Cat. No. 60-2213

OWNER'S MANUAL

Please read before using this equipment.

Master 2200X

Chess Computer

RadioShack™

FEATURES

Your RadioShack Master 2200X Chess Computer is one of the most versatile chess computers available. With its advanced features and chess program written by a world computer chess champion, the computer is ideal for everyone from the beginner or casual player to the professional and tournament chess expert. You can set the computer so it plays with the cunning of a grandmaster or as tamely as an absolute beginner.

The computer's options let you simulate the sights, sounds, and intensity of championship and tournament play. You can let the computer act as a referee while you play against another person, turn the computer's sound on or off, and display and hear a ticking game clock during play. The computer also displays information that can help you improve your chess skills.

The computer's many features include:

Special Sensory Playing Surface — the computer senses a move when you press a piece against a square.

Liquid Crystal Display — shows current move, piece position and verification, level, position set up, search depth, principal variation, position search, rotating display, and elapsed game time information.

Rotating Display Option — lets you set the computer to display move strategy, search depth, time per move, move totals, evaluation rating, and move possibilities per second while the computer is thinking.

Built-In Chess Clocks — let you set the computer to display the elapsed time since the computer or an opponent last moved, and the remaining time before the computer or an opponent must make a move. The computer can also display count-up and count-down game timers.

Rank and File Board Lights — let you easily see where a piece came from and where it should go during a move.

Sixty-Four Play Levels — let you choose from 64 game types and levels of difficulty, including beginner, training, regular play, mate search, sudden death, and tournament levels.

Selectable Search Algorithms — let you set the computer to search only for a move most likely to be successful, to speed up the computer's response. Or, you can select the computer's brute force option to search all move possibilities thoroughly.

Take Back — lets you take back and replay moves.

Rule Enforcement — prevents illegal moves.

Save — lets you turn off the computer without interrupting the game in progress so you can continue playing later.

Move — lets you force the computer to make a move, change sides with the computer, or learn by watching the computer play against itself.

Move Suggestion — lets you use the computer to suggest moves, to teach you the best response to an opponent's move.

Problem Set Up — lets you set up special chess problems, so you can practice solving problems published in newspapers, chess literature, or history books.

Opening Book Memory — contains most major opening strategies so the computer can respond more rapidly during a game's opening moves, to speed up play and help you play more professionally. You can set the computer to use none, some, or all of these moves during play, or select tournament opening books for the most challenging play.

Position Verification — lets you check the current position of the pieces if they are accidentally moved or misplaced.

Evaluation — shows the computer's assessment of which player has the advantage and how much of an advantage that player has.

Power Off Option — lets you save battery power by setting the computer to turn itself off if you do not press a key or board square for about 15 minutes. The computer saves the game in progress.

Two Power Options — let you power the computer from batteries or from AC power with an optional AC adapter.

We recommend that you read these instructions thoroughly before using your RadioShack Master 2200X Chess Computer.

CONTENTS

ABOUT THIS MANUAL

This owner's manual is divided into the following major sections.

- Preparation
- Basic Chess Instructions
- Basic Operation
- Play Levels
- Advanced Functions
- Viewing Game Information
- Game Options
- Troubleshooting
- Maintenance

"Preparation" on Page 8 describes the power options you have with your chess computer.

"Basic Chess Instructions" on Page 10 describes how pieces move and the rules of chess.

"Basic Operation" on Page 15 contains general instructions for using your chess computer, including how to set up and play games.

"Play Levels" on Page 24 describes your chess computer's play levels and how to set a level that is right for you.

"Advanced Functions" on Page 31 describes how to verify piece positions, take back moves, and set up and play game scenarios.

"Viewing Game Information" on Page 36 shows how to select and view strategy and evaluation information. This section also shows you how to set, view, and reset the computer's chess clocks.

"Game Options" on Page 41 explains how to customize your chess computer's play.

"Troubleshooting" on Page 50 describes steps you can take if you have any kind of problem with your chess computer.

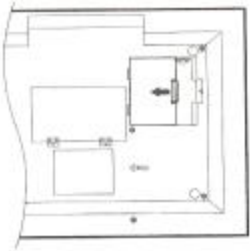
"Maintenance" on Page 51 provides important care and maintenance instructions.

INSTALLING BATTERIES

Your chess computer uses six C batteries (not included). Fresh alkaline batteries, such as RadioShack Cat. No. 23-551, can provide up to 200 hours of playing time.

1. If the computer is on, press and hold down **GO/STOP** until the display is blank to turn it off.

2. While pressing and holding down the tab on the battery compartment cover in the direction of the arrow, lift up the cover to remove it.



3. Insert six C batteries as indicated by the polarity symbols (+ and –) inside the compartment.

Cautions:

- Use only fresh batteries of the required size and type.
- Do not mix old and new batteries, different types of batteries (standard, alkaline, or rechargeable), or rechargeable batteries of different capacities.

4. Replace the cover.

Cautions:

- Never leave dead or weak batteries in the computer.
- Batteries installed incorrectly might leak and damage the computer.
- If the computer will not be powered from batteries for several days, and you do not want to save a game, remove the batteries.
- Dispose of batteries properly; do not bury or burn them.

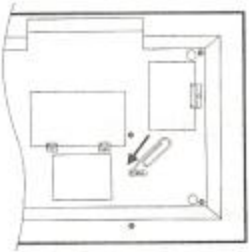
Note: Saved game information is lost when you remove the batteries.

If the computer does not function properly, replace the batteries. If it still does not function properly, you might need to reset the computer. See "Resetting the Chess Computer."

Resetting the Chess Computer

If your computer does not work properly after you replace the batteries, you might need to reset it.

To reset the computer, insert a pointed object, such as a straightened paper clip, into the **ACL** (all clear) hole on the bottom of the computer. The computer beeps and the display shows □ and **0:00:00**.



Note: Resetting the chess computer erases any game you stored.

USING AN AC ADAPTER

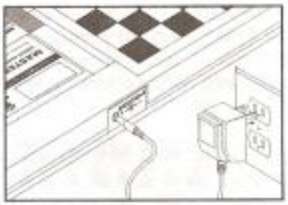
With an optional AC adapter, such as Cat. No. 273-1650, you can operate the computer from standard AC power.

Important: To save game information, you must install batteries in the computer even if you are using an AC adapter.

Cautions:

- You must use an AC adapter that supplies 9 volts and delivers at least 100 milliamps. Its center tip must be set to negative, and its plug must correctly fit the **9V 100mA** jack on the back of the computer. The recommended adapter meets these specifications. Using an adapter that does not meet these specifications could damage the computer or the adapter.
- Turn off the computer by pressing **GO/STOP** before you unplug the AC adapter or its barrel plug.
- Unplug the AC adapter from the AC outlet before you unplug its barrel plug from the computer.

Follow these steps to use an AC adapter.



1. If the computer is on, press and hold down **GO/STOP** until the display is blank to turn it off.
2. Set the AC adapter's 5.5 mm outer diameter/2.1 mm inner diameter barrel plug to negative.
3. Insert the barrel plug into the **9V 100mA** jack on the back of the computer.
4. Plug the AC adapter into a standard AC outlet.

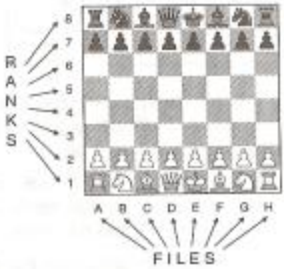
BASIC CHESS INSTRUCTIONS

THE GAME BOARD

Following international chess notation, the game board is made up of 8 vertical rows called files, and 8 horizontal rows called ranks.

Each file (left to right) is designated by a file board light and a letter of the alphabet (A through H), and consists of 8 squares alternately colored black and white.

Each rank (bottom to top) is designated by a rank board light and a number (1 through 8), and also consists of 8 squares alternately colored black and white.



THE GAME PIECES

Description

There are 16 white and 16 black pieces, 32 in all. Each color has these pieces:

- **1 KING** 
- **1 QUEEN** 
- **2 BISHOPS** 
- **2 KNIGHTS** 
- **2 ROOKS** 
- **8 PAWNS** 

Setting Up

Here's how to set up the game board.

Set the board in front of you so the display and buttons are to the right. Set up the white pieces on the side of the board closest to you this way:

- Place the rooks on A1 and H1
- Place the knights on B1 and G1
- Place the bishops on C1 and F1
- Place the queen on D1
- Place the king on E1
- Place a pawn on each square A2–H2

Set up the black pieces on the opposite side of the board this way:

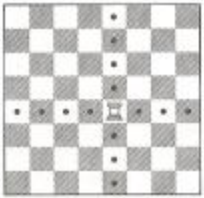
- Place the rooks on A8 and H8
- Place the knights on B8 and G8
- Place the bishops on C8 and F8
- Place the queen on D8
- Place the king on E8
- Place a pawn on each square A7–H7

Note: The queen always begins on a square of her own color.

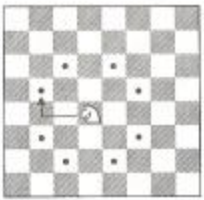
MOVEMENT

Each kind of piece moves in a different way.

The **rook** can move any number of squares vertically or horizontally, but it cannot move past a square occupied by another piece.

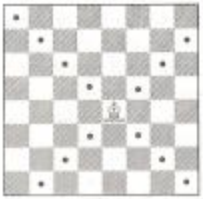


The **knight** moves in an L-shaped pattern. It moves 2 squares horizontally or vertically, then moves 1 additional square at a right angle from its first move. At the end of its move, the knight must land on a square of a different color than the one it started from.

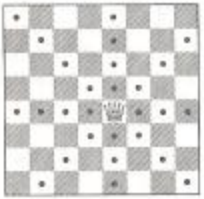


The knight can move even if the squares it moves through are occupied. The knight is the only piece that can "jump" another piece.

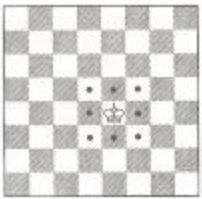
The **bishop** can move any number of squares diagonally, but it cannot move past a square occupied by another piece.



The **queen** can move any number of squares vertically, horizontally, or diagonally. (The queen's moves are a combination of the rook's and bishop's moves.) The queen cannot move past a square occupied by another piece.



The **king** can move only 1 square vertically, horizontally, or diagonally.



The **pawn** can move only 1 (or 2) squares directly forward, except when capturing another piece. It captures a piece by moving diagonally forward 1 square, except when capturing en passant (see "Capturing En Passant" on Page 13). When it moves from its original position, it can move 1 or 2 squares forward. On subsequent moves, it can only move 1 square.

A pawn can be promoted to a piece of higher rank. See "Promoting a Pawn" on Page 13.

GAME RULES

Checkmate — The Object of the Game

The object of the game is to position your pieces so your next move would capture the opponent's king, and your opponent cannot move, protect the king, or capture your piece. This is called checkmate.

Check

Check occurs when a player's piece directly threatens to capture the opponent's king, but the opponent can move the king, or another piece, to escape capture.

Capturing

To capture a piece, you move your piece into the square occupied by the piece you are capturing, except when capturing an opponent's pawn en passant (see "Capturing En Passant"). Remove the captured piece from the board.

Capturing En Passant

A pawn can capture an opponent's pawn that has just moved 2 squares from its original position.

Here's an example of an en passant capture.

1. The white pawn advances from E4 to E5. The black pawn is still in its original position (D7).

2. The black pawn advances from D7 to D5.

3. The white pawn advances to D6 (one square behind the black pawn's position). The black pawn is captured by the white pawn, even though the exact square it is on is not occupied by the white pawn.

PROMOTING A PAWN

When a pawn crosses the entire board, it can be promoted to a queen or another piece, even if the queen or other piece is still on the board.

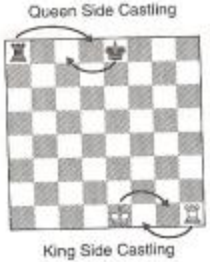
CASTLING

Castling protects the king from a potential check or checkmate situation by hiding it behind a fortified position or moving it out of immediate danger of attack.

You can castle if all of the following conditions exist:

- The king has not moved from his original position.
- The rook that you want to move by castling has not moved from its original position.
- The king is not placed in check on its current square, the square to which it is going, or the square it passes over.
- The squares between the king and the rook are not occupied.

In castling, the king moves 2 squares in the direction of either rook. The rook that is closest to the king after the king has moved now moves to the square right next to and on the other side of the king. Castling counts as 1 move.



Notes:

- If a rook is on the same side of the board as the king's square, this is called a *king's side* castle. If the rook is on the same side of the board as the queen's square, this is called a *queen's side* castle.
- In castling, the king always moves first, then the rook.

DRAW GAMES

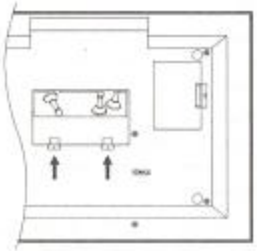
In a draw, neither opponent can win or lose without making an illegal move. There are three types of draws, and your computer recognizes all three of them.

Draw by Stalemate: If the king cannot move anywhere without being placed in check (see "Illegal Moves" on Page 19), the king is not in check, and no other piece on the board can move, the computer claims a draw by stalemate.

Draw by the 50-Move Rule: If 50 consecutive moves are played in a game where neither side moves a pawn or captures a piece, the computer claims a draw by the 50-move rule.

Draw by 3-Time Repetition: If a piece returns to the same location on the board three times in a row, the computer claims a draw by 3-time repetition.

STORING/REMOVING GAME PIECES



1. Press and hold down both tabs on the piece storage compartment cover in the direction of the arrows, then lift and remove the cover.
2. Remove or replace the pieces in the compartment.
3. Replace the cover.

TURNING THE GAME BOARD OFF

Press **GO/STOP** to turn on the game board. If you were playing a game before the computer turned off, the computer automatically returns to the last game it was playing.

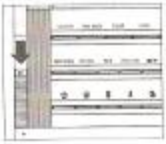
If you replaced batteries or pressed **ACL** to reset the computer, it resets itself to level D1. After that, the computer remains on the last selected level. For more information, see "Play Levels" on Page 24.

Press **GO/STOP** to save the current game and turn off the computer. The computer stores all the game positions and any next-move calculations it was computing.

Note: To save game information, batteries must be installed in the computer even if you are using an AC adapter.

ADJUSTING THE SOUND

You can adjust the computer's sound level any time by sliding the switch to the left of the function keys. Slide the switch up to increase the sound, or down to reduce it.



STARTING A NEW GAME

To start a new game and erase any game stored in memory, press **NEW GAME**, or press **CLEAR** and **ENTER** at the same time.

Note: The computer always starts a new game with you playing white pieces and your opponent playing black pieces.

VIEWING THE GAME TIMER

The computer's game timer starts counting up from 0:00:00 when you press any key or press any board square after you press **NEW GAME**.

Notes:

- The game timer starts counting up even if the first move is an illegal move.
- The game timer continues to count up after a checkmate, draw, or stalemate until you press **NEW GAME**.
- If you are playing a tournament or sudden death game, you can set the game timer so it counts down. See "Tournament Levels (A3–H3)" on Page 28 and "Sudden Death Levels (A4–H4)" on Page 29.

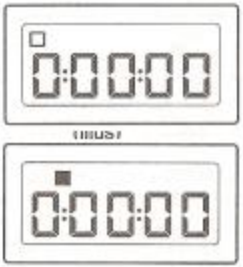
ENTERING MOVES

Playing chess against the computer is like playing with a human opponent — you make your move, and the computer responds with its move. The only difference is that you must physically move both your pieces and the computer's.

To make a move, press down gently on the center of the FROM square, then the TO square. The FROM square is the current location of the piece you plan to move; the TO square is where you are moving the piece.

Notes:

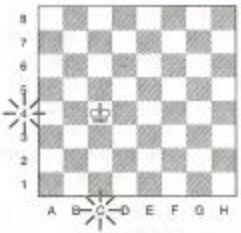
- On the display, □ indicates it is white's turn to move, while ■ indicates it is black's turn to move.



- If you try to use any key other than **GO/STOP** or **NEW GAME** before you complete a move by pressing the TO square, the computer sounds an error beep.

Follow these steps to enter moves.

1. When it is your turn to move, press down the piece you want to move on the FROM square. The display shows □, the piece's symbol, and the FROM square and ---. A rank board light shows the rank the piece is on, and a file board light shows the file the piece is on. Together, these lights show the FROM square.



2. Gently press the piece down on the TO square. The computer displays the FROM and TO squares. Then ■ flashes on the display, and the game timer counts up while the computer plans its move.

Notes:

- If your move captures an opponent's piece, □, the attacking piece's symbol, the FROM square, X, and the TO square appear on the display.
- The computer might respond instantly, so you might not see ■ flash and the game timer count up.

- If you do not want to wait for the computer to calculate its move, press **ENTER** to force the computer to make a move.

3. When the computer is ready to move or if you pressed **ENTER** to force a move, the display shows ■, the piece symbol for the piece the computer wants to move, the FROM square, and the TO square. The rank/file board lights show the FROM square.

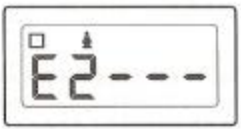
4. Press the computer's piece down on the FROM square. The rank/file board lights show the TO square.

5. Press the computer's piece down on the TO square. The display shows □ to indicate it is your turn to move, and the game timer continues to count up.

   Note: If the computer's move captures one of your pieces, ■, the attacking piece's symbol, the FROM square, **X**, and the TO square appear on the display.

Here's an example of how to move pieces and communicate with the computer. Try it now!

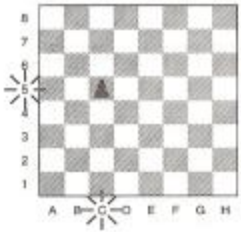
1. Press the white pawn on square E2. The display shows □, a pawn piece symbol, E2, and ---, and the rank/file board lights show square E2.



2. Move the pawn to square E4 and press it on the square. ■ flashes on the display and the game timer counts up while the computer calculates its move.

3. The computer, for example, might display ■, a pawn piece symbol, and C7-C5 to indicate that it wants to move a pawn from square C7 (the FROM square) to square C5 (the TO square). The rank/file board lights show the FROM square C7.

4. Press the black pawn on the FROM square. The rank/file board lights show the TO square C5.



5. Press the black pawn on the TO square. The computer displays □ to indicate it is your turn to move, and the game timer continues to count up.

For each move, remember the three basic steps: press, move, and press again.

CORRECTING ACCIDENTAL WRONG MOVES

If you press down on a piece and the FROM square information appears on the display, but you decide not to make that move, press the piece down on the FROM square again. The computer displays □, the game timer continues to count up, and you can enter another move.

If you change your mind after completing a move, you must wait for the computer to indicate its move. Enter the computer's move, then press **TAKE BACK**. The computer shows you how to take back its last move. Press **TAKE BACK** again, then the computer shows you how to take back your last move. (See "Taking Back Moves" on Page 31).

ILLEGAL MOVES

The computer only allows moves that comply with the rules of chess. If the computer detects an illegal move or error, it sounds an error tone (if the sound is on). The display still shows the FROM square, and the rank/file board lights also remain unchanged.

Here are the moves that cause the computer to indicate an illegal move:

- Pressing on a piece of the wrong color (for example, it is white's turn and you press on a black piece).
- Pressing on the wrong square when making the computer's move (for example, the rank/file board lights show square C5 and you press square B5).

- Pressing on an empty square without having first pressed a piece that can move to that square.
- Moving a piece that puts or leaves your own king in check or checkmate.

FORCING THE COMPUTER'S MOVE

When it is the computer's turn and the game timer is counting up, you can press **ENTER** to force the computer to make an immediate move.

Note: At the mate search levels, pressing **ENTER** does not cause the computer to make a move. Instead, the computer sounds an error beep, and the display shows ■ and -----, indicating that it was interrupted before it could find a checkmate. To continue the game, you must change to another level of play. See "Mate Search Levels (A6–H6)" on Page 30.

CHANGING SIDES WITH THE COMPUTER

To change sides with the computer, press **ENTER** when it is your turn to move. □ flashes on the display while the computer takes over your pieces and makes a move. Then you can enter moves for the computer's side and continue to play the same game.

To watch the computer play against itself, simply press **ENTER** every time it is your turn to move.

GAME INDICATORS

Checkmate

Whenever a checkmate occurs on the board, **MATE** alternates with the previous display for about 10 seconds. Press **NEW GAME** to start a new game.

When the computer discovers an opportunity to checkmate its opponent during a game, it first indicates its move as usual. When you make the move for the computer, the computer then flashes a checkmate announcement for about 10 seconds. For example, if an opponent makes a move, then the computer finds an opportunity to checkmate the opponent in 2 moves (for each player), **† in 2** flashes on the display.

Note: The game timer continues to count up after a checkmate until you press **NEW GAME**.

Check

Whenever a check occurs on the board, CHECK alternates with the previous display for about 10 seconds, indicating that a king is in check.

Draw Game

When the computer detects the conditions for a draw game, End flashes on the display.

If the draw game is a stalemate, the game is over and cannot be continued. If the draw game is not a stalemate, you can take back moves (see "Taking Back Moves" on Page 31) or change piece positions (see "Problem Setup" on Page 32), then continue play by making your next move or pressing **ENTER**.

Note: The game timer continues to count up after a draw game until you press **NEW GAME**.

MAKING SPECIAL MOVES

En Passant Capture

The computer recognizes when you capture a piece en passant, and it can decide to capture a piece en passant, as well.

When performing an en passant capture, the computer first indicates the move for its pawn. Then the computer displays the square of the captured pawn with **X**, and the rank/file board lights also show the location of the captured pawn. Press the square and take away the captured pawn.

Note: For more information about capturing en passant, see "Capturing En Passant" on Page 13.

Pawn Promotion

When one of your pawns reaches the opposite side of the board, press the queen's piece symbol key after you press the TO square to register it as a queen. If you choose to promote the pawn to a piece other than a queen, press that piece symbol key instead.

If one of the computer's pawns reaches the opposite side of the board, the computer promotes its pawn to the piece it considers most advantageous and displays that piece's symbol.

Note: You can substitute the promoted piece if one is available, but you do not need to. The computer accepts the pawn as the piece it was promoted to. All you need to do is remember which pawn is your or the computer's promoted piece. (To make this easier, you can put a piece of tape on top of the promoted piece to mark it.)

Castling

The computer castles whenever it determines that such a move is desirable. The computer castles by displaying 0-0 for a king side castle, or 0-0-0 for a queen side castle. You must then move the computer's king first, then its rook.

The computer recognizes when you choose to castle. Castle by moving your king first. When you properly move your king two squares, the computer recognizes the move as the first part of castling.

Notes:

- Castling is a king's move. If you attempt to castle by moving your rook before moving the king, the computer accepts the rook's move as a valid move, but will not let you complete the castle by moving the king. You must take back the rook's move, then castle by moving the king first. See "Taking Back Moves" on Page 31.
- If you move your rook incorrectly when castling and you moved your king first, the display shows Er and the correct TO square for the rook, and the rank/file board lights also show the correct TO square. Press the rook on the correct TO square.

For example, follow these steps to perform a white queen's side castle.

1. Press the white king on square E1. The computer displays □, ♔, and E1 ---, and the rank/file board lights show square E1.
2. Move the white king to square C1 and press it on the square. The computer displays □, ♔, and 0-0-0, and the rank/file board lights show square A1.
3. Press the white rook on square A1. The computer displays □, ♔, and 0-0-0, and the rank/file board lights show square D1.
4. Move the white rook to square D1 and press it on the square. The computer displays ■ to indicate it is black's turn to move.

If the computer castles during a game, follow these steps to perform a black king's side castle.

1. The computer displays E8 as the FROM square. Press the black king on square E8. The computer displays ■, ♔, and 0 – 0, and the rank/file board lights show square G8.

2. Move the black king to square G8 and press it on the square. The computer displays ■, ♔, and 0-0, and the rank/file board lights show square **H8**.

3. Press the black rook on square H8. The computer displays ■, ♔, and 0-0, and the rank/file board lights show square F8.

4. Move the black rook to square F8 and press it on the square. The computer displays □ to indicate it is white's turn to move.

HAVING THE COMPUTER SUGGEST A MOVE

The computer can suggest moves for you during a game.

To view the move the computer suggests for you, press **INFO** during your turn. The computer displays ----- while it computes the move, then displays □ and the FROM and TO squares for the suggested move.

To continue the game, simply enter your move.

Note: If you press **INFO** during the computer's turn, it displays counter-move information. See "Principal Variation" on Page 36.

PLAY LEVELS

When you play against the computer, you can select a play level that matches your skill level. You can also select from many time-controlled play levels, including several that simulate tournament play. Some of the levels even let you use the computer to learn chess strategies or analyze chess problems.

The 64 different play levels include:

- 16 training levels (A7 through H8)
- 8 mate search levels (A6 through H6)
- 8 beginner levels (A5 through H5)
- 8 sudden death levels (A4 through H4)
- 8 tournament levels (A3 through H3)
- 1 indefinite response time level (H2)
- 15 normal play levels (A1 through G2)

		A	B	C	D	E	F	G	H
TRAINING LEVELS	8	TRAINING Search Depth 9 Ply	TRAINING Search Depth 10 Ply	TRAINING Search Depth 11 Ply	TRAINING Search Depth 12 Ply	TRAINING Search Depth 13 Ply	TRAINING Search Depth 14 Ply	TRAINING Search Depth 15 Ply	TRAINING Search Depth 16 Ply
	7	TRAINING Search Depth 1 Ply	TRAINING Search Depth 2 Ply	TRAINING Search Depth 3 Ply	TRAINING Search Depth 4 Ply	TRAINING Search Depth 5 Ply	TRAINING Search Depth 6 Ply	TRAINING Search Depth 7 Ply	TRAINING Search Depth 8 Ply
MATE SEARCH LEVELS	6	MATE SEARCH Mate in 1 move	MATE SEARCH Mate in 2 moves	MATE SEARCH Mate in 3 moves	MATE SEARCH Mate in 4 moves	MATE SEARCH Mate in 5 moves	MATE SEARCH Mate in 6 moves	MATE SEARCH Mate in 7 moves	MATE SEARCH Mate in 8 moves
BEGINNER LEVELS	5	BEGINNER 1 second per move	BEGINNER 2 seconds per move	BEGINNER 3 seconds per move	BEGINNER 4 seconds per move	BEGINNER 5 seconds per move	BEGINNER 6 seconds per move	BEGINNER 7 seconds per move	BEGINNER 8 seconds per move
SUDDEN DEATH LEVELS	4	SUDDEN DEATH 5 minutes per game	SUDDEN DEATH 10 minutes per game	SUDDEN DEATH 15 minutes per game	SUDDEN DEATH 20 minutes per game	SUDDEN DEATH 30 minutes per game	SUDDEN DEATH 45 minutes per game	SUDDEN DEATH 60minutes per game	SUDDEN DEATH 90 minutes per game
TOURNAMENT LEVELS	3	TOURNAMENT 40 moves in 1:30	TOURNAMENT 35 moves in 1:45	TOURNAMENT 40 moves in 1:45	TOURNAMENT 35 moves in 1:30	TOURNAMENT 40 moves in 2:00	TOURNAMENT 45 moves in 2:30	TOURNAMENT 50 moves in 2:00	TOURNAMENT 40 moves in 3:00
NORMAL PLAY LEVELS	2	NORMAL PLAY 45 seconds per move	NORMAL PLAY 1 minute per move	NORMAL PLAY 1.5 minutes per move	NORMAL PLAY 2 minutes per move	NORMAL PLAY 3 minutes per move	NORMAL PLAY 5 minutes per move	NORMAL PLAY 10 minutes per move	NORMAL PLAY Indefinite Response
	1	NORMAL PLAY 1 second per move	NORMAL PLAY 2 seconds per move	NORMAL PLAY 3 seconds per move	NORMAL PLAY 5 seconds per move	NORMAL PLAY 10 seconds per move	NORMAL PLAY 15 seconds per move	NORMAL PLAY 20 seconds per move	NORMAL PLAY 30 seconds per move

When you install batteries or press **ACL** to reset the computer, it resets itself to level D1. After that, the computer remains on the last selected level.

To see the current level, press **LEVEL**. The computer beeps and the display shows the code for the current level.

LEVEL CODE DISPLAYS

When you select a level, the display shows information about that level.

For example, if you choose level B2, the display shows `L 1:00`. `L` means that the computer is set to a normal play level, and `1:00` (one minute) is the maximum amount of time the computer has to calculate each move during a game. See "Choosing a Level" on Page 26.

CHANGING THE LEVEL

To change the current level, press **LEVEL**, then press the square on the game board that corresponds to the level you want. Or, press ■/⇐ or □/⇒ until the display shows the level you want.

To quickly move through the levels, repeatedly press **LEVEL** to skip over eight levels at a time.

When the computer displays the level you want, simply press **ENTER**, then continue the current game. Or, press **CLEAR** to remain on the last selected level. You can change the level at any time during a game.

CHOOSING A LEVEL

If you are a beginner, start out with the beginner levels (A5 through H5) or training levels (A7 through H8). The computer purposely makes mistakes on the beginner levels so you can beat the computer and learn while you play. The training levels restrict the computer's search depth, resulting in weaker play.

If you are an intermediate or advanced player, try the normal play levels (A1 through G2). These range from easy all the way up to difficult.

Note: When you set the level, keep in mind that the more time the computer has to think about its moves, the better it plays.

Beginner Levels (A5 – H5)

The eight beginner levels let beginners and average players play (and win) more easily than in other levels. The computer makes common mistakes such as leaving pieces unprotected, failing to capture unprotected pieces, and capturing pieces while leaving the king unprotected.

Level A5 is the easiest, and the computer's playing strength increases gradually up through level H5.

The following table shows:

- The square you press to select the level (after you press **LEVEL**)
- The average amount of time the computer takes to determine its move
- What the computer displays when you select the level

Square	Time Per Move	Display
A5	1 second	bEG: 1
B5	2 seconds	bEG: 2
C5	3 seconds	bEG: 3
D5	4 seconds	bEG: 4
E5	5 seconds	bEG: 5
F5	6 seconds	bEG: 6

Square	Time Per Move	Display
G5	7 seconds	bEG: 7
H5	8 seconds	bEG: 8

Note: The time-per-move figure is the *average* time the computer takes to make a move. During the opening moves of a game, the computer might move more quickly.

Training Levels (A7 – H8)

The 16 training levels are designed especially for beginners. At the lower training levels, the computer moves almost instantaneously, not allowing itself to study a move in any depth.

Level A7 is the easiest, and the computer's playing strength increases gradually up through Level H8.

The following table shows:

- The square you press to select the level (after you press **LEVEL**)
- The number of ply the computer will search to find a move

Square	Display
A7	PLY: 1
B7	PLY: 2
C7	PLY: 3
D7	PLY: 4
E7	PLY: 5
F7	PLY: 6
G7	PLY: 7
H7	PLY: 8
A8	PLY: 9
B8	PLY: 10
C8	PLY: 11
D8	PLY: 12
E8	PLY: 13
F8	PLY: 14
G8	PLY: 15
H8	PLY: 16

Note: A ply is one of your moves or one of the computer's moves.

Normal Play Levels (A1 – G2)

The 15 normal play levels increase in difficulty from level A1 (the easiest) to level G2 (the most difficult).

The following table shows:

- The square you press to select the level (after you press **LEVEL**)
- The average amount of time the computer takes to determine its move
- What the computer displays when you select the level

Square	Time Per Move	Display
A1	1 second	L 0:01
B1	2 seconds	L 0:02
C1	3 seconds	L 0:03
D1	5 seconds	L 0:05
E1	10 seconds	L 0:10
F1	15 seconds	L 0:15
G1	20 seconds	L 0:20
H1	30 seconds	L 0:30
A2	45 seconds	L 0:45
B2	1 minute	L 1:00
C2	1 minute 30 seconds	L 1:30
D2	2 minutes	L 2:00
E2	3 minutes	L 3:00
F2	5 minutes	L 5:00
G2	10 minutes	L 10:00

Note: The time-per-move figure is the *average* time the computer takes to make each move. During the opening moves of a game, the computer might move more quickly.

Tournament Levels (A3 – H3)

At these levels, you must make a specified number of moves within a given amount of time. If you exceed the allotted time before making the specified number of moves, the computer beeps, `tInE` flashes on the display with the elapsed time, and the game is over.

Notes:

- When you play at a tournament level, you can set the computer's chess clock to display the count-down time instead of the elapsed time. See "Count-Down Clock (E1)" on Page 44.
- When you play at a tournament level, the computer times itself and you. See "Remaining Time in a Sudden Death/Tournament Game" on Page 39.

The following table shows:

- The square you press to select the level (after you press **LEVEL**)
- The number of moves you must make within the allotted time
- The allotted time for the game
- What the computer displays when you select the level

Square	Moves	Time Per Game	Display (Alternating)
A3	40	1 Hour 30 Minutes	`tr 40/1:30:00`
B3	35	1 Hour 45 Minutes	`tr 35/1:45:00`
C3	40	1 Hour 45 Minutes	`tr 40/1:45:00`
D3	35	1 Hour 30 Minutes	`tr 35/1:30:00`
E3	40	2 Hours	`tr 40/2:00:00`
F3	45	2 Hours 30 Minutes	`tr 45/2:30:00`
G3	50	2 Hours	`tr 50/2:00:00`
H3	40	3 Hours	`tr 40/3:00:00`

Sudden Death Levels (A4 – H4)

At these levels, you must finish the game within a given amount of time. If you exceed the allotted time, the computer beeps and `tInE` flashes on the display with the elapsed time.

Notes:

- When you play at a sudden death level, you can set the computer's chess clock to display the count-down time instead of the elapsed time. See "Count-Down Clock (E1)" on Page 44.
- When you play at a sudden death level, the computer times itself and you. See "Remaining Time in a Sudden Death/Tournament Game" on Page 39.

The following table shows:

- The square you press to select the level (after you press **LEVEL**)
- The maximum amount of time allowed for the game
- What the computer displays when you select the level

Square	Time Per Game	Display
A4	5 Minutes	bL : 5
B4	10 Minutes	bL :10
C4	15 Minutes	bL :15
D4	20 Minutes	bL :20
E4	30 Minutes	bL :30
F4	45 Minutes	bL :45
G4	60 Minutes	bL :60
H4	90 Minutes	bL :90

Mate Search Levels (A6 – H6)

The eight mate search levels allow you to set up a position (see "Problem Set-up" on Page 32) and let the computer try to checkmate the opponent's king within 1 to 8 moves, regardless of the opponent's defense. The computer searches for the shortest possible solution to checkmate problems. If no checkmate is possible or the computer cannot find a checkmate, it sounds an error beep. Then you must change levels to return to normal play.

The following table shows:

- The square you press to select the level (after you press **LEVEL**)
- The mate problem the computer will try to solve
- What the computer displays when you select the level

Square	Problem	Display
A6	Mate in 1	∓ in: 1
B6	Mate in 2	∓ in: 2
C6	Mate in 3	∓ in: 3
D6	Mate in 4	∓ in: 4
E6	Mate in 5	∓ in: 5
F6	Mate in 6	∓ in: 6
G6	Mate in 7	∓ in: 7
H6	Mate in 8	∓ in: 8

Indefinite Response Time Level (H2)

At H2 (the indefinite response time level), the computer searches until it finds a forced mate or you stop the search by pressing **ENTER**. Use this level to have the computer analyze complicated positions for hours or even days.

When you select this level, the computer displays `9:99:99`.

To stop the search and force the computer to make a move, press **ENTER**.

VERIFYING PIECE POSITIONS

If you want to verify the location of any piece on the chess board, you can use the piece symbol keys any time to find the position of all pieces. Each time you press a piece symbol key, the computer displays the piece's color and location, and the rank/file board lights indicate the piece's location.

The piece symbol keys look like this.

- ♔ — locates □ ♔ and ■ ♔
- ♕ — locates □ ♕ and ■ ♕
- ♖ — locates □ ♖ and ■ ♖
- ♗ — locates □ ♗ and ■ ♗
- ♘ — locates □ ♘ and ■ ♘
- ♙ — locates □ ♙ and ■ ♙

For example, if the white queen is on square D1 and you want to verify its location, press the queen piece symbol key once. The computer displays □ ♕ d1. Or, if the black queen is on square F6 and you want to verify its location, press the queen piece symbol key twice. The computer displays ■ ♕ F6.

To locate all pieces of the same type, repeatedly press the piece symbol key for the type. If there is more than one of the same color piece of that type on the board, the display and the rank/file board lights show the location of each like piece each time you press the piece symbol key. If you continue to press the piece symbol key, the display and the rank/file board lights show you the location of each of the other color's pieces of the same type.

Note: If you press a piece symbol key more times than the total number of pieces of that type on the chess board, the display shows the piece symbol only.

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

TAKING BACK MOVES

This function lets you take back any move made by you or the computer after the move has been completed. The computer even reminds you to return a previously captured piece to the board or a castled rook to its original square.

Notes:

- If you are not sure about the position of a previously captured piece or castled rook, see "Verifying Piece Positions."
- If you change your mind about a move before pressing a piece down on its TO square, follow the procedures in "Correcting Accidental Wrong Moves" on Page 19.

- To take back your own move, you must take back the computer's counter-move first.

1. Press **TAKE BACK**. The rank/file board lights show the TO square of the last move, and the display shows ■ or □, the piece symbol for the last-moved piece, the FROM square, and the TO square of the last move.
2. Press the piece on the indicated TO square. The rank/file board lights change to show the FROM square of the last move.
3. Move the piece from the TO square to the FROM square.
4. Press the piece on the indicated FROM square.

   Note: The game timer shows the total amount of time the computer has taken to move during the current game.
5. Repeat Steps 1 through 4 to take back additional moves. You can take back up to 30 ply of moves (a ply is one of your moves or one of the computer's moves).

PROBLEM SETUP

You can use the setup mode:

- To erase, re-enter, or relocate pieces any time before or during a game
- To set up problems or puzzles for the computer to solve

Note: If you have already started a game, you must press **POSITION** during your turn to enter the setup mode. If you have not yet started a game, you can press **POSITION** any time.

Before using this mode to create your own positions, familiarize yourself with this procedure by setting up the board positions described in the following examples.

Full Board Setup

In a full board problem setup, the computer records the positions you enter into memory and assumes all other pieces remain in their initial positions. You only need to go through these steps for pieces that you want to remove or move from their initial positions.

Follow these steps to set up a game with most of the chess pieces in their original positions.

1. Set up all of the pieces on the board.
2. Press **NEW GAME**.
3. Press **POSITION**. The computer displays -POS-.

4. Press the piece symbol key for the piece you want to move or remove and ■/⬅ or □/➡ to change the color, if necessary. The computer displays ■ or □ and the piece symbol for the piece you want to move or remove.

5. Press the piece you want to move or remove on its FROM square. The computer displays ■ or □ and the piece symbol, -, and the square the piece is on. The rank/file board lights also show the piece's FROM square.

6. If you want to move the piece, move the piece to the desired square, then press it on the square. The computer displays ■ or □ and the piece symbol, +, and the TO square the piece is on. The rank/file board lights also show the piece's TO square.

   If you want to remove the piece, just remove the piece from the board. The display does not change.

7. Repeat Steps 5 and 6 for any other pieces you want to move or remove.

8. When you finish setting up the pieces, press □/➡ until the computer displays ■ or □ for the color that will start, then press **CLEAR**. Or, simply press **CLEAR**, then choose the level you want and begin the game.

Note: If the computer beeps an error tone, one or more pieces were moved, removed, or entered illegally. To correct the set up, see "Correcting Illegal Setups" on Page 35.

Partial Board Setup

Follow these steps to clear the chessboard and set up only a few pieces.

1. Press **NEW GAME**.

2. Press **POSITION**. The computer displays -POS-.

3. Press **ENTER**. The computer displays [ ] and clears the positions of all pieces from the board.

4. Press **ENTER** again. The computer displays □.

5. Press the piece symbol key for the piece you want to add and ■/⬅ or □/➡ to change the color, if necessary. The computer displays ■ or □ and the piece symbol for the piece you want to add.

6. Press the piece you want to add on its TO square. The computer displays ■ or □ and the piece symbol, +, and the square the piece is on. The rank/file board lights also show the TO square.
7. Repeat Steps 5 and 6 for any other pieces you want to add.
8. When you finish setting up the pieces, press □/➡ until the computer displays ■ or □ for the color that will start, then press **CLEAR**. Or, simply press **CLEAR**, then play the game.

Note: If the computer beeps an error tone, one or more pieces were added illegally. To correct the set up, see "Correcting Illegal Setups" on Page 35.

Adding Pieces During a Game

Follow these steps to add pieces during a game.

1. Press **POSITION**. The computer displays -POS-.

2. Press the piece symbol key for the piece you want to add and ■/⬅ or □/➡ to change the color, if necessary. The computer displays ■ or □ and the piece symbol for the piece you want to add.
3. Press the new piece onto the square where you want to add it. The computer displays ■ or □ and the piece symbol, +, and the square the piece is on. The rank/file board lights also show the square.
4. Repeat Steps 2–3 for any other pieces you want to add.
5. When you finish setting up the pieces, press **CLEAR**.

Note: If the computer beeps an error tone, one or more pieces were added illegally. To correct the set up, see "Correcting Illegal Setups" on Page 35.

Removing Pieces During a Game

Follow these steps to remove pieces during a game.

1. Press **POSITION**. The computer displays -POS-.
2. Press the piece symbol key for the piece you want to remove and ■/⬅ or □/➡ to change the color, if necessary. The computer displays ■ or □ and the piece symbol for the piece you want to remove.
3. Press the piece you want to remove onto its square, then remove it. The computer displays ■ or □ and the piece symbol, –, and the square the piece was on. The rank/file board lights also show the square.
4. Repeat Steps 2-3 for any other pieces you want to remove.
5. When you finish setting up the pieces, press **CLEAR**.

Note: If the computer beeps an error tone, one or more pieces were removed illegally. To correct the set up, see "Correcting Illegal Setups."

Correcting Illegal Setups

To be legal, a setup must meet the following conditions.

- Each side has one king.
- The king for the side which is to move is not in check.
- There are no pawns on the first or eighth rank.

If the computer beeps an error tone, one or more pieces were set up illegally. To correct the set up:

1. Press the piece symbol key for each piece on the board to verify piece positions. See "Verifying Piece Positions" on Page 31.
2. Set up a piece, remove the illegal piece, or replace an incorrectly placed piece with the correct piece for that square. See "Adding Pieces During a Game" on Page 34 or "Removing Pieces During a Game."
3. Press **CLEAR**.

VIEWING GAME INFORMATION

Your chess computer displays information about its calculations during play. Studying this information can help you learn more about chess.

You can view game information at any time during a game. If you view it while waiting for the computer to move, you can watch the information change as the computer considers the best response to a move you made.

Note: You can set the computer to automatically display game information as it computes its next move. See "Rotating Display Options (A3 – H3)" on Page 48.

You can view the following types of game information:

- Principal variation
- Search information
- Chess clocks
- Move counter

PRINCIPAL VARIATION

The computer predicts the moves it thinks an opponent will make (up to 4 ply ahead), then computes countermoves to those moves. These countermoves are called principal variations.

To view the first principal variation, press **INFO** during the computer's turn. ■ flashes, and the display shows the FROM and TO squares for the first countermove the computer is considering. Then press ■/⇐ or □/⇒ to see additional countermoves, if any (up to 4).

Notes:

- If you press **INFO** during your turn, the computer suggests a move for you. See "Having the Computer Suggest a Move" on Page 23.
- The computer displays ----- as you press ■/⇐ or □/⇒ if it has not yet computed a second, third, or fourth countermove.

To continue the game, simply enter the computer's move when the computer displays it.

SEARCH INFORMATION

Evaluation Rating

The computer can evaluate the current board position. To view the computer's evaluation, press **INFO** twice. ■ flashes or □ is displayed, and the display shows + or - and n.n.

+ or – and n.n is an evaluation rating that shows the computer's assessment of the current game based on the following factors.

- + or – shows the player who the computer thinks has the advantage. If + is displayed, it means that white has an advantage over black. If – is displayed, it means that black has an advantage over white.
- n.n shows a combination of the following values:
  - — The point value of the piece the computer thinks it might win or lose. The computer assigns these point values to the pieces:
    - Pawn (1 point)
    - Bishop (3 points)
    - Knight (3 points)
    - Rook (5 points)
    - Queen (9 points)
  - — The computer's general assessment of the position of all pieces on the board.

Notes:

- The evaluation rating might change during the computer's move because the computer explores different strategies in its analysis.
- The evaluation rating might be a fractional number.
- The computer will not display an evaluation rating while set to a mate search level.

To continue the game, simply enter the computer's move when the computer displays it, or enter your move when it is your turn.

Current Search Depth

The computer responds to an opponent's moves by predicting the opponent's next several moves, then countering those moves.

To view the current search depth (the number of ply of a player's moves the computer is looking ahead and the number of possible countermoves it is considering), press **INFO** twice, then press □/➡ once. ■ flashes or □ is displayed, and the display shows the search depth.

For example, if the computer displays 7_ 1, the computer is searching 7 ply of moves ahead for a player, and is considering 1 possible countermove.

Notes:

- The computer displays ----- as you press □/➡ if it has not yet completed a search.
- The search depth might change during the computer's move.
- The computer will not display search depth information while set to a mate search level.

To continue the game, simply enter the computer's move when the computer displays it, or enter your move when it is your turn.

Current Countermove

To view the countermove that the computer is currently considering, press **INFO** twice, then press □/➡ twice. ■ flashes or □ is displayed, and the display shows the FROM and TO squares for the countermove.

Notes:

- The current countermove might change during the computer's move because the computer explores different strategies in its analysis.
- The computer will not display current countermove information while set to a mate search level.

To continue the game, simply enter the computer's move when the computer displays it, or enter your move when it is your turn.

Position Total

To view the number of positions per second that the computer is checking while determining its countermove, press **INFO** twice, then press □/➡ three times. ■ flashes or □ is displayed, and the number changes on the display.

To continue the game, simply enter the computer's move when the computer displays it, or enter your move when it is your turn.

CHESS CLOCKS

The computer's chess clocks keep track of the elapsed time and remaining time for both sides during a game. You can view any chess clock any time during a game.

The chess clocks stop whenever you take back a move, change the playing level, select options, verify or set up a position, or press **GO/STOP** to turn off the computer. When a game is saved, the computer also saves the settings of the chess clocks in memory and turns them back on when play continues.

Note: The computer resets all chess clocks to **0:00:00** when you press **NEW GAME.**

To continue a game after viewing a chess clock, simply enter the computer's move when the computer displays it, or enter your move when it is your turn.

Elapsed Time Since Any Move

To view the elapsed time since either you or the computer made a move, press **INFO** three times. ■ or □ and the clock is displayed.

Elapsed Time Since Computer Started Current Game

To view the elapsed time since the computer started the current game, press **INFO** three times and press □/➡ once. ■ or □ and the clock is displayed.

Elapsed Time Since You Started Current Game

To view the elapsed time since you started the current game, press **INFO** three times and press □/➡ twice. ■ or □ and the clock is displayed.

REMAINING TIME IN A SUDDEN DEATH/ TOURNAMENT GAME

In a sudden death or tournament game, both you and your opponent have a specific amount of time to complete all moves. As you and your opponent play, you might make your moves faster or slower than the opponent. Therefore, the chess clocks keep track of your remaining time and the computer's remaining time separately.

Computer's Remaining Time

To view the time the computer has remaining before sudden death or tournament time expires, press **INFO** three times and press □/➡ three times. ■ or □ and the clock is displayed.

Note: If you are not playing a sudden death or tournament level game, the display shows -----.

Your Remaining Time

To view the time you have remaining before sudden death or tournament time expires, press **INFO** three times and press □/➡ four times. ■ or □ and the clock is displayed.

Note: If you are not playing a sudden death or tournament level game, the display shows -----.

Resetting the Chess Clocks

Press **NEW GAME** to reset all chess clocks to 0:00:00.

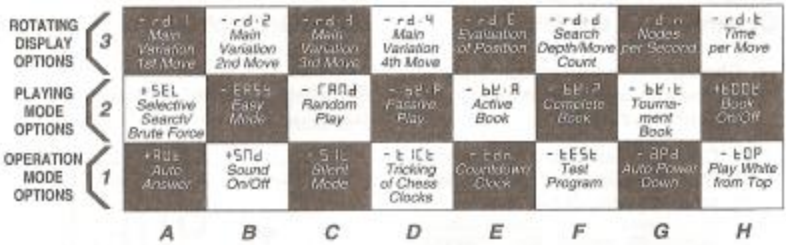
MOVE COUNTER

The computer counts the total number of your moves during a game. You can view the move counter any time during a game.

To view the move counter, press **INFO** four times. no and the number of moves you have taken are displayed.

To continue a game after viewing the move counter, simply enter the computer's move when the computer displays it, or enter your move when it is your turn.

GAME OPTIONS



The computer's game options let you select the computer's optional features any time before or during a game. These options control how the computer works, selects moves, and displays information during play.

The game options are divided into the following groups:

- Operation Mode
- Playing Mode
- Rotating Display

The above chart shows the available game options. Each group of game options contains 8 different settings. The Playing Mode group includes opening book options.

Notes:

- When the computer displays an option, it also displays + or – before the option. + shows that the option is on, and – shows that the option is off.
- The chart shows the default setting for each option when you install batteries or press **ACL** to reset the computer.
- The only two options that reset to the default when you start a new game are Auto Answer (A1) and Play White from the Top (H1).

SELECTING AND CHANGING OPTIONS

1. Choose the option group containing the setting you want to change by pressing **OPTION**:
   - Once to select the Operation Mode group (see "Operation Mode Options (A1–H1)."
   - Twice to select the Playing Mode group (see "Playing Mode Options (A2–C2)" on Page 45).
   - Three times to select the Rotating Display group (see "Rotating Display Options (A3–H3)" on Page 48).

   The display shows the first option in the option group you selected.
2. Repeatedly press ■/⇦ or □/⇨ until the display shows the option you want to change. For example, if you want to change option C1 (silent mode), press □/⇨ twice.

   The display shows + (if the option is on) or – (if the option is off).
3. To change the option's setting, either press **ENTER** or the board square corresponding to the option.
4. Press **CLEAR** to continue a game, or repeat Steps 1–3 to select and change another option.

OPERATION MODE OPTIONS (A1 – H1)

Playing Against Another Person (A1)

The computer normally displays a countermove when you enter a move. However, you can set the computer so it will not answer with a countermove when you make a move by setting this option to –.

This option lets you use the computer as a referee when you play against another person, enter a series of moves, or replay a part of a game.

Notes:

- If you are playing against another person and set this option to –, either player can still use the computer to suggest a move by pressing **INFO**. The display shows the suggested move.
- If you are playing against another person and set this option to –, either player can let the computer enter a move for them by pressing **ENTER**. The display shows the move entered by the computer.

Sound (B1)

The computer normally beeps whenever you press a key or square. However, you can set the computer so it will not beep when you press a key or square, by setting this option to –.

Note: If you set this option to –, the computer still beeps when it moves or when you make an illegal move or press a wrong key.

Silent Mode (C1)

The computer normally beeps whenever you make an illegal move or press a wrong key. However, you can set the computer so it will not beep at all, by setting this option to +.

Ticking Clock (D1)

The computer's clock is normally silent. However, you can set the computer so the clock ticks like a real chess clock, by setting this option to +.

Note: The computer's clock ticks automatically if you turn on one of the rotating display options. See "Rotating Display Options (A3–H3)" on Page 48.

Count-Down Clock (E1)

The computer's clock normally counts up the elapsed time as you play. However, if you are playing at a tournament or sudden death level, you can set the clock so it counts down instead of counting up, by setting this option to +.

Test Program (F1)

A service person can display troubleshooting information by setting this option to +.

Press **ENTER** and **CLEAR** at the same time to stop the test.

Automatic Power-Off (G1)

The computer normally stays on until you press **GO/STOP**. However, you can set the computer so it turns itself off after 15 minutes if you do not press a key or make a move, by setting this option to +.

Notes:

- The computer saves game information if it turns itself off (if batteries are installed).
- The computer will not turn itself off while it is computing a move.

After the computer turns itself off, you can press **GO/STOP** to turn it back on and continue playing the same game.

Playing White from the Top of the Game Board (H1)

The computer normally plays the black pieces on the top of the game board and you play the white pieces on the bottom. However, you can set the computer so you can play the white pieces from the top of the game board, by setting this option to +.

When you set this option to +, set up the board with the black pieces closest to you.

PLAYING MODE OPTIONS (A2 – C2)

The computer's playing mode options let you control how the computer selects moves during play.

Search Algorithms (A2)

The computer contains two types of search algorithms it can use to search for moves during play: selective search and brute force.

The selective search algorithm helps the computer limit its search for moves to only those most likely to be successful.

The brute force algorithm allows the computer to check every move possibility during play, but results in slower play.

The computer normally uses the selective search algorithm (except during mate search play). However, you can set the computer so it uses the brute force algorithm to search for moves, by setting this option to –.

Easy Mode (B2)

The computer normally uses the time while you are thinking of a move to compute its own move. However, you can set the computer so it computes only during its own turn, by setting this option to +. This makes it easier for you to beat the computer.

Random Mode (C2)

The computer normally selects moves that are similar in type and difficulty during a game. However, you can set the computer so it chooses moves randomly during its own turn, by setting this option to +. This lets you see and react to a greater variety of moves during a game, and results in more difficult play.

OPENING BOOKS (D2 – H2)

The computer's opening book memory contains most major opening strategies so the computer can respond more rapidly during a game's opening moves.

The computer has the following opening books:

- Passive
- Active
- Normal
- Abnormal

You can influence the computer's style of play by changing any of these options. When you select an option, the computer selects positions more often from that option. When you deselect an option, the computer selects fewer positions from that option.

Note: After you play through the computer's opening book, changing these options has no effect on how the computer plays. However, if you played actively during the game's opening moves, the computer usually continues to respond actively even after it completes the opening moves.

Passive Book (D2)

The computer normally chooses opening moves that follow active openings and open positions. However, you can set the computer so it can choose moves that follow more passive and closed strategies, by setting this option to +.

Note: If you set this option to +, the computer automatically sets option E2 (Active Book) to –.

Active Book (E2)

The computer normally chooses opening moves that stress active plays and gambits. However, you can set the computer so it can choose moves that stress more passive plays and gambits, by setting this option to –.

Note: If you set this option to –, the computer automatically sets option D2 (Passive Book) to +.

Complete Book (F2)

The computer normally chooses only some of the moves from its opening book. However, you can set the computer so it can choose any move from its opening book, by setting this option to +.

Note: If you set this option to +, the computer might make questionable or illogical moves during play. This is because its opening book contains responses to many known lines of play (even illogical ones), in case the opponent plays them.

Tournament Book (G2)

The computer normally chooses from a wide variety of moves, ranging in difficulty from easy to difficult. However, you can set the computer so it can choose only the most efficient moves, by setting this option to +.

Note: If you set this option to +, the computer plays extremely well and is almost unbeatable. However, this option also narrows the computer's choice of moves, and makes the computer's responses to moves more limited.

Book On/Off (H2)

The computer normally selects moves from one or more opening books during the first few moves of a game. However, you can set the computer so it cannot use any of its opening books, by setting this option to –.

Note: If you set this option to –, the computer must compute a response to an opponent's move "from scratch," resulting in slower play.

ROTATING DISPLAY OPTIONS (A3 – H3)

The computer's rotating display options let you continuously view the game information described in "Viewing Game Information" on Page 36 while it computes a move, without interrupting the game in progress.

As it computes its move, the computer displays each statistic you select, one at a time, at 1-second intervals.

Notes:

- The computer does not display the count-up game clock while displaying rotating display information.
- The computer displays ----- and the rotating display option if it has not yet computed the option.

Follow the steps in "Selecting and Changing Options" on Page 42 to select the statistics you want the computer to display.

If the computer displays the statistics too quickly, press **INFO** to freeze the display, then repeatedly press □/➡ or ■/⬅ to view each statistic one at a time. To unfreeze the display, press **OPTION**, then press **CLEAR**.

You can select any of the following options:

- Principal Variation, First Move (A3) — the first countermove and the first ply the computer is currently considering (see "Principal Variation" on Page 36).
- Principal Variation, Second Move (B3) — the second countermove and the second ply the computer is currently considering.
- Principal Variation, Third Move (C3) — the third countermove and the third ply the computer is currently considering.
- Principal Variation, Fourth Move (D3) — the fourth countermove and the fourth ply the computer is currently considering.
- Position Evaluation (E3) — the computer's current evaluation rating (see "Search Information" on Page 36).

  Note: The computer will not display an evaluation rating while set to a mate search level.
- Current Search Depth (F3) — the computer's current search depth.

  Note: The computer will not display search depth information while set to a mate search level.
- Position Total (G3) — the current number of positions per second that the computer is checking while determining its countermove.
- Elapsed Time Per Move (H3) — the elapsed time since the last move (see "Chess Clocks" on Page 38).

TROUBLESHOOTING

If your computer is not working as it should, follow the suggestions below to see if you can eliminate the problem. If you cannot, take the computer to your local RadioShack store for assistance.

PROBLEM	SUGGESTION
The display is dim or blank, or the computer does not work at all.	Check the batteries and AC adapter (if used).
The computer does not accept a legal move, or displays an unexpected move.	Verify the position of all pieces, black and white. See "Verifying Piece Positions" on Page 31.
During a game, the computer will not display an evaluation rating, search depth, or current move information.	The computer is set to a mate search level. Choose another level.
During a game, the computer will not beep when a key or square is pressed, or will not beep at all.	The computer's sound is off, or is set to the silent mode (see "Silent Mode" on Page 43). Change the options.
The computer unexpectedly turns itself off during a game.	The computer's automatic power-off option is on. If desired, turn this option off. See "Automatic Power-Off (G1)" on Page 44.
The computer takes a long time to respond to a move.	The computer might be set to a high play level, or the computer's search algorithm option might be set to – SEL (brute force). If desired, change the level or select + SEL (selective search). See "Choosing a Level" on Page 26 and "Search Algorithms (A2)" on Page 45.

MAINTENANCE

Your RadioShack Master 2200X Chess Computer is an example of superior design and craftsmanship. The following suggestions will help you care for your computer so you can enjoy it for years.

Keep the computer dry. If it gets wet, wipe it dry immediately. Liquids might contain minerals that can corrode the electronic circuits.

Use and store the computer only in normal temperature environments. Temperature extremes can shorten the life of electronic devices and distort or melt plastic parts.

Keep the computer away from dust and dirt, which can cause premature wear of parts.

Handle the computer gently and carefully. Dropping it can damage circuit boards and cases and can cause the computer to work improperly.

Use only fresh batteries of the required size and type. Old batteries can leak chemicals that damage your computer's electronic parts.

Wipe the computer with a damp cloth occasionally to keep it looking new. Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the computer.

Modifying or tampering with the computer's internal components can cause a malfunction and might invalidate its warranty. If your computer is not performing as it should, take it to your local RadioShack store for assistance.

RadioShack Limited Warranty

This product is warranted against defects for 90 days from date of purchase from RadioShack company-owned stores and authorized RadioShack franchisees and dealers. Within this period, we will repair it without charge for parts and labor. Simply **bring your RadioShack sales slip** as proof of purchase date to any RadioShack store. Warranty does not cover transportation costs. Nor does it cover a product subjected to misuse or accidental damage.

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