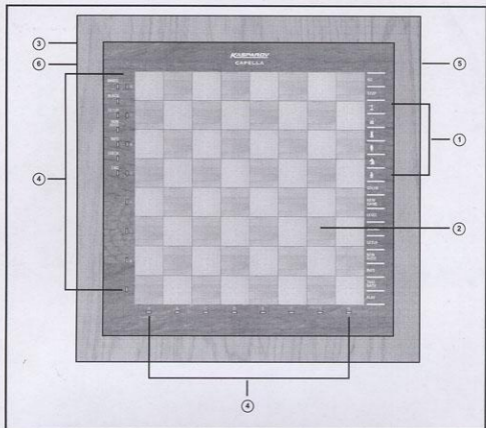


## TROUBLESHOOTING GUIDE

SYMPTOMS	POSSIBLE CAUSES	WHAT YOU SHOULD DO
The computer does not react, behaves erratically or "freezes" in the middle of a game.	<ul style="list-style-type: none"> <li>• Batteries weak or bad.</li> <li>• Batteries not inserted properly.</li> <li>• Static discharge or electrical disturbance has caused the computer to lock up.</li> </ul>	<ul style="list-style-type: none"> <li>• Replace batteries.</li> <li>• See Fig 1.</li> <li>• Press <b>ACL</b> key.</li> </ul>
The computer refuses to accept a move or key presses but keeps sounding the error beep.	<ul style="list-style-type: none"> <li>• Is it your turn? (look at the color lamps) Is your king in check? (CHECK lamp) Will your move put your king into check? Are you trying to castle incorrectly? (check the rules) Did you move the rook first when castling?</li> <li>• The computer is still thinking (color light flashing).</li> <li>• If the computer is trying to show you a move (perhaps from the last game).</li> </ul>	<ul style="list-style-type: none"> <li>• Make sure you are familiar with the chess rules (see "Rules of Chess"). Use the piece keys to confirm the board position, use <b>TAKE BACK</b> to reconstruct the last move.</li> <li>• Press <b>PLAY</b> to interrupt the thought process.</li> <li>• Press a piece on the square indicated.</li> </ul>
The computer cheats or makes illegal moves.	<ul style="list-style-type: none"> <li>• It has made a special move like               <ul style="list-style-type: none"> <li>- En passant</li> <li>- Castling (king-side or queen-side)</li> <li>- Pawn promotion</li> </ul> </li> <li>• Your board position is not correct, some pieces have been displaced.</li> <li>• Batteries are running out.</li> </ul>	<ul style="list-style-type: none"> <li>• Make sure you are familiar with the chess rules. Use the piece keys to confirm the board position, use <b>TAKE BACK</b> to reconstruct the last move.</li> <li>• Verify the board position (see section 4.5).</li> <li>• Replace batteries.</li> </ul>
The computer will not play a move.	<ul style="list-style-type: none"> <li>• <b>NON AUTO</b> function is on.</li> </ul>	<ul style="list-style-type: none"> <li>• Press <b>NON AUTO</b> to turn it off, then press <b>PLAY</b>.</li> </ul>
Chessboard square or key does not respond correctly or lights do not come on correctly.	<ul style="list-style-type: none"> <li>• Faulty contacts. Check as follows: Remove batteries, reinstall them, hold the <b>NEW GAME</b> key down while switching the computer on. Press <b>NEW GAME</b> again. You can now test square and key. Press the <b>ACL</b> key to return to normal play.</li> </ul>	<ul style="list-style-type: none"> <li>• Consult Service Centre if error persists.</li> </ul>



## KEYS, LIGHT AND FEATURES KEYS

### KEYS

<b>PLAY</b>	Execute next move. Pressing this key when it is your turn causes the computer to play the next move for you, pressing it when the computer is thinking interrupts the thought process.
<b>NEW GAME</b>	Press to reset to the start position for a new game.
<b>LEVEL STOP</b>	Press to select level of skill. Press to turn off the computer. The current position is saved in memory.
<b>GO</b>	Press to switch the computer on. Play is resumed at the point where the <b>STOP</b> key was pressed.
<b>TAKE BACK</b>	Press to take back last move. Up to 34 individual moves can be retracted.
<b>NON AUTO SET UP</b>	Used to enter a sequence of moves. Enter set up mode to change or enter positions.
<b>INFO</b>	Press to get advice from the computer and evaluate current board position.
<b>COLOR</b>	Used to select color of piece being verified or set up.
<b>SOUND</b>	Press to turn beep on or off.

### LIGHTS

<b>WHITE/BLACK</b>	Side to move. When the computer is thinking the appropriate color lamp flashes.
<b>CHECK</b>	King in check.
<b>END</b>	End of game.
<b>SET UP</b>	A position is being entered or modified.
<b>NON AUTO</b>	The computer acts as a referee and advisor.
<b>INFO</b>	A suggestion is given.

## FEATURES

- Piece keys** Use to choose promoted pieces, verify board position and set up new positions.
- Sensor chessboard** each square has a sensor that registers piece movement.
- ACL switch** (in base of set).
- Board lamps** the computer uses these lights to indicate game moves, take back moves, or show you which move it is considering. They are also used to verify the board position, to display the level of skill and to display evaluation of board position.
- Battery compartment** (in base of set).
- Socket for mains adapter.**

## 1. INTRODUCTION

Your chess computer is a unique chess partner. Its strong program gives you a great game whether you are a beginner or just want to improve your skill.

### 1.1 Learning chess the easy way

Your chess computer lets you learn chess and practice the easy way. As you learn to play better chess, take on the challenge of higher and higher levels of chess.

#### The Chess Rules

Remember, your chess computer knows the rules of the game - including castling, en passant and stalemate. Sometimes it may appear to be playing irregularly when in fact it is obeying the chess rules. In case you are not very familiar with the game, we have included a brief overview of the rules (Rules of Chess). Additional information may be found in your local library, which is sure to have several books on the subject.

## 2. GETTING STARTED

Your chess computer uses advanced single-chip microcomputer technology and gives you up to 60 hours of play on 4 AA/R6/AM3 alkaline batteries. Open the battery compartment and insert the batteries as shown in fig. 1.

Setup the chess pieces in the opening position and press GO. The computer is now ready to play a game against you. If it fails to react properly - sometimes static discharge causes it to "lock up" - use a pin or other pointed object to activate ACL switch located in the base of the set. This clears the memory and resets the computer.

### 2.1 How to move your pieces

To make a move first press down on the piece you wish to move. You will hear a short beep. Place the piece on its destination square and press down again. You will hear a second beep and the computer begins to compute its reply.

### 2.2 How the computer moves

The computer indicates its own moves by sounding a double beep and turning on two lights on the side of the chessboard. These lights indicate the horizontal row and vertical column of the piece the computer wishes to move. Press this piece down on its square. The computer now shows you where the piece must go. Move the piece to the square indicated and press down to complete the move.



The computer wants to move the king's pawn from e7 to e5. Press it down on e7



It wants to move it to e5. Place it there and press down

### 2.3 Special moves

When capturing you only have to key in the move of the capturing piece.

When castling, first move the king. The computer will remind you to move the rook.

When you promote a pawn the computer will want to know which piece you choose. Press a piece key (bottom row) to tell it which piece you want. When the computer promotes you must press the piece keys to find out which piece it has chosen.



In the above position promoting a pawn to a Queen would be fatal - Black can deliver immediate mate on a6! So White should promote the pawn to a knight, forking the black king and queen. This is how to do it: press the pawn down, move it to the 8th rank, press it down there and replace it with a knight. Press the Knight key to tell the computer what you have chosen.

### 2.4 Capturing "en passant"

Many beginners are not familiar with this rule (which was introduced into chess in the 15th century). Capturing "en passant" is when a pawn is on the 5th rank. If an enemy pawn crosses the 5th rank (because of its ability to move 2 squares on its first move) then the pawn may act as if the enemy pawn had only moved one square and capture it en passant. This can only be done on the very next move.



In the above position Black has just tried to avoid the capture of his pawn by advancing it two squares from e7 to e5



White can capture the pawn en passant by moving his pawn from f5 to e6. The computer will always remind you to remove the captured pawn from the board

### 2.5 Illegal moves

If you attempt to make a move that is not permitted by the rules then the computer will refuse to accept it. You will hear an error beep (high-low) and the board lights will stay on, showing you where the piece you are trying to move came from. You may place it on a legal square or on the original square and move another piece. You will also hear the error beep if you do not execute a computer move correctly, or if you press an improper panel key.

### 2.6 Check, Mate, and Draw

When the computer puts your king in check the CHECKED light will go on. If a game ends in checkmate the END light will go on as well. The END light alone means that the game is a draw.

### 2.7 Taking back moves

To take back a move simply press TAKE BACK when it is your turn to play. The computer will help you to retract moves by showing you which pieces were moved and where they came from. You can take back up to 34 individual moves (17 for each side).

### 2.8 Changing sides

If at anytime during a game you wish to change sides with the computer you may do so by pressing PLAY instead of making your move. The computer will make the next move for you and you can go on playing for the other side. You can change sides as often as you like. You can even press PLAY after every move and make the computer play the entire game against itself.

#### Playing a game with the black pieces

If you want to play a game with the black pieces, first set these up at the bottom of the board (the side nearest to you). Now press NEW GAME, COLOR and PLAY. The computer will make the first move for White, moving down from the top of the board.

### 2.9 New game

To start a new game press NEW GAME and set up the pieces in the starting position.

### 2.10 Game memory

You can interrupt a game at any stage (even when the computer is thinking) simply by pressing STOP. Play is interrupted and all lights are turned off to conserve battery power. The computer will "remember" the position for up to 24 months and be ready to resume play when you turn it on again by pressing GO. The level and all other parameters will remain unchanged.

## 3. LEVELS OF SKILL

Your chess computer has a total of 64 skill levels which

include levels for casual play, tournaments, speed chess, analysis and problem solving. Remember, that just like a human being the computer becomes stronger when it has more time to think about its moves.

Any level may be changed at the beginning or at any time during a game.

#### How to change levels

When you press LEVEL the lights on the side panel will display the level currently set. Keep pressing LEVEL until the level you want is displayed. Press COLOR to jump 8 levels at a time. For example if you are in level A3, press LEVEL, then COLOR, to jump to B3.

### 3.1 Levels for casual play

These times are averaged over a large number of moves. In the opening and the endgame, the computer tends to play faster, but in tactically complicated middlegame positions, may take considerably longer on individual moves.

Casual Levels	Average Time per move
A1	1 second/move
A2	2 seconds/move
A3	3 seconds/move
A4	5 seconds/move
A5	10 seconds/move
A6	15 seconds/move
A7	20 seconds/move
A8	30 seconds/move
B1	45 seconds/move
B2	60 seconds/move
B3	90 seconds/move
B4	2 minutes/move
B5	3 minutes/move
B6	5 minutes/move
B7	10 minutes/move
B8	Infinite - will search until interrupted

### 3.2 Tournament levels

On these levels, the computer plays a certain number of moves in a given amount of time, attempting to meet the so-called "time controls" at specific points in the game. This is exactly what happens in human tournaments. At the time control, the arbiter checks to see whether both players have completed the required number of moves. If one of them hasn't, that player loses the game.

#### Tournament levels

C1	40 moves in 90 minutes
C2	35 moves in 105 minutes
C3	40 moves in 105 minutes
C4	35 moves in 90 minutes
C5	40 moves in 120 minutes
C6	45 moves in 150 minutes
C7	50 moves in 120 minutes
C8	40 moves in 180 minutes

### 3.3 Sudden Death Levels

A tournament form that is rapidly gaining popularity is one which requires each player to make all his moves in a certain amount of time, regardless of the number of moves in a game. If one side runs out of time without checkmating the opponent, that side loses the game. These tournaments are sometimes referred to as a sudden death. The game may be terminated if it is a technical draw (e.g. insufficient material to mate) or if both players agree to a draw.

On Levels D1 to D8, the computer tries to complete all the moves of the game in the times specified below. In a longer game, the computer gradually increases its speed in an attempt to stay within the allocated time.

#### Sudden Death levels

D1	5 minutes/game
D2	10 minutes/game
D3	15 minutes/game
D4	20 minutes/game
D5	30 minutes/game
D6	45 minutes/game
D7	60 minutes/game
D8	90 minutes/game

#### 3.4 Beginner levels

If you are a beginner or a very casual player, you might find that the computer is impossible to beat using any of the normal playing levels. It is very frustrating and discouraging to get beaten every single time, without ever having a chance to try out any of your tactical plans. Therefore, Chess computer has eight special Beginner Levels. On Levels E1-E8, the computer plays almost instantaneously on each move. This prevents the computer from using its full power, and makes it possible for even a beginner to win occasionally. Level E1 is the easiest, and the computer's playing strength increases gradually up through Level E8.

#### Beginner Levels

E1	1 second/move
E2	2 seconds/move
E3	3 seconds/move
E4	4 seconds/move
E5	5 seconds/move
E6	6 seconds/move
E7	7 seconds/move
E8	8 seconds/move

#### 3.5 Mate Search

If you have a position where there may be a mate and you want the computer to find it, set the computer on one of the Mate Search Levels. This computer solves mates in up to 8 moves. Mates in 1 to 5 are usually found relatively quickly, whereas solutions taking 6 to 8 moves make take quite some time. If there is no mate present or if the computer cannot find a mate, it will sound the error beep. Change levels to return to normal play.

F1	Mate in 1
F2	Mate in 2
F3	Mate in 3
F4	Mate in 4
F5	Mate in 5
F6	Mate in 6
F7	Mate in 7
F8	Mate in 8

#### 3.6 Training levels

On these levels the computer searches to a fixed depth (looks ahead a certain number of moves). On Level H4, for example, it looks at all continuations up to 12 ply (a "ply" is a move for either side). By the same token, on Level H8, it looks at all possibilities for the next 16 ply (8 moves for each side).

**Note:** In certain circumstances (captures, promotions, etc.), the computer looks beyond the fixed depth ply.

#### Training levels

G1	Search depth: 1 ply
G2	Search depth: 2 ply
G3	Search depth: 3 ply

G4	Search depth: 4 ply
G5	Search depth: 5 ply
G6	Search depth: 6 ply
G7	Search depth: 7 ply
G8	Search depth: 8 ply
H1	Search depth: 9 ply
H2	Search depth: 10 ply
H3	Search depth: 11 ply
H4	Search depth: 12 ply
H5	Search depth: 13 ply
H6	Search depth: 14 ply
H7	Search depth: 15 ply
H8	Search depth: 16 ply

#### A chess problem by Samuel Loyd (1867)



#### White to play and mate in three moves

Enter this position (as described in section 4.7) and set level F3 or higher. Press **PLAY**. In a few seconds the computer will show you the solution: **1 a8=B** (underpromotion to a bishop!). Try the defenses **1...Kf8**, **1...Ke8** and **1...Kg8** to see how White mates on the third move.

#### 3.7 Instantaneous replies

All times given for the different levels of skill are average times over a large number of moves. Depending on the stage of the game and the tactical complexity of a position, the computer may take considerably more (or less) time on individual moves.

If you have just made a move and the **BLACK** light is flashing (or the **WHITE** if the computer is playing with the white pieces) this means that the computer is thinking. At the beginning of a game, however, replies will be instantaneous on all levels. This is because the computer is playing moves that are stored in its Openings Book. It knows a great deal about good openings that chess masters have discovered over the centuries.

Even in the middle game you may be surprised to find the computer very often replying instantaneously to your moves. There is a very good reason for this: while you are pondering over a move the computer is not idle, it tries to anticipate your possible replies. If you play one of the moves the computer considered, then it does not need to think any further. It just plays the move it has already computed— instantaneously.

#### 3.8 Interrupting the thought process

If the computer is spending too long over a move you can interrupt it by pressing **PLAY** which will cause it to stop computing and play the best move it has found so far. This feature is especially useful on level B8 (analysis) in which the computer will go on thinking until you interrupt it by pressing **PLAY** — unless there is only one move it can play or it finds a forced mate.

On the Mate Search Levels, pressing **ENTER** does not cause the computer to make a move. Instead, it sounds an error beep to indicate that it was interrupted before it

found a mate. To continue your game, switch to another playing level.

#### So please remember...

Press **PLAY** when the computer is thinking to interrupt the thought process. Press **PLAY** when it is your turn to play if you want to change sides (see section 2.8)

## 4. ADVANCED FEATURES

What we have seen so far is enough to give you countless hours of pleasure with your chess computer. You can play straight games against it, correct mistakes and adjust the level of skill to match your own. But there are many other things the computer can do that make it even more fun to use. This chapter deals with each of them individually.

### 4.1 Non Auto

Normally, as soon as you have made a move on the sensor board, the computer immediately begins to compute its reply. But there are situations in which you just want to enter moves. For instance you may want to try a special opening against the computer, one it doesn't play of its own accord. Or you may want to force it to play a certain continuation in order to understand a complicated position.

In such cases just press **NON AUTO**. This puts the computer into a special mode in which it will not compute a reply, but only keep track of the moves you enter, making sure that they are legal. To return to normal play press **NON AUTO** a second time.

**Note:** While you are in **NON AUTO** mode the **NON AUTO** light is on. Pressing **NEW GAME** always cancels the function.

#### Playing through master games

*One very interesting use of **NON AUTO** is to study master games. You can play through the World Championship games, or famous games you find in chess books, or in fact your own games against friends or the computer, in **NON AUTO** mode. Whenever you reach an interesting position and want to analyse it with the computer, press **PLAY**. It will compute and execute the next move.*

### 4.2 The computer as a referee

The **NON AUTO** mode has another important use. When you play a game with a friend press **NON AUTO** and then play the game on the sensor board. The computer will act as a referee and advisor. It will protest if anyone makes an illegal move, and if either side needs help he can always press **PLAY** and get some advice from the computer.

### 4.3 Information from the computer

Would you like to know what your electronic chess partner is doing while it is computing a move? Well, your Kasparov chess computer will gladly tell you, giving you a wealth of information on its "thought process". It will show you which move it is presently considering and its evaluation of the current position. This is not just of passing interest - it can help you to learn more about the game.

Press **INFO** while the computer is thinking. It will show

you the best move it has found so far. Note that the **INFO** light is turned on.

If you press **INFO** a second time (while the computer is thinking) the lights on the left-hand side of the board will show you what it thinks of the current position. The evaluation is on a scale of 1 to 8. This is how to interpret the display:

#### Light Meaning

8	White has a winning position
7	White has a clearly better position
6	White has an advantage
5	The position is balanced
4	The position is balanced
3	Black has an advantage
2	Black has a clearly better position
1	Black has a winning position

You can watch the evaluation change as the computer looks more deeply into the position.

**Note** that the **INFO** display (best move or evaluation) is retained throughout the game, in fact even when you start a new game. You can switch it off by pressing **INFO** a third time. This function is not available in Mate Search levels as computer use different search algorithm.

#### An experiment with INFO

*Press **NEW GAME** and **NON AUTO**, and then enter the following moves: 1. e2-e4 e7-e5 2. Ng1-f3 d7-d6 3. Bf1-c4 h7-h6 4. Nb1-c3 Bc8-g4. Now set the computer to level B8 and press **PLAY**. Press **INFO** and watch how the computer keeps changing its mind until it finds a really good move (5.Nf3xe5!). You should also press **INFO** again to see how the evaluation changes. Experiment with the position to find out why the white queen may not be captured after 5.Nf3xe5. If you plays...Bg4xd1 for Black the computer will immediately show you the reason!*

### 4.4 Advice from the computer

During a game you may reach a position in which you can't think of a good move. Just press **INFO**. The computer will suggest a move for you, using lights to indicate that this is only a suggestion. You can accept its advice or play any other move you like.

#### Use of INFO

*While the computer is thinking: Press **INFO** for "best move so far". Press **INFO** again for evaluation. Press **INFO** a third time to cancel display. When it is your turn to move: Press **INFO** to get advice from the computer.*

### 4.5 Verifying the board position

It may sometimes happen that you have upset the pieces on the board or for some other reason are not sure that the position is correct. In such cases you can always ask the computer to show you the proper location of each piece.

This is very simple. Just press one of the piece keys. The computer will use the board lights to show you where that piece is located on the board. Press the same piece key again to find further pieces of the same kind (an error beep indicates that there are no more of the piece selected). You can check other pieces by pressing the appropriate piece keys, in any order you like. To change colors press **COLOR**. Watch the **WHITE/BLACK** lights to

make sure which color the piece is.

#### 4.6 How to change the board position

This, too, is very easy. First press **SET UP** to put the computer into set-up mode (the **SET UP** light is turned on). You can now remove or add pieces at will:

- To remove a piece simply press it down on its current square and remove it from the board.
- To add a new piece first select the color (by pressing **COLOR** if necessary). Now press the appropriate piece key and press the new piece on an empty square.

Make sure that the **WHITE** or **BLACK** lights correctly indicate the side to move next before you return to normal play by pressing **SET UP** again.

Try the following experiment: Press **NEW GAME** and **SET UP**. Now press the black queen down on its square and remove it from the board. Press **SETUP** again to quit set up mode. You can now play a "queen-odds" game against the computer (it will be playing without its queen). Try adding a second black king to the position. The computer will refuse to play the game, since the position is illegal.

#### 4.7 Setting up a special position

If you want to set up a special position which contains only a few pieces, then it is better to start from scratch. Press **SET UP** and **NEW GAME**. This clears the board of all pieces. You can now enter the position as described above.

**Example:** To set up a position with white king on E1, white rook on A1, black king on D5, and black rook on B2, first place the pieces on the board. Now press **SET UP** and **NEW GAME** to clear the board. Press **COLOR** (if necessary) to turn the **WHITE** light on. Press the king key and then press the white king down on its square. Press the rook key and then the white rook on its square. Now press **COLOR** to turn the **BLACK** light on. Press the king key and press the black king on its square. Press the rook key and then the black rook on its square. Press **COLOR** (**WHITE** light on = White to move) and **SET UP** to return to normal play.

**Note:** in the above position the computer will permit castling. If you press **PLAY** it will castle and capture the black rook on the next move.

When you set up a position, make sure that the position is legal before you leave **SET UP** mode, otherwise, there may be an unpredictable result.

## 5. TECHNICAL DETAILS

### 5.1 The ACL key

Computers sometimes "lock up" because of static discharge or some other electrical disturbance. If this happens use a pencil to activate the **ACL** key on the back of the cabinet for a few seconds. This resets the computer and clears its memory. You can also remove the batteries for about a minute to reset the computer.

### 5.2 Care and maintenance

Your computer is a precision electronic device. Do not subject it to rough handling or expose it to extreme temperatures or moisture. Do not use chemical agents to clean the set as these may damage the plastic. Weak batteries should be replaced promptly as they might leak and cause damage to the computer.

Non-rechargeable batteries are not to be recharged. Different types of batteries or new and used batteries are not to be mixed.

Only batteries of the same or equivalent type as recommended are to be used.

Batteries are to be inserted with the correct polarity. Exhausted batteries are to be removed from the unit. The supply terminals are not to be short-circuited. Use alkaline or zinc carbon batteries only.

This unit is not intended for children under three years old. To ensure the safe operation of the unit, the transformer should be regularly examined for damage to the cord, plug, enclosure or other parts. In the event of any damage, the transformer must not be used with the unit until the fault has been repaired by qualified service personnel. When cleaning the unit with a soft cloth, the unit must be disconnected from the transformer first. Please note that only the recommended transformer should be used with the unit, and the transformer is not a toy.

### 5.3 Technical specifications

Speed:	10 MHz
LED lamps:	16 red color 7 green
Keys:	17
Power consumption:	420mW
Battery requirement:	4 AA/R6/AM3 (1.5V)
Battery life:	up to 60 hours (with alkaline batteries)
AC adapter plug:	9V DC at 300 mA with 2.1 mm ID/5.5mm OD
	

Dimensions:	335 x 252 x 37 mm
Weight:	1.05 kg (without batteries)

*Saitek reserves the right to make technical changes without notice in the interest of progress.*