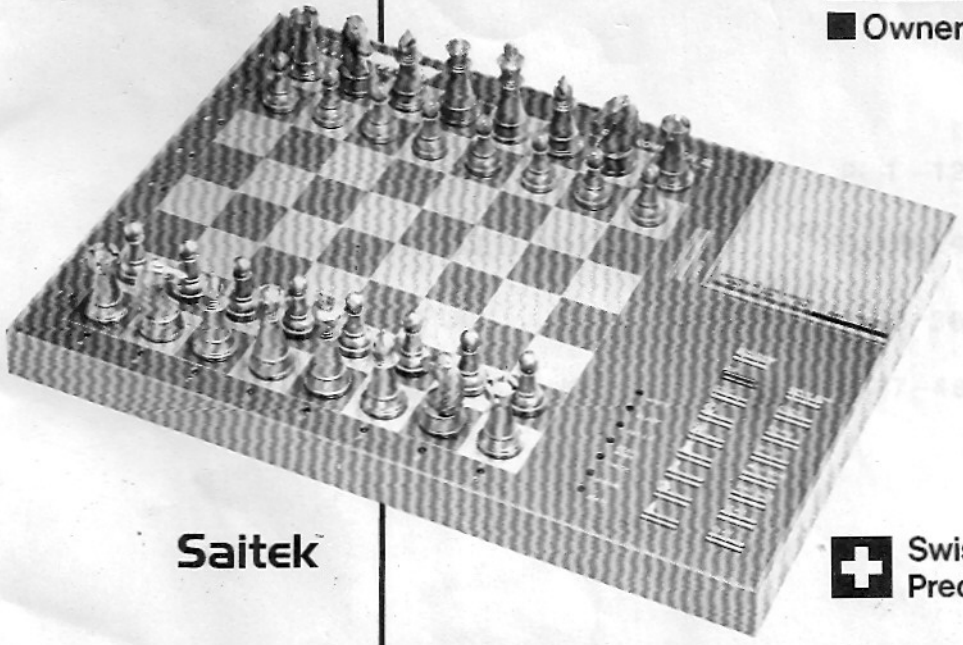
KASPAROV™
CHESS COMPUTER

Companion III™

Owner's Manual



Saitek

Swiss-led
Precision

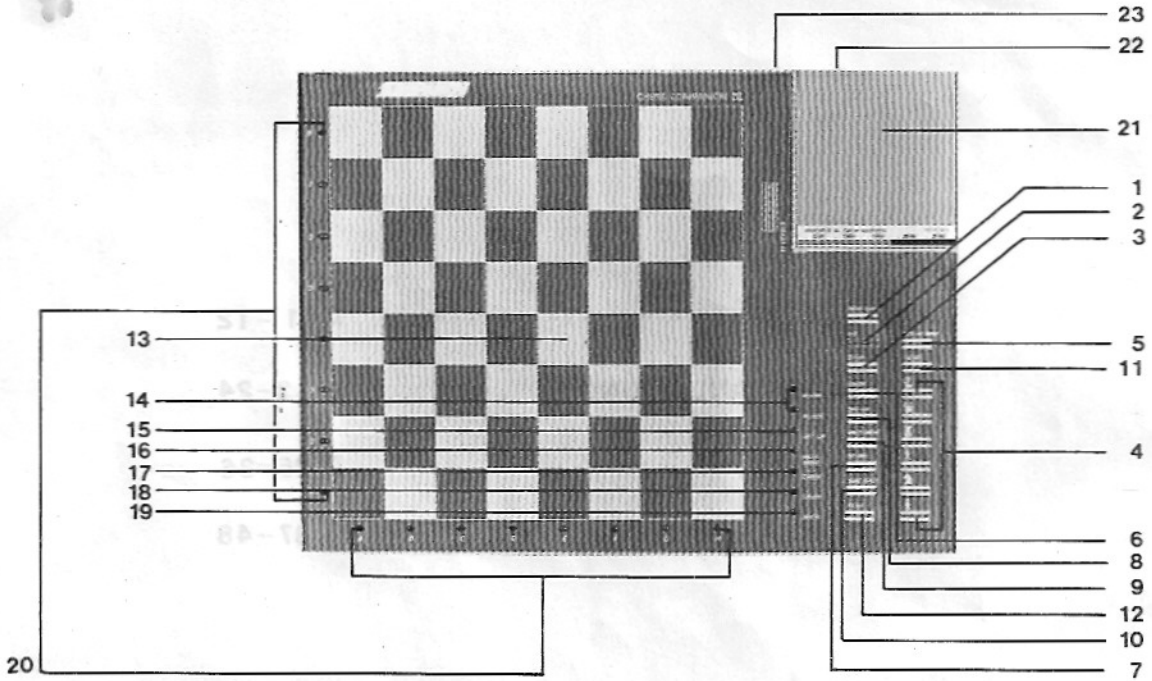


Figure 1

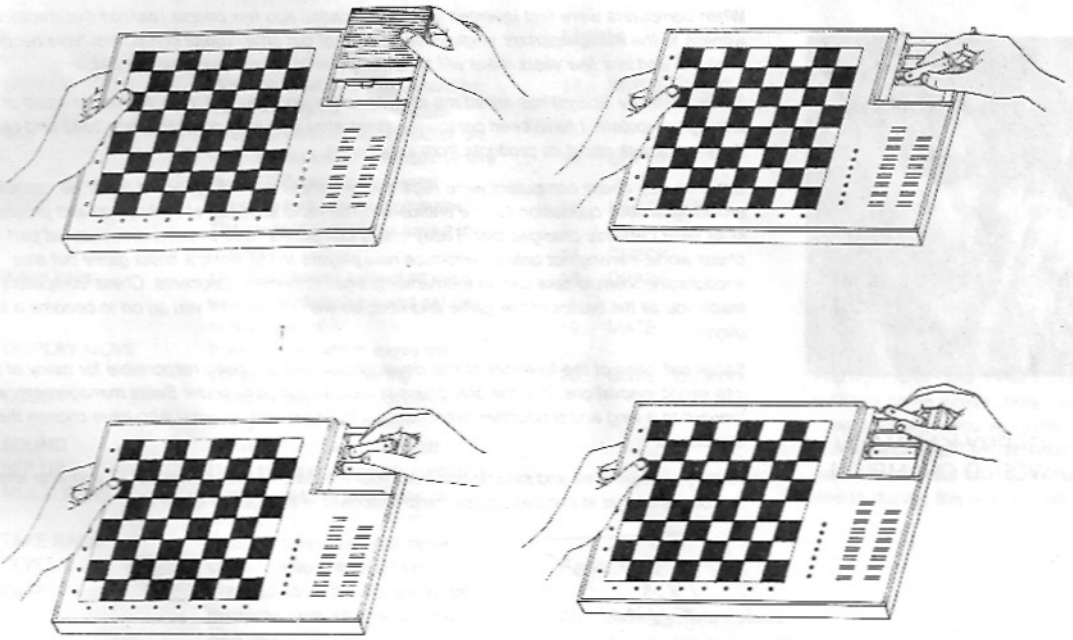


Figure 2

GARRY KASPAROV
WORLD CHAMPION

Dear Fellow Chess Player,

When computers were first invented just four decades ago few people realized that mankind was witness to the most important single development of our time. Today computers have become freely available and in a few years there will be a computer in almost every household.

Saitek (formerly SciSys) has asked me to write a few words to welcome you to the world of chess playing computers. I have been personally associated with the company since 1983 and can therefore speak about its products from experience.

Until recently chess computers were regarded as simple toys which would never be capable of providing serious opposition for the enthusiast. The rapid advance of technology and programming skills have certainly changed that. Today chess computers have become an accepted part of the chess world, serving not only to introduce new players to the world's finest game but also encouraging them to take part in tournaments against human opponents. Chess computers can teach you all the basics of the game and keep up with you even if you go on to become a top club player.

Saitek has been at the forefront of this development and has been responsible for many of the most interesting innovations. It is the only chess computer company under Swiss management, and I look forward to a long and productive relationship with Saitek and with you who have chosen their computers.

I wish you enjoyment and satisfaction from your Kasparov chess computer — and who knows, maybe we'll meet in combat across the chessboard in the future! Good luck!

Garry Kasparov

KEYS, LIGHTS AND FEATURES

Keys

1.	NEW GAME	Press to reset the initial position for a new game
2.	GO	Press to switch the computer on. Play is resumed at the point where the **STOP** key was pressed
3.	STOP	Press to turn off the computer. The current position is saved in memory
4.	Piece keys	Used to choose promoted men, verify board position and set up new positions
5.	DISPLAY MOVE	Press to see which move the computer is considering
6.	COLOR	Used to select color of piece being verified or set up
7.	SOUND	Press to turn beep on or off
8.	SET UP	Used to enter or modify positions
9.	MULTI MOVE	Used to enter a sequence of moves
10.	TAKE BACK	Press to take back last move
11.	LEVEL	Used to select level of skill
12.	PLAY	Press to force the computer to compute resp. to execute the next move
13.	Sensor chessboard	Each square has a sensor that registers piece movement

Lights

14.	WHITE/BLACK	Side to move. When the computer is thinking the appropriate color light blinks.
15.	SET UP	A position is being entered or modified
16.	MULTI MOVE	A sequence of moves is being entered
17.	CHECK	King in check
18.	DRAW	Stalemate or draw by three-fold repetition
19.	MATE	Checkmate (together with **CHECK**)
20.	Board indicators	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 and to display the level of skill.

Features

21. Battery compartment
22. ACL switch (in base of set) — press every time you have put in batteries
23. Socket for mains adapter (optional).

Important note

Your Companion III Sensory Chess Computer is programmed to play chess with you. It knows all the rules of chess including castling, en passant, underpromotion, stalemate, draw by immediate three-fold repetition and by the 50-Move rule. Sometimes the computer may appear to be playing irregularly when in fact it is obeying these rules. In case you are not very familiar with the game we have included a copy of the Rules of Chess. If you need additional information your local library is sure to have several books on the subject. Please also refer to the back page for a list of recommended chess books.

Introduction

Companion III is a sophisticated chess computer which automatically registers your moves on its built-in sensor chessboard. It has 17 different levels of skill. There are a number of additional features which make all operations easy to understand. You will be sure to appreciate the new instant response program that gives you very fast games in the casual levels.

The computer contains the latest in single-chip microcomputer technology which means that you get a battery life of over 150 hours on three penlite cells (alkaline type). The last position of a game is always stored in memory and retained for up to 2 years. We hope that these features will contribute to your enjoyment of the game.

1. Getting started

Companion III runs on three AM3 or "AA" size batteries. Open the battery compartment and insert the batteries as shown in Fig. 2, then press the **[ACL]** switch in the base of the set and hold it down for one second; use a pin (or a paper clip or any other sharp object). The computer can also be operated by mains adapter.

Set up the chess pieces in the opening position and press **[GO]** and then **[NEW GAME]**. If the computer fails to respond — static discharge can sometimes cause it to lock up — press the **[ACL]** (All Clear) switch again.

2. Setting the level of skill

Your Companion III chess computer has 17 different levels of skill. The first nine are designed for casual play and the average response time on each level is as follows:

Level	Average response time per move
0	½ second (Handicap Level for beginners)
1	2 seconds (default setting)
2	5 seconds
3	15 seconds
4	30 seconds
5	1 minute
6	2 minutes
7	3 minutes
8	6 minutes

In these levels the computer is programmed to try to anticipate various moves you might make and to calculate its responses for each of them while you are thinking. Thus you may very often get an **instant response** to your moves. The above times are averaged for non-instant moves so that the computer will generally play faster over a large number of moves. Please note that the average time on individual moves also depends on the stage of the game and the tactical complexity of the current position.

The next four levels are for tournament play:

Level	Primary time control	Secondary time control
A	30 moves in 30 min.	30 moves in 30 min.
B	40 moves in 2 hrs	20 moves in 1 hour (International tournament standard)
C	40 moves in 2½ hrs	16 moves in 1 hour (Grandmaster tournament)
D	50 moves in 2½ hrs	20 moves in 1 hour (US Chess Federation standard)

Taking Level B as an example the computer will finish the first 40 moves in 2 hours (primary time control) and then play the next 20 moves within 1 hour (secondary time control). All further moves are played at a rate of 20 moves per hour.

Please note that in accordance with tournament regulations any time remaining at the primary time control is carried forward to the secondary time control, e.g. if the computer has made the first 40 moves (on Level B) in just one hour it has a total of two hours for its next 20 moves. The remaining time for each time control is accumulated through the end of the game.

The last four levels are special levels:

Level	Description
E	**Speed chess** — The computer will try to complete the entire game in five minutes (total computer thinking time — opponent's time not included).
F	**10 sec/move** — The computer will play each move in 10 seconds (faster if it anticipates the opponent's moves).
G	**Infinite Level** — The computer will go on thinking until you interrupt it (by pressing **[PLAY]**) or it runs out of memory. In complicated positions this can take many days.
H	**Problem solving** level up to "Mate in 10" — See Chapter 17 of this manual for a complete description.

To set a specific level press **[LEVEL]** until the lights around the edge of the board correspond to the level you want (1 — 8, A — H, or no lights on for the Handicap Level 0). Pressing **[COLOR]** will increment the level by eight steps (as a short-cut to setting higher levels) and back again.

The level setting may be changed at the beginning or at any time during a game (but only when it is your turn to move).

3. Your moves

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 a color light (**BLACK** or **WHITE**) begins to flash. This means that the computer has accepted your move and has started to compute its reply.

Note: At the beginning of a game the reply will usually be instantaneous on any level because the computer is playing moves that are stored in its "opening book".

To make a **capture** you only have to key in the move of the capturing piece. In case of an **en passant** capture the computer will remind you to remove the captured pawn (press it down before removing it).

When **castling** always key in the king's move first. When a **pawn promotes** you must tell the computer which piece you choose by pressing the appropriate piece key.

4. 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 rank and vertical column of the piece the computer wishes to move. Press this piece down on its square. The computer will now show you where the piece must go. Move the piece to the square indicated and press down to complete the move.

Note: When the computer promotes a pawn you must press the piece keys to find out which piece the computer selects. In most cases it will choose a Queen.

5. Illegal moves

If you attempt to make an illegal move the computer will sound a double beep (high-low) and show you where the piece you are trying to move came from. You may place the piece 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 properly or press an improper panel key.

6. Check, Mate, and Draw

When the computer puts your king in check the **CHECK** light will come on. If a game ends in checkmate the **MATE** light will come on as well (the **WHITE** or **BLACK** lights indicate which side has been checkmated).

In case of a stalemate or draw by three-fold repetition or fifty move rule the **DRAW** light will come on.

7. NEW GAME

To start a new game press **[NEW GAME]**. The level remains unchanged.

8. TAKE BACK

To take back moves simply press **[TAKE BACK]**. The computer will help you to retract the last move by showing you which piece was moved and where it came from. Companion III will allow you to take back up to eight individual moves.

9. Changing sides

If at any time 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 play 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. The **[PLAY]** key is also useful when you need help and want the computer to suggest a move for you.

If you want to play a game with the black pieces, set up the board with the black pieces at the bottom. Press **[NEW GAME]** and **[PLAY]**. The computer will make the first move for white, playing down from the top of the board.

10. Interrupt

If the computer is spending too long on a move you can interrupt it by pressing **[PLAY]**. This will cause it to stop computing and play the best move it has found so far.

11. MULTI MOVE

The **[MULTI MOVE]** key puts the computer into a special mode that allows you to enter openings or to force the computer to play a certain continuation. The computer will not compute a reply to the move you enter. It will only keep track of the board position and make sure that all moves are legal.

While the computer is in Multi Move the **MULTI MOVE** light is on. To return to normal play press **[MULTI MOVE]** a second time.

12. Computer as referee

Multi Move is also useful when you are playing a game with a friend. The computer will act as a referee and each side can always ask it for advice by pressing **[PLAY]**.

13. Display moves

This special feature allows you to observe the "thought process" of the computer. Press **[DISPLAY MOVE]** while the computer is thinking and it will show you the moves it is considering. It will do this by turning on the **FROM** square for three seconds and then the **TO** square for one second. You can watch how it changes its mind as it computes deeper. When it has decided which move to play you will hear a double beep and the board lights which move it has chosen.

Pressing **[DISPLAY MOVE]** again switches off this feature. It is not available on Level **H**.

14. Game memory

You can interrupt a game at any stage (even when the computer is thinking) 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 2 years and resume play if you press **[GO]**.

[STOP] is also used to switch off the computer when you have finished playing with it and **[GO]** to switch it on again. Note that it restarts when you release **[GO]**.

15. Verifying piece positions

If you upset the pieces or for other reasons are not sure that the board position is correct you can ask the computer to show you the proper location of each piece.

To do this press one of the piece keys. The computer will use the position indicator lights to show you where that piece is located. Press the same piece key again to find further pieces of that kind on the board (a double beep indicates that there are no more of the piece selected).

You may verify the position of other pieces in the same manner. To change colors press **[COLOR]**. The **WHITE/BLACK** lights always show you which side is being verified.

16. Setting up a special position

If you wish to set up a special position first press **[SET UP]**. The **SET UP** light will be turned on and you may move, add or remove pieces from the current board position (if the position you want to set up contains only a few pieces, press **[NEW GAME]** after pressing **[SET UP]** to clear the board of all pieces).

— To **remove a piece** simply press it down on its current square and remove it from the board.

— To **move a piece** press it down on its current square, move it to its new position and press it down again.

— 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.

After you have set up the position make sure the **WHITE/BLACK** lights correctly indicate the side to move next (press **[COLOR]** if necessary) and then press **[SET UP]** to resume play (the **SET UP** light will go out).

After you have set up a position always verify it as described in chapter 15. Do not enter illegal positions as this may produce unpredictable results.

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 [♔] and then press the white King on its square. Press [♖] and then the white Rook on its square. Now press **[COLOR]** (**BLACK** light on) and then the black Rook on its square. Press [♔] and then the black King on its square. Press **[COLOR]** (White light on = White to move) and **[SET UP]** to return to play mode.

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!

17. Problem solving

Your computer has a special problem mode (Level **H**) in which it will solve chess problems up to mate in ten moves.

Enter the position (see Chapter 16) and set Level **H** (see Chapter 2). Press **[PLAY]** to start the mate search. The board indicators will tell you how deep the search has progressed.

If the computer finds a forced checkmate it will play the first move — the "key move" — which leads to mate. You may try to defend the position for the opposite side (the side being checkmated) by entering moves as usual. The computer will continue playing the checkmating side until the game is over.

If the computer does not find a forced mate within ten moves it will stop computing, sound an error beep and **not make a move**. Please bear in mind that in Level **H** the computer will only make a move if it can see a forced mate for the side it is playing. Press **[PLAY]** to stop the search any time you like.

18. Turning sound off

If the computer "beeps" are distracting you or others during a game you may turn off the sound by pressing **[SOUND]**. Pressing the key again will turn the sound back on. You must watch the indicator lights and press pieces and keys carefully when playing without sound.

19. The ACL switch

If the computer locks up because of static discharge or some other reason, press **[STOP]** and then use a pin or other sharp object to press the **[ACL]** switch in the base of the cabinet for one second. This resets the computer and clears the memory.

20. Care and maintenance

Your Companion III 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 damage the computer.

21. Technical specifications

Microprocessor:	6301Y
Processor speed:	8 MHz
Program memory:	16 Kbytes
RAM memory:	256 bytes
LED lamps:	23
Keys:	17
Power consumption:	0.1 W
Battery requirement:	3 "AA" penlite cells (type R6 or AM3)
Battery life:	150 hours (alkaline batteries)
AC adapter (optional)	7-9V DC at 100 mA minimum with 2.1 mm mini-plug.
Dimensions:	323 x 237 x 30 mm
Weight:	0.9 kg (without batteries)
Playing strength:	Less than 10% of all chess players can be expected to beat the Companion III. With practice you could be one of them!

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

22. Troubleshooting guide

SYMPTOMS	POSSIBLE CAUSES, TESTS	WHAT YOU SHOULD DO
1. Does not work using batteries.	Batteries weak.	Replace batteries.
	Batteries not inserted properly.	Check if batteries are inserted the correct way round.
	Power-on reset problem.	Press the **[ACL]** switch in the base of the computer for 5 seconds with a pin, paper-clip or similar.
2. All lamps light up together.	Power on reset problem or static discharge.	Press **[ACL]** switch for 5 seconds.
	Batteries weak.	Replace batteries.
3. Computer 'freezes' in the middle of a game.	Batteries weak.	Replace batteries.
	Static discharge.	Press **[ACL]** switch for 5 seconds.
4.1 Lamp does not work.	Lamp dead.	Service Center.
4.2 Chessboard square or key does not respond correctly when pressed, OR Lamps do not come on correctly.	Faulty contacts. Press **[SET UP]**, **[NEW GAME]**, [♔] keys. Press each square on the chessboard in turn to verify board contacts. The proper lamps should light up with a beep in turn — each key should beep once until you reach **[SOUND]**, which turns it off. Press **[SOUND]** a second time and continue.	Service Center
4.3 **MATE** or **CHECK** lamps do not light up.	Test the control lamps as follows: Press **[NEW GAME]**, **[MULTI MOVE]**, F2, F4, E7, E5, G2, G4, D8, H4. The **CHECK** and **MATE** lamps should light up.	Service Center.
5. Computer makes illegal move or computer cheats.	It has made a special move like — En passant — Castling (King side or Queen side) — Pawn promotion/underpromotion	Perform the move, then make sure that you are familiar with these rules (Read 'RULES OF CHESS' manual). Use the **[COLOR]** and piece keys to confirm where the pieces are. Then use the **TAKE BACK** function to return to the previous board position and verify again. This will show you exactly what the computer has done. Repeat tests 4.2 & 4.3 to check computer working correctly.
	You have got pieces on the wrong squares	Make the computer's move, use the **[COLOR]** and piece keys to confirm the board position (See chapter 15.).
	Batteries are running out: — Display dim — Sound weak — Lamps blink more slowly	Replace batteries, press **[ACL]** and try again.

SYMPTOMS	POSSIBLE CAUSES, TESTS	WHAT YOU SHOULD DO
6. Computer does not accept your move in the middle of a game.	Batteries are running out.	Replace batteries.
	Computer locks up.	See chapter 19.
	You are trying to make an illegal move.	Look at the color lamp — is it your turn? Is your King in check? (**CHECK** lamp) Will your move put your King into check? Are you trying to castle incorrectly? Did you move the Rook first when castling? Use the **[COLOR]** and piece keys to confirm where the pieces are.
	Pawn promotion: you must select the piece it promotes to.	Press a piece key to confirm the piece type ([♛], [♜], [♝], [♞])
7. A pawn moves like a Queen, a Rook, a Bishop or a Knight.	The pawn has been promoted.	Use the **[COLOR]** and piece keys to confirm the board position. Use the **TAKE BACK** function to take back as far as necessary and replay the game.
8. King moves like a Queen	The board may have been swapped round, in which case King and Queen change places.	Use the **[COLOR]** and piece keys to confirm where Kings are (see chapter 9).
9. Computer will not play 9.1 White or Black lamp on steadily	It has not started computing.	Press **[PLAY]** to start it computing. If the **MULTI MOVE** lamp is on, read chapter 11.
9.2 White or Black lamp flashing	You have not waited long enough. The computer is still thinking. In complicated positions it may take many times longer than the average response time. Difficult Mate problems may take weeks to solve.	Verify the level, check chapter 2 To interrupt the thinking process press **[PLAY]**.
10. Computer is silent.	The sound is off.	Press **[SOUND]** again to turn it on.
11. Does not work on adapter	Plug loose.	Look at plug. Adjust fit.
	Defective adapter	If computer works using batteries but not using the adapter, then the adapter is probably defective. Send it to the service center.
	Wrong adapter type: voltage rating, output voltage, current limit, plug diameter etc.	Check with dealer.