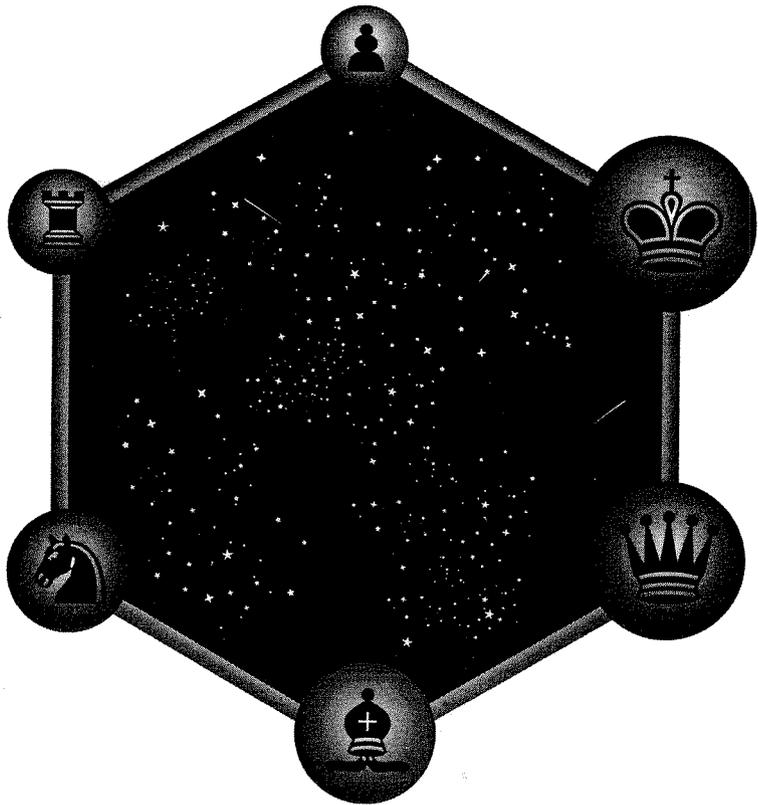


COSMOS

KASPAROV™

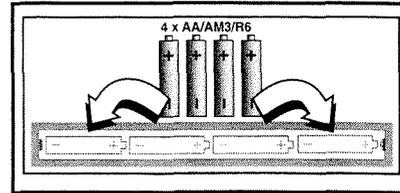
Instructions



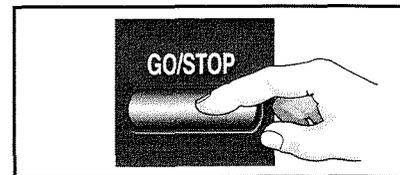
QUICK START

To play a game right away, without reading the entire manual first, simply follow these Quick Start steps!

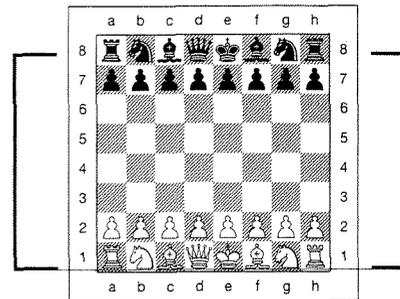
- 1** Open the battery cover in the base of the unit, slide the battery door in the direction of arrow to open it, and insert four "AA" (AM3/R6) alkaline batteries. Make sure to observe the correct polarity! Reinstall the battery door.



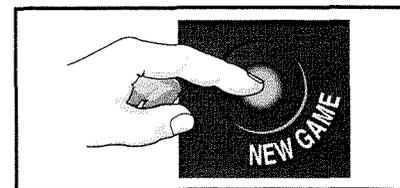
- 2** Press **GO/STOP** to turn the computer on. If the unit doesn't respond, reset it as noted in Section 7.1.



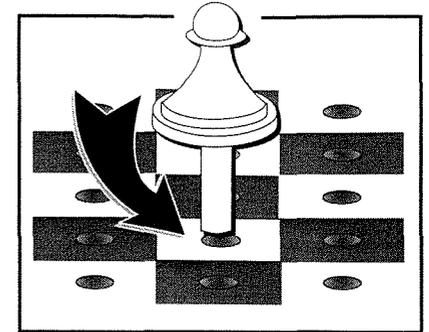
- 3** Set up the chess pieces in the initial starting position with the White pieces closest to you, as shown in this diagram.



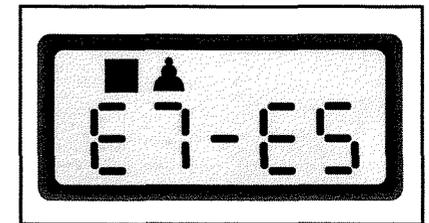
- 4** Press **NEW GAME** to reset the computer for a new game of chess.



- 5** Enter moves by making them on the board, pressing the pegged chess pieces down gently into the holes of the **from** and **to** squares for each move.



- 6** As soon as the computer makes a move, its move is shown in the display window. Two board lights also come on, pointing to the row and column of the piece to be moved. Press the computer's piece down on the indicated **from** and **to** squares to complete the computer's move. That's it!

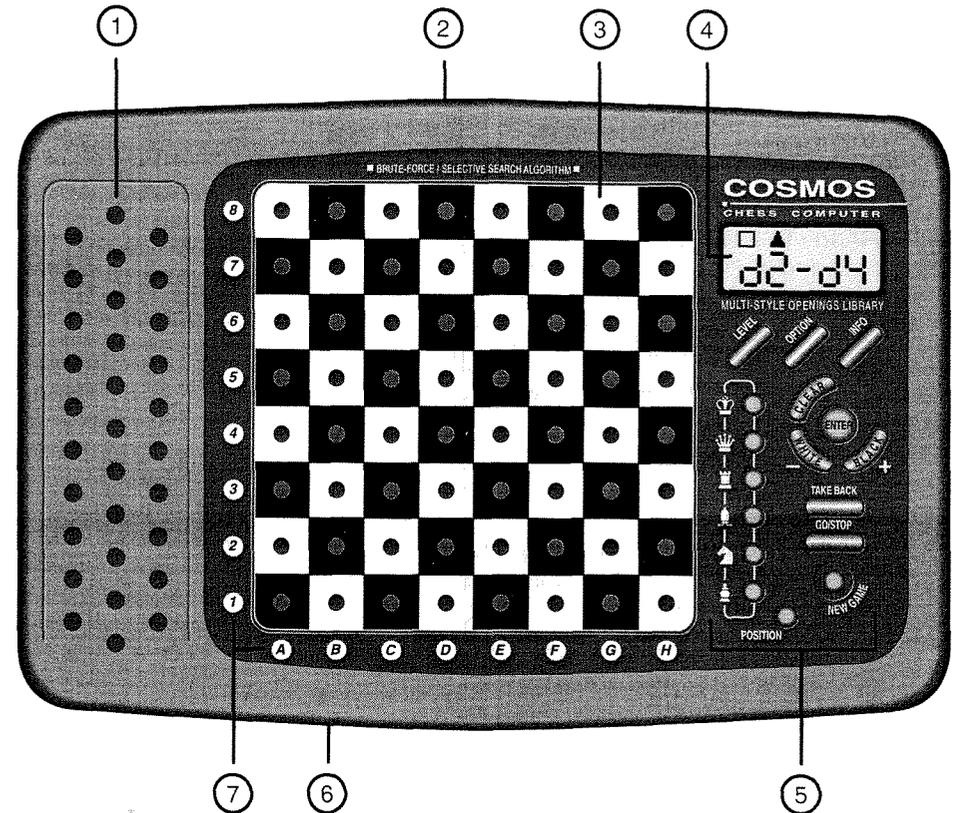


Make your next move as described above. Enjoy your game!

*Press **GO/STOP** at any time to turn the computer off. Your current position and game (up to 50 individual moves) will be stored in the computer's memory. When you switch back on again, you can continue playing right where you left off!*

KEYS AND FEATURES

1. **PIECE STORAGE AREA:** For piece storage and captured pieces.
2. **BATTERY COMPARTMENT:** In base of unit. Uses four "AA" (AM3/R6) alkaline batteries.
3. **SENSORY CHESSBOARD:** Each square contains a sensor that automatically registers piece movement. Certain squares can also be pressed to select playing levels and game options.
4. **DISPLAY WINDOW:** Used to show moves and move information during a game. Also used for level and option selection, piece verification, position set-up, and more.
5. **GAME KEYS**
 - **LEVEL:** Press to enter Level Mode; within Level Mode, press to skip over eight levels at a time.
 - **OPTION:** Press to enter Option Mode; within Option Mode, press to cycle through the main option groups.
 - **INFO:** Press to enter Info Mode; within Info Mode, press to cycle through the main info groups. Press during your move to request a hint.
 - **PIECE SYMBOL KEYS:** Used in Verify and Position Modes. Also used for pawn promotions.
 - **CLEAR:** Press to exit Option, Verify, and Position Modes. Press to clear Info Displays and cancel Clear Board requests in Position Mode. Press to cancel Level Mode if you decide not to make changes (unless you have pressed board squares to change levels).
 - **ENTER:** Press to change sides with the computer, and press while the computer is thinking to force it to move. Press to turn Option settings on and off, to select Bronstein Clock settings, and to exit Level Mode with your new playing level selected. Press to clear the board in Position Mode, then press again to confirm.
 - **WHITE/- and BLACK/+ KEYS:** Press to change levels one at a time in Level Mode, and to cycle through options in Option and Info Modes. Also used to set the color in Position Mode.



- **TAKE BACK:** Press to take back an individual move (a move for either side). Take back up to a maximum of 50 individual moves.
 - **GO/STOP:** Press to turn the unit on and off.
 - **NEW GAME:** Press to reset the computer for a new game of chess.
 - **POSITION:** Press to enter Position Mode.
6. **ACL (Reset):** In base of unit. Used to eliminate static discharge after inserting new batteries. Also resets the computer to default settings.
 7. **BOARD LIGHTS:** Used to show game moves, take back moves, and verify/set up board positions.
 - **COVER (not shown):** Protects unit from dust and keeps chess pieces in place during travel.

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TROUBLESHOOTING GUIDE

INTRODUCTION

We'd like to welcome you to the exciting world of computer chess! Whether you're just starting to learn about this great game or you're already a seasoned player, using your new chess computer will give you the opportunity to discover so much more about chess than you ever thought possible! Take a look through this manual to get an overview of your computer's capabilities—all the special features and modes, all the unique options and playing levels. And take advantage of them over time, one by one! You'll have great fun—and you'll never look at chess the same way again!

Your computer knows all the rules of chess—and it will never cheat! For those of you who haven't played before, we have included a brief overview of the rules to get you started. For more detailed information, why not visit your local library, where you're sure to find lots of interesting chess books!

1. LET'S GET STARTED!

1.1 First, Install the Batteries

Your computer runs on four "AA" (Type AM3/R6) batteries. Insert the batteries into the compartment in the base of the unit, making sure to observe the correct polarity. Use fresh alkaline batteries for longer battery life!

Turn the computer on by pressing **GO/STOP**, and a beep will signal that the game is ready to play. If the computer fails to respond (static

discharge may cause it to lock up), use a paper clip or another sharp object to press down into the hole marked **ACL** in the base of the unit for at least one second. This will reset the computer.

Tip: To conserve energy and extend battery life, turn on the Auto Power Down option (see Section 5.1).

1.2 Ready to Play? Here's How to Move!

Okay, now it's time to start a game! It's so easy—just follow these steps:

- Press **GO/STOP** to turn the computer on, if you haven't already done so.
- Press **NEW GAME** to reset the computer for a new game of chess. Set up the pieces in their starting positions, with the White pieces nearest to you, as shown in the *Quick Start*.
- To make a move, lightly press down on the piece you want to move until you hear a beep and two board lights turn on to indicate that square. The sensory board will recognize your piece automatically. Don't believe it? Just look at the display window, which is suddenly full of information—it shows your piece, along with the piece color and the square you just pressed!
- Take that piece and gently press it down into the hole of the square you are moving **to**. You'll hear a second beep as the computer confirms your move. That's it—you've just made your first move of the game! Next, it's Black's turn—and the computer will make its first move.

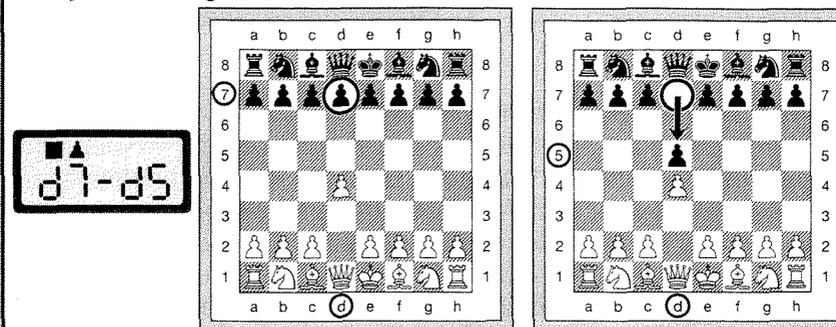
You'll notice that the computer often moves instantly at the beginning of a game, instead of taking time to think. This is because it is playing from memory, using a built-in "book" of opening moves (for more information, see Section 2.7).

1.3 Now It's the Computer's Turn

When the computer makes its move, it beeps and turns on two board lights indicating the square of the piece it wants to move. It also shows its full move in the display window. Check it out—you'll see the **from** and **to** squares of the computer's move, along with the color and type of piece it is moving. Notice that the **from** square is flashing in the display. Press the indicated piece down on the **from** square until you hear a beep. The **to** square is now flashing in the display—move that same piece to the indicated **to** square and press it down to complete the

MAKING THE COMPUTER'S MOVE: AN EXAMPLE!

After the computer moves, it's up to you to make its move on the board! Here, the display indicates the computer wants to move its Black pawn (♟) from **d7** to **d5**. Pick up the **d7** pawn (indicated by the board lights) and press it down lightly into the hole on **Square d7**. The board lights now point to **Square d5**. Press the pawn down into the hole on **Square d5** to complete the computer's move. Now it's your turn again!



computer's move. And it's your turn again...

See "**MAKING THE COMPUTER'S MOVE: AN EXAMPLE!**" for a how-to illustration!

By the way, while you're thinking about your next move, notice that the chess piece symbols are displayed, one by one, counting "up" from pawn to King. This means the built-in chess clock is in normal mode, counting your elapsed time. If the Countdown Clock is activated, as described in Section 5.1, the displayed symbols will reverse direction. You'll find details on all the chess clock features in Section 4.3!

1.4 Change Your Mind? Take Back!

When you're playing chess against this computer, nothing is "set in stone"—you can change your mind or decide to play a different move whenever you want! When it's your turn to move, simply press **TAKE BACK**. The display shows the move to be taken back, with the original

to square flashing and indicated by board lights. Press the piece down gently on the indicated square, and the computer shows you where that piece came **from** by flashing that display and using board lights to point to that square. Press the piece down on the **from** square to complete the take-back. Repeat this as often as you'd like, taking back up to 50 individual moves (or 25 moves for each side). To continue playing at any point, just make another move on the board!

After taking back a capture, the computer will make sure your board is still set up correctly by reminding you to put the captured piece back on the board! It displays the piece symbol, the location, and a "+" symbol, and turns on the board lights for that square. Put the indicated piece back on the board and press that square to complete the take-back.

1.5 Game Over? Why Not Play Again!

Whenever you finish a game (or if you give up on your current game), it's easy to start over again! Reset the computer to start another game by pressing **NEW GAME**, and a series of beeps tells you the computer is ready. The same playing level will be in effect, but you can change it if you'd like, as explained in Section 3.

IMPORTANT: Pressing **NEW GAME** clears your current game from the computer's memory—be careful not to press this key by mistake!

1.6 Too Easy/Hard? Change the Level!

When you first turn your computer on, it's automatically set to Normal Playing Level A4 (five seconds a move). However, you have 64 different levels to choose from—you'll want to try them all out! For descriptions of the playing levels and how to change levels, see Section 3.

2. MORE FEATURES TO EXPLORE

2.1 Whose Move? Check the Display!

When the computer plays Black, it flashes a black square in the display while it is thinking. After it has moved, a white square shows that it is now White's turn to move. You can tell at a glance if the computer is currently thinking, and which side is to move!

2.2 Special Chess Moves

Captures: To capture, press down on the piece you want to move,

NEED HELP CHOOSING A LEVEL? SOME TIPS FOR YOU!

- **Are you a beginning player?** You have lots of choices! Check out the Fun Levels, the lower Training Levels, or the Self-Adaptive Weak Levels. These levels all restrict the computer's search depth in different ways, resulting in weaker play and giving you the chance to learn more about the game and perhaps even beat the computer occasionally!
- **Are you an intermediate or more advanced player?** Try the Normal, Training, or Tournament Levels. The Normal Levels range from easy all the way up to a difficult 10-minute response time, and the Tournament Levels are extremely challenging. And don't forget to try the Blitz Levels for some fast and exciting games of Speed Chess! By the way, for Tournament and Blitz Games, you can activate the built-in Bronstein Clock, as you'll see in Section 5.4!
- **Want to experiment?** Use the Mate Search Levels to solve problems up to mate in eight—try searching from a position in one of your own games, or set up an actual mate problem. Choose the Infinite Level to have the computer analyze complicated positions for hours or even days!

remove the captured piece from the board, and press your piece down on the square of the captured piece. Captures are displayed as in E5×F4.

En Passant Captures: In this type of capture, the computer reminds you to remove the captured pawn by displaying the pawn's position, along with a minus sign, and using two board lights to indicate that square. Press down on the captured pawn before removing it from the board.

Castling: The computer automatically recognizes castling after the King is moved. After you have pressed the King down on its **from** and **to** squares, the computer uses the display and board lights to remind you to move the Rook. Press down on the Rook's **from** and **to** squares to complete the move. Note that Kingside castling is displayed as ♖-♗, and Queenside castling as ♖-♖-♗.

Pawn Promotions: When you promote a pawn, first make your move as usual, pressing your pawn down on its **from** and **to** squares. Next, press the Piece Symbol Key for your desired promotion piece (♙, ♚, ♜, ♝, ♞, ♟, or ♠). The computer recognizes your new piece immediately, and begins thinking about its next move. Remember to change your piece on the board! **When the computer promotes a pawn**, the display shows both the pawn and the promoted piece. Don't forget to replace the computer's pawn with its new piece.

2.3 Illegal Moves

Your computer will never accept an illegal move! If you try to make one, you'll hear a low double beep, and the board lights and display will simply continue to show the square the piece came **from**. Either move that same piece to another square, or press the piece back down on the original **from** square and move a different piece.

If you don't make the computer's move correctly, you'll also get an error beep. This means you are moving the wrong piece, or moving the computer's piece to the wrong square. If the computer wants to move its pawn from C7 to C5, for example, and you press down on C7 and then C6, the display shows C5 briefly, pointing out your error. The display then returns to showing the move again (C7-C5), and the computer expects you to press C5 to complete its move.

If you press down on a piece and the **from** square is displayed, but you decide not to make that move, simply press down on that same square again to cancel. Then make another move. If you change your mind after entering your whole move, take the move back as described in Section 1.4.

2.4 Check, Mate, and Draw

When a King is in check, the computer first displays its move as usual. After the move is made, CHECK flashes in the display for a few seconds, along with the checking move. The display then goes back to showing the clock.

If the computer discovers a forced mate against its opponent, it first displays its move as usual. After the move has been made on the board, the computer flashes a mate announcement along with the move for several seconds (e.g., ♜ in 2 for a mate in two moves). The display then goes back to showing the clock.

When a game ends in checkmate, the display flashes MATE (along with the mating move) for a short time after the move is made. The

display then goes back to showing the clock.

The computer recognizes draws by stalemate, three-fold repetition, and the 50-move rule and insufficient material. After a draw has occurred, the display flashes End, End:3, End:50, or End: In, (along with the drawing move) for a brief time after the move has been made. The display then goes back to showing the clock.

2.5 Interrupting the Computer's Search

Think the computer is taking too long to move? You can interrupt it any time! Simply press **ENTER** while the computer is thinking, and it will stop and play the best move it has found so far. This feature can be handy on the higher levels, where the computer can take a long time to move, and on the Infinite Level, where the computer thinks indefinitely unless you stop it.

*On the Mate Search Levels, pressing **ENTER** won't force the computer to make a move. Instead, the computer will sound an error beep and display - - - - to indicate that it was interrupted before it found a mate. To continue play, switch to another level.*

2.6 Changing Sides with the Computer

To change sides with the computer, simply press **ENTER** when it's your turn—and the computer will make the next move for your side. Change sides as often as you wish!

*Noted that if you press **ENTER** at a new game, computer will play White from top (see also Section 5.1).*

2.7 Built-In Openings

At the beginning of a game, the computer will often move instantly on many levels. This is because it is playing from memory, using its own built-in "book" of opening chess moves. This book contains thousands of positions, including most major openings and many positions from grandmaster play. If the current board position is in its book, the computer plays a response to that position automatically, instead of having to think about the move!

A special feature of this computer's opening book is its ability to handle *transpositions*. A transposition occurs when a position reached by a certain set of moves can also be reached when those same moves occur in a different order. The computer's integrated Automatic Transposition Manager handles these cases with ease!

Also included is a unique user-selectable book feature, which lets

you choose from different types of opening books, or even turn the book off, if desired. For complete details, see Section 5.2.

2.8 Thinking on the Opponent's Time

As you play, you may notice that the computer sometimes replies to your moves immediately, even in the middle of games played on the higher levels. This is because the computer thinks on your time, using the time you are taking for your move to think ahead and plan its own strategies. It tries to guess the move you are likely to make, and then calculates its responses for that particular move while you are still thinking. If the computer has guessed right, there's no reason for it to keep on calculating—it immediately plays the move it has already found!

To disable this feature, turn on the Easy Mode option, as described in Section 5.2.

2.9 Game Memory

Press **GO/STOP** at any time to interrupt a game. Play is then suspended, and the computer stores your current game in memory (up to 50 individual moves). When you switch back on again, you can continue right where you left off!

3. THE PLAYING LEVELS

Your chess computer offers 64 different levels of play! When you set the level, keep in mind that when the computer has more time to think about its moves, it becomes stronger and plays better—just like a human chess player! For an overview of all the levels, refer to the Level Chart. The levels are also described individually in this section.

Setting a Playing Level

See "**USE THIS CHART TO SELECT A PLAYING LEVEL!**" for an illustrated look at how to set a level and a chart showing all the levels at a glance.

There are two methods of setting levels—by using the game keys or pressing the board squares. Whichever method you use, always press **LEVEL** first to enter Level Mode, and the computer will display the current playing level. When you enter Level Mode the first time, the

computer is set on Normal Playing Level A4 (with an average response time of five seconds a move), and the display shows L 0:05.

- **To select a level by using game keys:** After entering Level Mode by pressing **LEVEL**, change levels one at a time by using the **BLACK/+** and **WHITE/-** keys. As a shortcut, press **LEVEL** repeatedly to skip over eight levels at a time. When the display shows your desired level, press **ENTER** to enter your new level into the computer and exit Level Mode.
- **To select a level by pressing board squares:** As shown in the Level Chart, each of the 64 squares corresponds to one level. After entering Level Mode by pressing **LEVEL**, take a chess piece and press the desired square to activate a level, using the chart as a guide. When you press down on your chosen square and that level shows in the display, press **ENTER** to enter your new level into the computer and exit Level Mode. *Note that when making your selection via the board squares, pressing **CLEAR** has the same effect as pressing **ENTER**—it enters your level into the computer.*
- **To verify the level without changing it:** If you press **LEVEL** to verify the level but you don't want to actually change levels, press **CLEAR**. This returns you to normal play without changing the level or clock settings, even while the computer is thinking.

Other important points to remember regarding levels:

- *Changing the level always resets the chess clocks.*
- *We don't recommend changing levels while the computer is thinking, since the clock is reset and the current search is aborted. If you must do this, first press **ENTER** to abort the computer's search, and make its move on the board. Then, take back the computer's move and change the level. Finally, press **ENTER** to make the computer start thinking on the new level.*

3.1 Normal Playing Levels (Squares A1-B7)

LEVEL	TIME PER MOVE	DISPLAY
A1	1 second	L 0:01
A2	2 seconds	L 0:02
A3	3 seconds	L 0:03
A4	5 seconds	L 0:05
A5	10 seconds	L 0:10
A6	15 seconds	L 0:15
A7	20 seconds	L 0:20
A8	30 seconds	L 0:30

USE THIS CHART TO SELECT A PLAYING LEVEL!

1.  Press LEVEL to enter Level Mode.

2. Next, select your level, using the chart on the right. There are two ways to do this, as follows.

- Cycle through the levels until your level is displayed:
 - Press **BLACK/+** to increase ↑ levels by one.
 - Press **WHITE/-** to decrease ↓ levels by one.
 - Press **LEVEL** to increase ↑ levels by eight.
- **OR**, simply locate your level square and press one of the pegged chess pieces down into the hole to display that level!

3.  Finally, press ENTER to exit Level Mode, using your new level!

30 sec. per move L 0:30 A8	Infinite Level 9:99:99 B8	40 moves in 3:00 3:00:40 C8	90 min. per game 1:30:99 D8	*8 sec. per move Fun: 8 E8	Mate in 8 moves Fin: 8 F8	8 ply search PLY: 8 G8	Self- adaptive 8 Rdt: 8 H8
20 sec. per move L 0:20 A7	10 min. per move L 10:00 B7	50 moves in 2:00 2:00:50 C7	60 min. per game 1:00:99 D7	7 sec. per move Fun: 7 E7	Mate in 7 moves Fin: 7 F7	7 ply search PLY: 7 G7	Self- adaptive 7 Rdt: 7 H7
15 sec. per move L 0:15 A6	5 min. per move L 5:00 B6	45 moves in 2:30 2:30:45 C6	45 min. per game 0:45:99 D6	6 sec. per move Fun: 6 E6	Mate in 6 moves Fin: 6 F6	6 ply search PLY: 6 G6	Self- adaptive 6 Rdt: 6 H6
10 sec. per move L 0:10 A5	3 min. per move L 3:00 B5	40 moves in 2:00 2:00:40 C5	30 min. per game 0:30:99 D5	5 sec. per move Fun: 5 E5	Mate in 5 moves Fin: 5 F5	5 ply search PLY: 5 G5	Self- adaptive 5 Rdt: 5 H5
5 sec. per move L 0:05 A4	2 min. per move L 2:00 B4	35 moves in 1:30 1:30:35 C4	20 min. per game 0:20:99 D4	4 sec. per move Fun: 4 E4	Mate in 4 moves Fin: 4 F4	4 ply search PLY: 4 G4	Self- adaptive 4 Rdt: 4 H4
3 sec. per move L 0:03 A3	1.5 min. per move L 1:30 B3	40 moves in 1:45 1:45:40 C3	15 min. per game 0:15:99 D3	3 sec. per move Fun: 3 E3	Mate in 3 moves Fin: 3 F3	3 ply search PLY: 3 G3	Self- adaptive 3 Rdt: 3 H3
2 sec. per move L 0:02 A2	1 min. per move L 1:00 B2	35 moves in 1:45 1:45:35 C2	10 min. per game 0:10:99 D2	2 sec. per move Fun: 2 E2	Mate in 2 moves Fin: 2 F2	2 ply search PLY: 2 G2	Self- adaptive 2 Rdt: 2 H2
1 sec. per move L 0:01 A1	45 sec. per move L 0:45 B1	40 moves in 1:30 1:30:40 C1	5 min. per game 0:05:99 D1	1 sec. per move Fun: 1 E1	Mate in 1 move Fin: 1 F1	1 ply search PLY: 1 G1	Self- adaptive 1 Rdt: 1 H1


 NORMAL LEVELS +
INFINITE LEVEL


 TOURNAMENT
LEVELS


 BLITZ
LEVELS


 FUN
LEVELS


 MATE SEARCH
LEVELS


 TRAINING
LEVELS


 SELF-ADAPTIVE
WEAK LEVELS

*Increase as user's time per move.
For more details, see Section 3.

B1	..... 45 seconds	..... L	0:45
B2	..... 1 minute	..... L	1:00
B3	..... 1.5 minutes	..... L	1:30
B4	..... 2 minutes	..... L	2:00
B5	..... 3 minutes	..... L	3:00
B6	..... 5 minutes	..... L	5:00
B7	..... 10 minutes	..... L	10:00

When you choose one of the Normal Playing Levels, you are selecting an average response time for the computer. Note that the times are averaged over a large number of moves. In the opening and endgame, the computer tends to play faster, but in complicated middlegame positions, it may take longer to move.

3.2 Infinite Level (Square B8)

LEVEL	MOVE TIME	DISPLAY
B8	..... No time limit	..... 9:99:99

On the Infinite Level, the computer will search indefinitely, until it finds a forced mate or forced move; until it has fully searched the position to its maximum depth; or until you press **ENTER** to stop the search. If you halt the search, the computer makes the move it currently thinks is best.

Try experimenting with this level—set up some interesting board positions and let the computer analyze them for you. It will think for hours or even days on end, trying to come up with the best possible move! And don't forget to watch the computer as it thinks—take advantage of the unique Rotating Display feature described in Section 5.3!

3.3 Tournament Levels (Squares C1-C8)

LEVEL	TOTAL TIME / NUMBER OF MOVES	DISPLAY
C1	..... 1 hr. 30 min. / 40 moves	..... 1:30:40
C2	..... 1 hr. 45 min. / 35 moves	..... 1:45:35
C3	..... 1 hr. 45 min. / 40 moves	..... 1:45:40
C4	..... 1 hr. 30 min. / 35 moves	..... 1:30:35
C5	..... 2 hrs. / 40 moves	..... 2:00:40
C6	..... 2 hrs. 30 min. / 45 moves	..... 2:30:45
C7	..... 2 hrs. / 50 moves	..... 2:00:50
C8	..... 3 hrs. / 40 moves	..... 3:00:40

The Tournament Levels require you to make a certain number of moves within a given amount of time. If a player exceeds the allotted time for a given number of moves, the computer flashes "time" (⌘ TIME) along with the elapsed time, to show that the game is over. If you wish, you can continue to play even after the time has run out.

If you choose a Tournament Level, you may want to set the clocks to display countdown time instead of elapsed time (see Section 5.1). When game time runs out, the countdown clock automatically reverts back to the normal clock display.

Your computer also offers the option of using Bronstein Clock time controls when playing Tournament games! For complete details, see Section 5.4.

3.4 Blitz Levels (Squares D1-D8)

LEVEL	TIME PER GAME	DISPLAY
D1	..... 5 minutes	..... 0:05:99
D2	..... 10 minutes	..... 0:10:99
D3	..... 15 minutes	..... 0:15:99
D4	..... 20 minutes	..... 0:20:99
D5	..... 30 minutes	..... 0:30:99
D6	..... 45 minutes	..... 0:45:99
D7	..... 60 minutes	..... 1:00:99
D8	..... 90 minutes	..... 1:30:99

On the Blitz Levels (also called Speed Chess or "Sudden Death" Levels), you set the total time for the whole game. If game time is exceeded, the computer flashes "time" (⌘ TIME) along with the elapsed time, to show that the game is over.

If you select a Blitz Level, you may want to set the chess clocks to display countdown time instead of elapsed time (see Section 5.1). When game time runs out, the countdown clock automatically reverts back to the normal clock display.

Your computer also offers the option of using Bronstein Clock time controls when playing Blitz games! For complete details, see Section 5.4.

3.5 Fun Levels (Squares E1-E8)

LEVEL	TIME PER MOVE	DISPLAY
E1	..... 1 second	..... Fun: 1
E2	..... 2 seconds	..... Fun: 2
E3	..... 3 seconds	..... Fun: 3
E4	..... 4 seconds	..... Fun: 4
E5	..... 5 seconds	..... Fun: 5
E6	..... 6 seconds	..... Fun: 6
E7	..... 7 seconds	..... Fun: 7
E8	..... *8 seconds	..... Fun: 8

*Increase as user's time per move.

Are you a novice or beginning chess player? If so, these levels are especially for you! Here, the computer restricts its search so that it deliberately plays weaker and gives you a better chance to win!

The Fun Levels start out easy and get a little harder as you go. The computer's playing strength goes up gradually from Levels E1 to E6—but be prepared for some stiffer competition when you reach Levels E7 and E8! These two highest Fun Levels represent a much greater jump in playing strength, and you'll notice that they're quite a bit more challenging. Try out all the Fun Levels—as you beat each one, go on to the next! By the time you reach Levels E7 and E8, your improved chess skills should make them much easier to handle!

3.6 Mate Search Levels (Squares F1-F8)

LEVEL	PROBLEM	DISPLAY
F1	Mate in 1	♠ in: 1
F2	Mate in 2	♠ in: 2
F3	Mate in 3	♠ in: 3
F4	Mate in 4	♠ in: 4
F5	Mate in 5	♠ in: 5
F6	Mate in 6	♠ in: 6
F7	Mate in 7	♠ in: 7
F8	Mate in 8	♠ in: 8

Selecting one of these levels activates a special Mate Finder Program. If you have a position where there may be a mate and you would like the computer to find it, set the computer on one of the Mate Search Levels. Your computer can solve mates in up to eight moves. Mates in one to five are usually found quite quickly, whereas solutions taking six to eight moves may take quite some time. If there is no mate present or the computer can't find a mate, it will sound an error beep and display a series of dashes (-----). To continue play, simply switch to another level.

3.7 Training Levels (Squares G1-G8)

LEVEL	SEARCH DEPTH	DISPLAY
G1	1 move	PLY: 1
G2	2 moves	PLY: 2
G3	3 moves	PLY: 3
G4	4 moves	PLY: 4
G5	5 moves	PLY: 5

G6	6 moves	PLY: 6
G7	7 moves	PLY: 7
G8	8 moves	PLY: 8

On the Training Levels, the computer's search depth is limited to a certain number of moves, as shown above. As you cycle through the levels, the computer displays PLY: # for each level. A "ply" is an individual move (a move for either side), and "#" is the number representing the search depth. For example, on Level G1, the computer searches to a depth of one ply (PLY: 1), and thus looks ahead only one individual move. On this level, therefore, it will often overlook a mate in one. This produces weaker play, giving beginners a better chance of beating the computer!

3.8 Self-Adaptive Weak Levels (Squares H1-H8)

LEVEL	TYPE	DISPLAY
H1	Self-Adaptive 1	Rdt: 1
H2	Self-Adaptive 2	Rdt: 2
H3	Self-Adaptive 3	Rdt: 3
H4	Self-Adaptive 4	Rdt: 4
H5	Self-Adaptive 5	Rdt: 5
H6	Self-Adaptive 6	Rdt: 6
H7	Self-Adaptive 7	Rdt: 7
H8	Self-Adaptive 8	Rdt: 8

The Self-Adaptive Weak Levels are perfect for players who are just starting out! Here, beginners have the chance to interact with the computer on eight weakened levels of varying ELO rating strengths, and the computer's strength is adjusted to match that of the player. Not sure what an ELO rating is? It's a way of measuring chess performance! Chess ratings are usually four-digit numbers, with stronger players having higher ratings. Towards the upper end of the scale, masters rank in at 2200 and above. Just for your information, on some of its stronger levels, your computer is rated at over 2000 ELO!

Since these Self-Adaptive Weak Levels are meant especially for beginners, however, here the computer will set its playing strength to a deliberately weakened setting of about -350 ELO on the lowest level (H1). On the other end, Level H8 matches the player's strength by putting the ELO difference at zero. As you play, the computer will try to keep this difference constant. That is, if you play badly, the computer will not play well either—but it will fight to win back material it has lost to you, if necessary. On the other hand, if you play stronger, the computer

will also play stronger. Work your way up!

4. INFO MODE: WATCH THE COMPUTER THINK!

Imagine this: You're playing chess against a friend, and it's his move. You'd love to know what move he's thinking about, and you'd really like to get his opinion of the board position. But, of course, you won't ask—because that's just not done! Well, guess what—when you play against this chess computer, you can ask anything you want, and you'll get all the answers! In fact, you can get an incredible amount of information about the computer's thought process. On request, it will show you the move it's thinking of, the line of play it expects after that move, its evaluation of the current board position, how deeply it is searching, and more. As you can imagine, studying this information can help you learn so much more about chess!

Using Info Mode

How do you access all this game information? By using Info Mode at any time! If you do this while the computer is thinking, you'll see the information displays change as the computer considers different moves and searches deeper!

See **"INFO MODE AT A GLANCE!"** for a chart summarizing all the Info Mode displays.

Game information is divided into four groups, and pressing **INFO** cycles from one group to another. The **BLACK/+** and **WHITE/-** keys can be used to cycle forward and backward respectively the displays within each of the groups. Press **CLEAR** to exit Info Mode and go back to showing the normal chess clock.

After learning about Info Mode, take a look at Section 5.3 for a description of the Rotating Display feature. Selecting this feature makes the computer automatically cycle through the requested information in one-second intervals every time it thinks about its move—you can actually watch the computer *think out loud!*

Whenever requested information is not available, the display will show dashes (----).

4.1 Principal Variation

Press **INFO** the first time to get information on the principal variation

INFO MODE AT A GLANCE!

PRINCIPAL VARIATION INFO:

	x1	• Move 1 (predicted line of play)			
		↑	• Move 2 (predicted line of play)		
		↓	• Move 3 (predicted line of play)		
			• Move 4 (predicted line of play)		
			• Move 5 (predicted line of play)		
			• Move 6 (predicted line of play)		

SEARCH INFO:

	x2	• Evaluation of current position			
		↑	• 2 numbers: Search depth + number of moves examined so far		
		↓	• Current move under consideration		
			• Positions searched per second		

CHESS CLOCK INFO:

	x3	• Elapsed time since last move			
		↑	• Total elapsed time for White		
		↓	• Total elapsed time for Black		
			• Remaining time for White*		
			• Remaining time for Black*		

*Blitz/Tournament Levels only

MOVE COUNT INFO:

	x4	• Current move number made so far			
		↑			
		↓	• Moves of the current game		

Press  at any time to exit Info Mode.

For more details, see Section 4.

(the predicted line of play, or the sequence of moves the computer thinks will be made). The first display you will see is the move the computer is currently thinking of making. *Notice that the move is shown in the display, and the lights for the **from** and **to** squares for that move also flash alternately.* This principal variation is shown to a maximum depth of six individual moves. Press **BLACK/+** repeatedly to cycle forwards all the moves:

- Move 1 (predicted line of play)
- Move 2 (predicted line of play)
- Move 3 (predicted line of play)
- Move 4 (predicted line of play)
- Move 5 (predicted line of play)
- Move 6 (predicted line of play)

Press **WHITE/-** to back up and see previous displays again. Press **CLEAR** to return to the normal clock display.

*Since the first move of the predicted line of play is the move the computer assumes you will make, you can also consider this move as a hint! So—whenever you need help, press **INFO** on your turn!*

4.2 Search Information

Press **INFO** a second time to get information on the computer's search! Press **BLACK/+** repeatedly to cycle forwards the four displays:

- Evaluation of the current position (based on a pawn being worth 1.0 points; a positive number indicates White is ahead)
- Two numbers: The first is the current search depth, or the number of individual moves the computer is looking ahead; the second is the number of moves the computer has examined so far
- The move currently being considered
- The search speed, or number of positions (nodes) being searched every second

Press **WHITE/-** to cycle backwards and see previous displays again. Press **CLEAR** to return to the normal clock display.

4.3 Chess Clock Information

Press **INFO** a third time for chess clock information. The chess clocks keep track of the time for both sides. Press **BLACK/+** repeatedly to cycle forwards the clock displays:

- Elapsed time since the last move was made
- Total elapsed time for White
- Total elapsed time for Black

- Remaining time for White (*Blitz/Tournament Levels only*)
- Remaining time for Black (*Blitz/Tournament Levels only*)

Press **WHITE/-** to back up and see previous displays again. Press **CLEAR** to return to the normal clock display.

The clocks stop whenever you take back a move or set up a new position. However, the times are retained in memory, and the clocks resume as soon as play is continued. Whenever you change levels or press **NEW GAME**, the chess clocks are always reset.

During the game, a clock showing elapsed time displays the piece symbols one by one, from pawn to King. A clock showing countdown time shows the symbols going in the other direction, from King to pawn.

4.4 Move Count/Game Moves

Press **INFO** a fourth time to show the move number in the game so far. Pressing **WHITE/-** repeatedly will cycle back through the moves of your game (up to 50 individual moves).

- Current move number made so far
- Moves of the current game

Press **BLACK/+** to go forward through the moves again at any point. Press **CLEAR** to return to the normal clock display.

4.5 Want a Hint? Just Ask!

In case you missed this feature when it was mentioned in Section 4.1, we wanted to point it out again—if you ever need advice on a move, you can always ask the computer for a hint. Simply press **INFO** when it's your turn to move, and the computer will show a suggested move for your side!

5. OPTIONS FOR FUN AND VARIETY

In addition to all the features you've learned about so far, your chess computer also offers many other exciting game options! All of these options are user-selectable at any time during a game. They are described individually in this section, and summarized in the Option Mode Chart.

Selecting Game Options

There are two methods of setting options, as described below—by using the game keys or pressing board squares.

See "**THE BASICS OF OPTION MODE: HERE'S HOW!**" for a chart summarizing how to use Option Mode, and an overview of all the options.

The Game Options are divided into four groups: *Operation Mode*, *Playing Mode*, *Rotating Display Mode*, and *Bronstein Clock Options*. Pressing **OPTION** cycles from one group to another, and each group contains a different set of options.

- **For Operation Mode, Playing Mode, and Rotating Display Mode options**, the **BLACK/+** and **WHITE/-** keys are used to cycle through the options within each group. For each option, a plus (+) in the display indicates the option is ON, and a minus (-) means the option is OFF. Press **ENTER** to turn each option on or off as it is displayed.
- **For Bronstein Clock Options**, press **ENTER** to cycle through the different clock options. The clock option you choose to display will be the selected time control when you exit Option Mode. If you decide not to activate the Bronstein Clock after all, simply press **ENTER** repeatedly until the display once again shows -br on.(see Section 5.4).

After you have made all your option selections from any or all of the option groups, press **CLEAR** to return to normal game play.

Another method of selecting game options is by **pressing the option squares**. As shown in the Options Chart, Squares A1-H1, A2-H2, A3-H3, and A4 can be used to turn options on and off. First, press **OPTION** to enter Option Mode; then take a chess piece and press the desired square to access any option, using the chart as a guide.

- **For Operation Mode, Playing Mode, and Rotating Display Mode options**, pressing the square repeatedly turns that option on and off, with plus (+) for ON and minus (-) for OFF.
- **For Bronstein Clock Options**, pressing Square A4 repeatedly selects your desired clock setting.

After making your selections, press **CLEAR** to return to your game.

When the computer is first powered on, certain default options are set. Options which are automatically in effect at the first startup are shown in the chart with a plus; options which are off are shown with a minus. When you reset for a new game, most of your selected options are carried over to your next game. Some exceptions are Auto Answer, which is automatically set back to ON when you start a new game, and Play White from the Top, which is set back to OFF.

5.1 Operation Mode Options (Squares A1-H1)

Press **OPTION** once to select the **Operation Mode Options**. Then use the **BLACK/+** and **WHITE/-** keys to select options within this group, and press **ENTER** to turn options on (+) or off (-). Or, simply press the option squares to turn options on or off.

a. Auto Answer Mode (Square A1)

On: +RUBO Off: -RUBO

Normally, the computer automatically answers with a countermove whenever you enter a move. If you turn Auto Answer off, however, you can enter any number of moves one by one, without allowing the computer to answer. You'll see that there are many great ways to use this feature!

- *Play through master games. Press **ENTER** to see what the computer would do in any position!*
- *Keep records of your own chess games. When a game is over, play to any position to see how other moves or different strategies might have affected the outcome.*
- *Study opening lines by entering them manually!*
- *Play against a friend, with the computer acting as referee. It will monitor your game, checking all moves for legality and keeping track of time for both sides!*

When playing against another person, if either side should need help, press **INFO** to see a suggested move. To see what the computer would do in a certain position, press **ENTER** and the computer will make the next move. After it has made its move, Auto Answer remains off, and you may continue your game.

Note that this option will automatically go back to its default setting of ON whenever you press **NEW GAME**.

b. Sound with Keypress (Square B1)

On: +5ND Off: -5ND

This option lets you turn off the sound that accompanies each keypress. You will still hear beeps when the computer moves or when an illegal move or keypress is made, or when **NEW GAME** is set.

c. Silent Mode (Square C1)

On: +5IL Off: -5IL

Normally, the computer always beeps when it has found its move. For completely silent operation, turn on Silent Mode.

THE BASICS OF OPTION MODE: HERE'S HOW!

1. Press **OPTION** repeatedly to select a Mode. 

 x1 = OPERATION MODE (Auto...)

 x2 = PLAYING MODE (SEL...)

 x3 = ROTATING DISPLAY MODE (rd: l...)

 x4 = BRONSTEIN CLOCK (bron...)

 x5 = back to OPERATION MODE...

2. Next, select your option(s), using the Option Chart below. There are two ways to do this.

- Cycle through the options within that mode:
 - Press **BLACK/+** to cycle forward \rightarrow .
 - Press **WHITE/-** to cycle backward \leftarrow .
 - When your option is displayed, press **ENTER** to toggle it on (+) or off (-).
(For the Bronstein Clock, press **ENTER** repeatedly to select a time setting.)

- **OR**, simply locate your option square and press one of the pegged pieces down into the hole to toggle that option on (+) or off (-).
(For the Bronstein Clock, press **Square A4** repeatedly to select a time setting.)

3. Finally, press **CLEAR** to exit Option Mode, using your new option(s)! 

BRONSTEIN CLOCK OPTIONS	A5 Bronstein Clock \rightarrow +b0:01 \rightarrow +b0:02 \rightarrow +b0:03 \rightarrow +b0:05 \rightarrow +b0:10 \rightarrow +b0:20 \rightarrow +b0:30 -bron							
	A4	B4	C4	D4	E4	F4	G4	H4
ROTATING DISPLAY OPTIONS	Variation to ply 1 -rd:1	Variation to ply 2 -rd:2	Variation to ply 3 -rd:3	Variation to ply 4 -rd:4	Position Evaluation -rd:E	Depth & Moves -rd:d	Nodes Searched -rd:n	Time per Move -rd:t
	A3	B3	C3	D3	E3	F3	G3	H3
PLAYING MODE OPTIONS	Selective/Brute Force +SEL	Easy Mode -ERSY	Random Play -rand	Book On/Off +book	Full Book -bf:FL	Passive Book -bf:PB	Active Book -bf:dt	Tournament Book -bf:tn
	A2	B2	C2	D2	E2	F2	G2	H2
OPERATION MODE OPTIONS	Auto Answer +Auto	Sound with Keypress +snd	Silent Mode -sil	Coach Mode -coach	Ticking Clock -tic	Countdown Clock -c:dn	Play White from Top -top	Auto Power Down -apd
	A1	B1	C1	D1	E1	F1	G1	H1

For more details, see Section 5.

d. Coach Mode (Square D1)

On: +[C]o:ch Off: -[C]o:ch

Selecting +[C]o:ch turns on special coaching features that encourage you to concentrate on your strategic planning! In Coach Mode, the computer looks over your shoulder while you play, watching what you do and helping you when you need assistance! In this unique "Guardian Angel" capacity, the computer will warn you with a Capture Alert if you are in danger of losing a piece. If one of your pieces is threatened by a lesser valued piece, for example, the computer will sound a series of warning beeps and flash the board lights of the threatened piece for a few seconds. To continue the game, make your next move (or take back your last move and make a different one).

With Coach Mode on, the computer will also sound a Tactical Alert if it thinks you have committed a blunder and your move is about to lead to an avoidable material loss. It does this by sounding a series of warning beeps and flashing the move it intends to make. You can either enter the computer's move, or take back your own move and make another one.

e. Ticking Clock (Square E1)

On: +[E] i:c Off: -[E] i:c

When you turn this option on, you activate a ticking sound that makes the computer's clock sound like a real chess clock! Just imagine—you can create the atmosphere of a championship chess tournament in your own living room!

f. Countdown Clock (Square F1)

On: +[C] :d:n Off: -[C] :d:n

Turning this option on causes the computer to display the countdown time instead of the elapsed time. Notice that the piece symbols also reverse direction, counting "down" from King to pawn. *This option is only available in combination with the Tournament and Blitz Levels.*

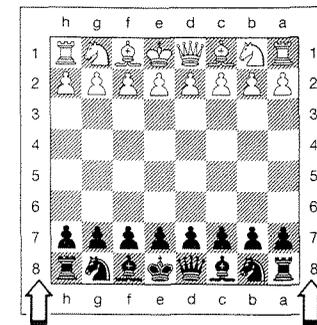
g. Play White from the Top (Square G1)

On: +[E] o:P Off: -[E] o:P

Want to depart from the usual standard and let the computer play the White pieces from the top of the board? Then try out this interesting option! Choose +[E] o:P at the beginning of a new game, and set up the board with the Black pieces closest to you, as shown in the diagram in this section. Then, press **ENTER** to start the game. Watch as the computer makes the first move for White from the top of the board!

**PLAYING BLACK FROM THE BOTTOM?
HERE'S THE POSITION!**

When the computer plays White from the top (Section 5.1, Option G1), be sure to set up the pieces correctly! Notice that the Kings and Queens are positioned differently, and the board notation is reversed.



See "**PLAYING BLACK FROM THE BOTTOM? HERE'S THE POSITION!**" for a diagram showing the correct piece set-up when using this option.

When the computer plays White from the top, board notation is automatically reversed. Additionally, this option will go back to its default setting of OFF when you start a new game.

h. Auto Power Down (Square H1)

On: +[P] o:d Off: -[P] o:d

Auto Power Down option is a handy battery-saving feature. With this option activated, the computer will automatically turn itself off if no keypresses or moves are made for about 15 minutes. To continue the game where you left off, press **GO/STOP** to turn the unit back on. *Note that the computer will not turn itself off while it is thinking about a move.*

5.2 Playing Mode Options (Squares A2-H2)

Press OPTION twice to select the Playing Mode Options. Then use the **BLACK/+** and **WHITE/-** keys to select options within this group, and press **ENTER** to turn options on (+) or off (-). **Or**, simply press the option squares to turn options on or off.

a. Selective Search (Square A2)

On: +[S] E:L Off: -[S] E:L

The program in this chess computer normally uses a *Selective*

Search algorithm. This allows the computer to see combinations that would otherwise take much longer to compute. Turning this option off by choosing -5EL makes the program switch to a powerful *Brute Force algorithm*. This search method minimizes the risk of an occasional oversight.

Note that the Mate Search Levels always use the Brute Force method.

b. Easy Mode (Square B2)

On: +ER5Y Off: -ER5Y

Want to win more games against the computer? Try turning on Easy Mode, which prevents the computer from thinking on your time! This weakens all the playing levels without affecting the computer's time controls. Normally, as described in Section 2.8, the computer thinks on your time, using the time you are contemplating your next move to think ahead and plan its strategies. This is part of what makes your computer such a tough opponent! By using Easy Mode to make all the levels weaker, you effectively have many more levels to choose from!

c. Randomize Play (Square C2)

On: +r3nd Off: -r3nd

Turn this option on for greater variety of play. Instead of selecting one single best move, the computer will then choose one of the best moves to play by consulting its built-in Randomizer!

d. Book On/Off (Square D2)

On: +b00d Off: -b00d

If you ever want to completely lock out the computer's built-in book of openings, set this option to -b00d. When the book is off, the computer is forced to take time to think of its moves from the beginning of the game, rather than making its moves from memory. For details on openings, see Section 2.7.

If you turn the book completely off, the other book options (described below) are also automatically disabled.

e. Full Book (Square E2)

On: +bE:FL Off: -bE:FL

Turning on the Full Book option gives the computer the freedom to choose any move from its built-in book of openings, so you'll see a greater variety of opening lines being played. *If this option is selected,*

the Passive, Active, and Tournament Book options are disabled.

With this option on, you may see the computer make some questionable moves. This is because its built-in book of openings must contain responses to certain lines of play (even questionable lines), in case they are played. While the computer would not make these moves on its own, it needs to know how to respond to them in the best way. Therefore, when you turn on the Full Book, the computer could potentially play one of these moves.

f. Passive Book (Square F2)

On: +bE:P3 Off: -bE:P3

Selecting the Passive Book option forces the computer to give preference to passive and closed positions when deciding which lines to play. *If this option is selected, the Active Book and Tournament Book options are disabled.*

g. Active Book (Square G2)

On: +bE:3E Off: -bE:3E

When this option is activated, the computer will give preference to active lines and open positions when deciding which lines to play. *If this option is selected, the Passive Book and Tournament Book options are disabled.*

h. Tournament Book (Square H2)

On: +bE:En Off: -bE:En

When you turn the Tournament Book option on, the computer is forced to always select the best possible line of play in every opening. While this results in the best chess play, it also narrows down the computer's choice of moves by limiting its available book lines. *If this option is selected, the Active Book and Passive Book options are disabled.*

5.3 Rotating Display Options (Squares A3-H3)

Normally, the computer's display shows the time for the player to move. However, the computer can also display other information, as described in Section 4 (Info Mode). The Rotating Display feature works hand-in-hand with Info Mode, since it allows you to choose which of the Info Displays you want to see, and then cycles your choices in one-second increments. You may turn on any or all of the Rotating Display options, as desired.

IMPORTANT: The Rotating Display feature is only activated WHILE THE COMPUTER IS THINKING.

Press **OPTION** three times to select the Rotating Display Options. Then use the **BLACK/+** and **WHITE/-** keys to select the options you want to see rotated in the display. The options are described below and summarized in the Option Mode Chart in this section. Press **ENTER** to turn these options on (+) or off (-). Or, simply press the option squares to turn the options on or off.

If you think the display information is changing too quickly when it rotates, press **INFO** to freeze the display. Successive presses of **INFO** and the **BLACK/+** and **WHITE/-** keys will allow you to cycle through all the displays manually, as described in Section 4. To start the display rotation again, press **OPTION** followed by **CLEAR**. In any event, when the computer starts thinking about its next move, the display automatically starts rotating again.

The game information you can see *while the computer is thinking* includes the following:

- $r d: 1$ to $r d: 4$ = the predicted line of play (up to four individual moves)
- $r d: E$ = an evaluation of the current position
- $r d: D$ = the computer's search depth, and the number of moves examined so far in the game
- $r d: n$ = the number of nodes searched per second
- $r d: t$ = the amount of time the move has taken so far

When requested information is not available, the display will show a series of dashes (-----).

For complete descriptions of these options and details on exactly how to interpret the displays, see Section 4.

5.4 Bronstein Clock Options (Square A4)

On the Blitz and Tournament levels, you have a fixed amount of time for each game, and the remaining time decreases as you think. On these levels, players often find themselves running out of time towards the end of the game—struggling to try and make good moves in a hurry, and often ending up making inferior moves instead.

The Bronstein Clock option offers special time controls that can help alleviate such problems. This is accomplished by adding a certain amount of time back to your remaining time *after* each move, where the remaining time for the whole game is *only* reduced if you go over this

fixed time level.

Here's an example: Let's say you're playing Blitz Level D4, where you have a total of 20 minutes for the whole game. Activating the Bronstein +b0: 10 option will give you a maximum 10 seconds time compensation per move (added after you make your move). Note that you can't gain extra time or increase overall thinking time by playing each move more quickly, since:

- If you use 7 seconds to make your move, only 7 seconds will be added to your total remaining time, not 10 seconds.
- If you use 10 seconds or more to make your move, only 10 seconds will be added back to your total remaining time.

Press **OPTION** four times to select the Bronstein Clock Mode.

Then press **ENTER** repeatedly to select your desired Bronstein Clock setting, as described below:

BRONSTEIN CLOCK SETTINGS	DISPLAY
Bronstein Clock off	-bron
Maximum 1 sec. added after each move	+b0:01
Maximum 2 sec. added after each move	+b0:02
Maximum 3 sec. added after each move	+b0:03
Maximum 5 sec. added after each move	+b0:05
Maximum 10 sec. added after each move	+b0:10
Maximum 20 sec. added after each move	+b0:20
Maximum 30 sec. added after each move	+b0:30

6. VERIFYING/SETTING UP POSITIONS

6.1 Verifying Positions

See "**IT'S EASY TO VERIFY PIECES!**" for a step-by-step example of using Verify Mode.

If you should knock over the chess pieces or if you think your board position may be incorrect, the computer can verify all the piece locations for you!

When it is your turn, press one of the **PIECE SYMBOL KEYS** (♙, ♘, ♖, ♗, ♕, or ♔). The computer shows you where the first piece of that type is located on the board—the display shows the piece symbol, color indicator, and square designation, and board lights also indicate the square. Press the same **PIECE SYMBOL KEY** again to see the location of the next piece of that same type. All the White pieces are shown first,

IT'S EASY TO VERIFY PIECES!



1. Press **NEW GAME** to reset the computer, and set up the pieces in their starting positions.
Display: □,0:00:00.



2. Press the **KNIGHT** Key.
Display: □,♞,b 1 (the first White Knight).
Board lights on: B+1.



3. Press **KNIGHT** again.
Display: □,♞,c 1 (the second White Knight).
Board lights on: G+1.



4. Press **KNIGHT** again.
Display: ■,♞,b8 (the first Black Knight).
Board lights on: B+8.



5. Press **KNIGHT** again.
Display: ■,♞,c8 (the second Black Knight).
Board lights on: G+8.



6. Press **KNIGHT** again.
Display: ♞ (no more Knights on the board).



7. Repeat to verify any other piece! Press **CLEAR** to exit Verify Mode.

For more details, see Section 6.1.

then the Black pieces. When there are no more pieces of that type on the board, only the piece symbol remains in the display.

Want to verify more pieces? Repeat the above procedure using the other **PIECE SYMBOL KEYS**, verifying the entire board if desired! Press **CLEAR** to return to normal play.

6.2 Changing and Setting Up Positions

See "TRY OUT POSITION MODE!" to get an idea of how this feature works.

Position Mode is an exciting feature which lets you set up special

board positions to play from, or problems you want the computer to solve! **Caution:** All previous moves in your current game will be erased from the computer's memory if you make changes to the position during a game.

Press **POSITION** to enter Position Mode, and -POS- will show in the display. You can change or set up a position whenever it is your turn to move. After you have set up your new position, press **CLEAR** to exit Position Mode.

- **To remove a piece from the board**, press the piece down on its square and then remove it. Notice that the display indicates the piece type and color, along with a minus sign (-) and the square location.
 - **To move a piece from one square to another**, press the piece down on its original square, pick it up, and then press it down on the new square. As you do this, the display will show a minus sign (-) for the first square, and a plus sign (+) for the second square.
 - **To add a piece to the board**, first press the **PIECE SYMBOL KEY** for that piece (♜, ♝, ♞, ♟, ♠, or ♡). Make sure the display shows the correct color symbol for the piece you want to add. If it does not, press **BLACK/+** or **WHITE/-** to change the color. When the display shows the correct piece type and color, place that piece on the desired square and press down gently. The display shows a plus sign (+), along with the location for that square. To add another piece of the same type, simply press down on another square. To add a different piece, press a different **PIECE SYMBOL KEY** and follow the same steps outlined above.
 - **To clear the board**, press **ENTER** while you are in Position Mode. The display will show [] to symbolize an empty chessboard. Press **ENTER** once more to confirm that you do want to clear the board. Then add pieces as described previously. If you decide not to clear the board, press **CLEAR** to cancel. This feature can be handy when you want to set up a position with only a few pieces, where it would be much easier to start out with an empty board!
 - **Once you have changed the board position as described above**, make sure the color indicator in the display is showing the correct color of the side to move. Change the color, if necessary, by pressing **BLACK/+** or **WHITE/-**.
 - **To exit Position Mode**, press **CLEAR**. You will return to normal game play, with your new board position!
- Note that any legal position can be set up using the above proce-*

TRY OUT POSITION MODE!



1. Press **NEW GAME** to reset the computer, and set up the pieces in their starting positions.
Display: □,0:00:00.



2. Press **POSITION** to enter Position Mode.
Display: -POS-



3. Press the White pawn down on Square E2, and remove it from the board.
Display: □,▲,-E2.



4. Press that same pawn down on Square E3 to add it to the board.
Display: □,▲,+E3.



5. Press the Black Queen down on Square D8, and remove it from the board.
Display: ■,♚,-D8.



6. Press that same Queen down on Square H5 to add it to the board.
Display: ■,♚,+H5.



7. Press **WHITE/-** to change the color to move next.



8. Press **CLEAR** to return to normal game play.

For more details, see Section 6.2.

dures. The computer will not permit you to set up an illegal position, such as one where there are more than the prescribed number of pieces for a normal game, or one where a King is in check and is not to move. In such cases, the computer will simply beep when you press **CLEAR**, and you will not be allowed to exit Position Mode. Check the position using the **PIECE SYMBOL KEYS**, if necessary, and correct the position (by adding a piece, removing a piece, or moving an incorrectly

placed piece). Then press **CLEAR** to exit Position Mode.

7. TECHNICAL DETAILS

7.1 The ACL Function

Computers sometimes “lock up” due to static discharge or other electrical disturbances. If this should happen, take out the batteries and use a pin or another sharp object to press into the hole marked **ACL** in the base of the unit for at least one second. This resets the computer.

7.2 Care and Maintenance

Your chess computer is a precision electronic device, and should not be subjected to rough handling or exposed to extreme temperatures or moisture. Be sure to remove the batteries before cleaning the unit. Do not use chemical agents or liquids to clean the unit, as they may damage the plastic.

Weak batteries should be replaced promptly, since they can leak and damage the computer. Please also note the following regarding the use of batteries. **Warning: Use only alkaline or zinc carbon batteries. Do not mix different types of batteries or new and used batteries. Do not recharge non-rechargeable batteries. Use only the recommended batteries or equivalent. Be sure to observe the correct polarity when inserting batteries. Worn out batteries should be removed from the unit promptly. Do not short circuit the supply terminals.**

7.3 Technical Specifications

Clock Frequency:	10 MHz
Keys:	17
LCD Display:	48-segment, 5-digit
Batteries:	4 x “AA” (AM3/R6) cells
Power Consumption:	330 mW maximum
Dimensions:	230 x 182 x 40 mm
Weight:	0.5 kg

Please retain this information for future reference.

The manufacturer reserves the right to make technical changes without notice in the interest of progress.

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