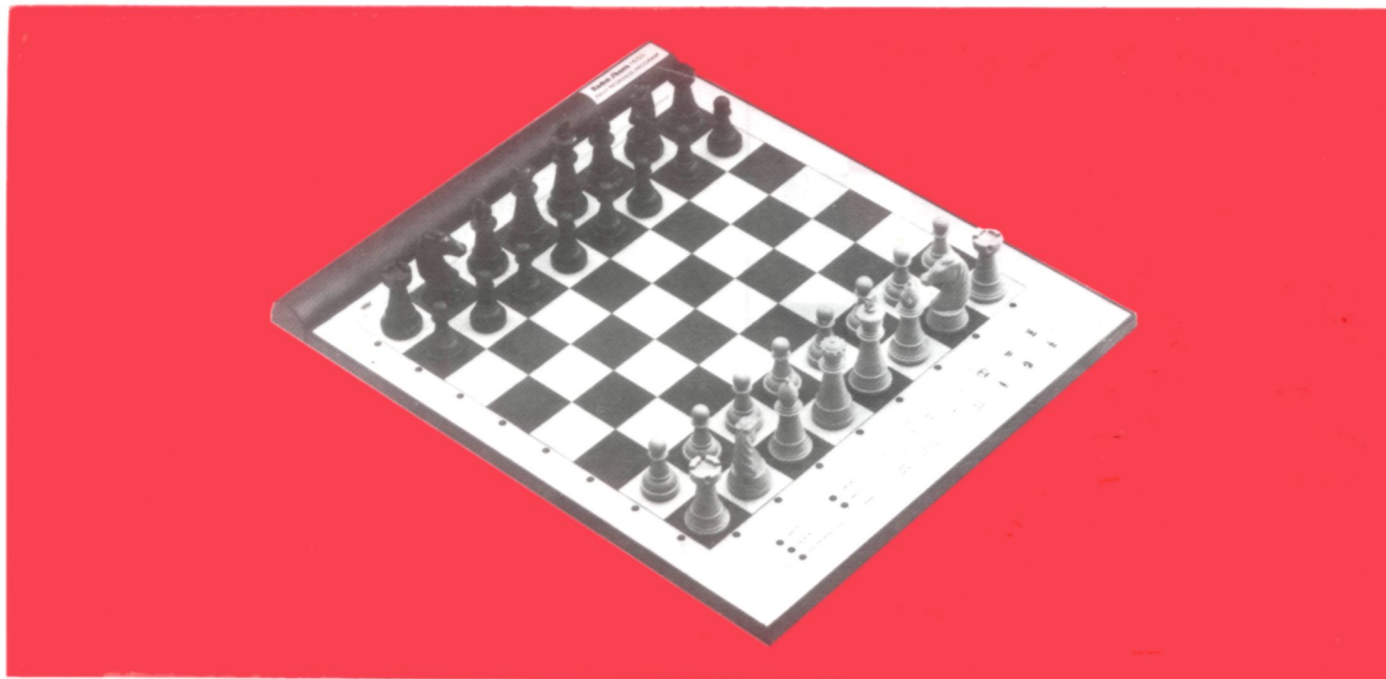


OWNER'S MANUAL

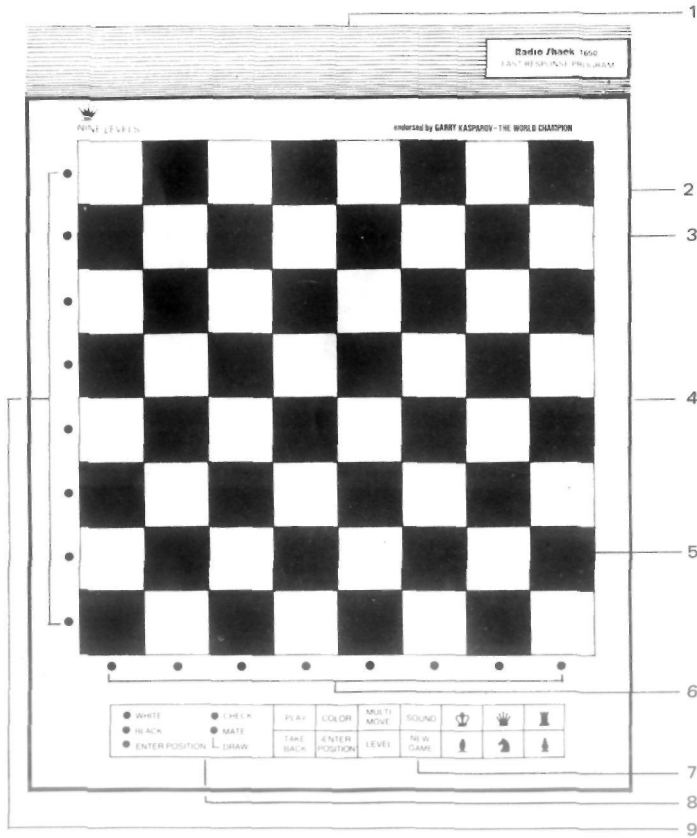
Cat. No. 60-2194

RADIO SHACK 1650 CHESS FAST RESPONSE PROGRAM

PLEASE READ BEFORE USING THIS EQUIPMENT



Radio Shack®



1. Battery compartment
2. Socket for AC adapter
3. Power switch (ON/MEMORY MODE) - remembers unfinished games for up to one year
4. Buzzer
5. Sensory chessboard (note how squares are described)
6. Indicator: column of piece moving
7. Control panel keyboard:
 - change level
 - start new game
 - verify and set up position
 - suggest and take back move
 - turn buzzer on/off
 - permits multiple moves
8. Control panel displays:
 - side to move
 - computer thinking
 - enter position
 - check
 - checkmate
 - draw
9. Indicator: row of piece moving

Introduction

Your RADIO SHACK 1650 is an uncomplicated chess computer that automatically registers your moves on the built-in chessboard. It uses 16 lights on the edge of the board to indicate its own moves. This computer is battery and AC adapter operated and contains a low-power memory which will retain the last position of an interrupted game for up to one year.

Important Note

- Your RADIO SHACK 1650 Sensory Chess Game is programmed to play chess with you, not to teach the game to you. We have included a copy of the rules of chess, in case you are not familiar with the game. If you need additional information, your local library has several good books on the subject.
- The computer is programmed with a variety of instant responses to opening moves. These responses form the "Opening book". The computer will, however, calculate responses for any unusual opening moves.

1. Getting started

Slide the Power switch to MEMORY.

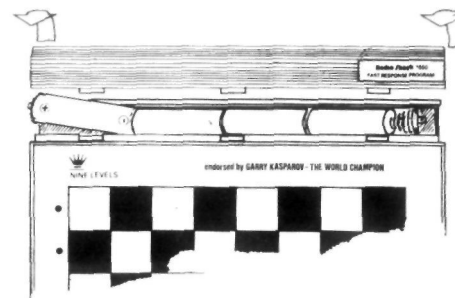
Lift the battery cover from the back and insert four AA batteries as shown in Figure 2. We recommend the use of alkaline batteries (Radio Shack's 23-552) which will provide up to 75 hours of playing time. When replacing the batteries, set the power switch to MEMORY.

Use an AC adapter to save battery power. When connecting (or disconnecting) the AC adapter on the right-hand side of your chess game, make sure the power switch on the game is set to MEMORY.

We recommend you to use the Radio Shack Adapter (Cat. No. 273-1454 for U.S.A. and Australia, 273-7004 for U.K.).

Set up the chess pieces in the opening position and switch the computer on. Press

Fig. 2



2. Setting the skill level

Your RADIO SHACK 1650 has nine skill levels:

Level	Average response time per move
0	1 second
1	3 seconds
2	8 seconds
3	30 seconds
4	1 minute
5	1-1/2 minutes (Tournament mode)
6	4 minutes
7	1 hour (Analysis)
8	Problem mode (see section 18)

The time the computer takes to evaluate and respond to a move will vary, depending on the level setting and the progress of the game. It will respond faster to opening moves, slower during the middle of the game, and faster again at the end of a game.

Remember, the above times are averages. The actual times might vary greatly.

When you press the lights on the left of the board indicate which level is set. Press until the number of lights corresponds to the level you want.

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).

The level will automatically be 1 (one indicator on when you press the LEVEL key) the first time you turn on the game or anytime the batteries have been installed.

3. ON/MEMORY Switch

Activates the game when set to ON; holds the position of the board in the computer's memory, while conserving battery power, when set to MEMORY.

4. Horizontal Position Indicators

Show the horizontal position of the pieces on the board.

5. Vertical Position/Level Indicators

Show the vertical position of the pieces on the board.

These indicators also show the level of play selected for the computer (0 = no indicators lighted, 8 = all indicators lighted).

6. ACL Button (on the back)

If the computer locks up, because of static discharge or some other reasons, set the MEMORY/ON switch to MEMORY, then use a pin or other sharp objects to press the ACL button. This resets the computer and clears the memory.

7. Making moves

Your Moves

To make a move, press down on the piece you want to move; you will hear a beep and the vertical/horizontal indicators will mark the present position of the piece. Then move the piece to its new position and press down again. You will hear another beep.

If you change your mind about your move before you press down the piece in its new position, press it a second time in its present position and begin again (with the same piece or a different one).

When CASTLING it is only necessary to key in the king's move in the normal way; the rules of chess forbid castling if your king is in check. Move the rook without pressing down.

For details, refer to the 'Main Rules of Chess.'

Note: When a pawn reaches the last rank the computer will automatically change it to a queen. If you wish to promote to another piece you may do so by using the Enter Position facility described in section 17.

8. Computer moves

The computer will indicate its own moves by sounding a 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 the 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 it makes an EN PASSANT capture the computer will remind you to remove the captured pawn (press this pawn down before removing it).

9. 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 replace it on the original square and move another piece.

If you attempt to make a move for the computer, other than the one it indicates, the two-tone signal will sound.

You will also hear an error beep if you do not execute a computer move correctly or press an improper panel key.

10. Check, Mate, and Draw

When the computer puts your king in check the CHECK light will come on. If you put the computer's king in check the computer will know it, but the indicator will not light. If a game ends in checkmate, the MATE light will be turned on as well (the WHITE or BLACK lights indicate which side has been checkmated).

In case of a stalemate or draw by threefold repetition, only the MATE light will be turned on. It also lights when the computer finds no mate within four moves to a given chess problem when set to level 8.

11. New Game

To start a new game with the level unchanged, white to play from the bottom, and same response status (i.e. "Player vs computer" or "Player vs Player" mode) as was set before. Press **NEW GAME** when it is your turn to move. New game does not affect the level setting or sound status. If **MULTI MOVE** or **ENTER POS** have been pressed, they should be reset prior to a new game being started.

12. Take Back

When it is your turn to move you may take back (erase) the last computer move and your previous move. To do this press **TAKE BACK**. The computer will show you where the pieces came from and where you should replace them.

Press the piece down and the indicators will show its previous position. Move the piece to that position and press it down again.

If the move you are taking back was a capturing move, remember to put back the captured piece. If you are unsure of which piece to put back, use the verify mode to identify the piece.

Now press **TAKE BACK** again and follow the same procedure to take back your previous move.

If you only take back one individual move (the computer's) you may enter a new move for the computer. However, this will switch the sides you and the computer are playing (white/black); when you enter a move manually, the computer automatically makes the next move.

13. Changing sides

If 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 during the course of a game. You can even press **PLAY** after every move and make the computer play an 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 begin 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.

14. Interrupt

When the computer is computing a move you may interrupt it by pressing **PLAY** . This will cause it to stop computing and play the best move it has found so far.

15. 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. In this mode the computer will not begin to compute a reply when a move has been entered. It will only keep track of the board position and make sure that the moves entered are legal. To return to normal play you must press **MULTI MOVE** a second time.

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

16. Verifying piece position

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

Press one of the piece keys when it is your turn to move. The computer will light up a horizontal rank and one or more vertical column lights to show you the position(s) of the selected piece(s). Press the same piece key again to see if there

are any more pieces of that kind on the board. When the computer finds no more of the piece selected it will sound a double beep and return to play mode.

You may verify the piece positions for either side by pressing **COLOR**. Always check the WHITE/BLACK lights when you are verifying a position. They will show which side is being verified.

If a piece is missing or in the wrong place, put it back without pressing down. You may verify the piece positions for either side, by pressing the **COLOR** key. The WHITE and BLACK control indicators will show which side is being verified.

If you enter a new move the computer will automatically return to the play mode.

17. Setting up a special position

This feature allows you to move, add, or remove pieces on the board in any way you like. (The normal rules of chess do not apply in this mode.) Use this mode to set up special situations to help you practice your chess skills. This mode may be entered any time — even during a game.

If you wish to set up a special position first press **ENTER POS**. The ENTER POS light will be turned on and you may then move, add, or remove pieces at will.

If the position you want to set up contains only a few pieces, press **NEW GAME** immediately after pressing **ENTER POS**. This will clear the board of all pieces.

To set up or modify the position, select a color (by pressing **COLOR**) and then a piece key for the piece you wish to enter, move, or delete.

- To move the piece, press it down on its current square, move it to its new position and press it down again.
- To remove the piece simply press it down on its current square and remove it from the board.
- To add a piece simply press down the new piece on an empty square.

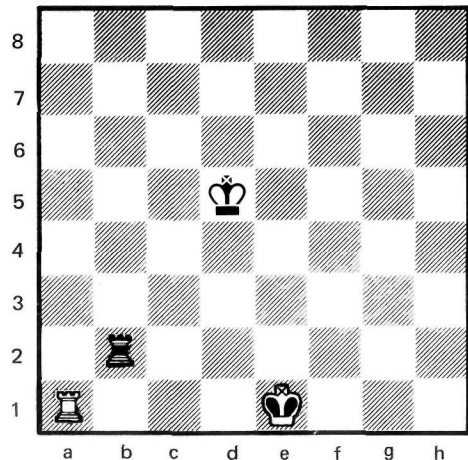
When you have set up or modified the position as required, make sure the WHITE/BLACK lights correctly indicate the side to move next and then press **ENTER POS** to resume play (the ENTER POS light will go out).

After you have set up a position always verify it as described in section 16. Do not enter an illegal position as this may yield unpredictable results.

(Remarks: Carefully check the position before starting to play after setting up a position. The computer always assumes that you have entered a legal position. And thus any illegal position may yield unpredictable response).

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 **ENTER POS** 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 **COLOR** (BLACK light on) and then the black king on its square. Now press **♖** and then the black rook on its square. Press **COLOR** (WHITE light on) and the white rook on its square. Press **ENTER POS** to return to play mode.

Fig. 3



Note: In the above position the computer will permit castling. If you press **PLAY** it will castle and will take the black rook on the next move, but if you select to play white, then you may castle.

18. Problem mode — Level 8

Your computer has a special problem mode (skill level 8) in which it will solve chess problems up to mate in four moves. In this mode the computer will only make a move if it can see a forced mate in four or less moves.

If the computer finds a forced checkmate it will play the first move - the "key move" - which will lead 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 for the side it is playing, it will turn on the MATE light without making a move. This will also happen if you interrupt the computer (section 14) while it is computing a move in level 8.

You may set up special situation, using the set-up mode, to see if the computer can solve them. Or you can enter level 8 during a game, when you reach a situation you can't figure out.

19. Game memory

Your RADIO SHACK 1650 allows you to interrupt a game at any stage, even when it is computing a move, except in the first 5 seconds, by moving the ON/MEMORY switch to MEMORY. Play will be stopped at that point and battery power conserved. The computer will "remember" the position and resume play when you switch back to ON. With a fresh set of batteries the position will be retained for up to one year.

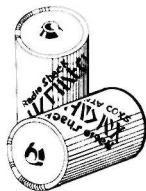
20. Turning sound off

If the computer "beeps" are distracting you or others during a game you may temporarily turn off the sound by pressing **SOUND** when it is your turn to move. Pressing this key again will turn the sound back on. You must watch the indicator lights and press places and keys carefully when playing without sound.

21. Care and maintenance

Your RADIO SHACK 1650 is a precision electronic device. Do not subject it to rough handling and don't expose it to extreme

temperatures or moist, damp areas. If the lights become dim or the computer begins to move erratically, the batteries need to be replaced. **Never leave weak or "dead" batteries in the unit,** as they may leak and cause damage.



SCHEMATIC DIAGRAM

