

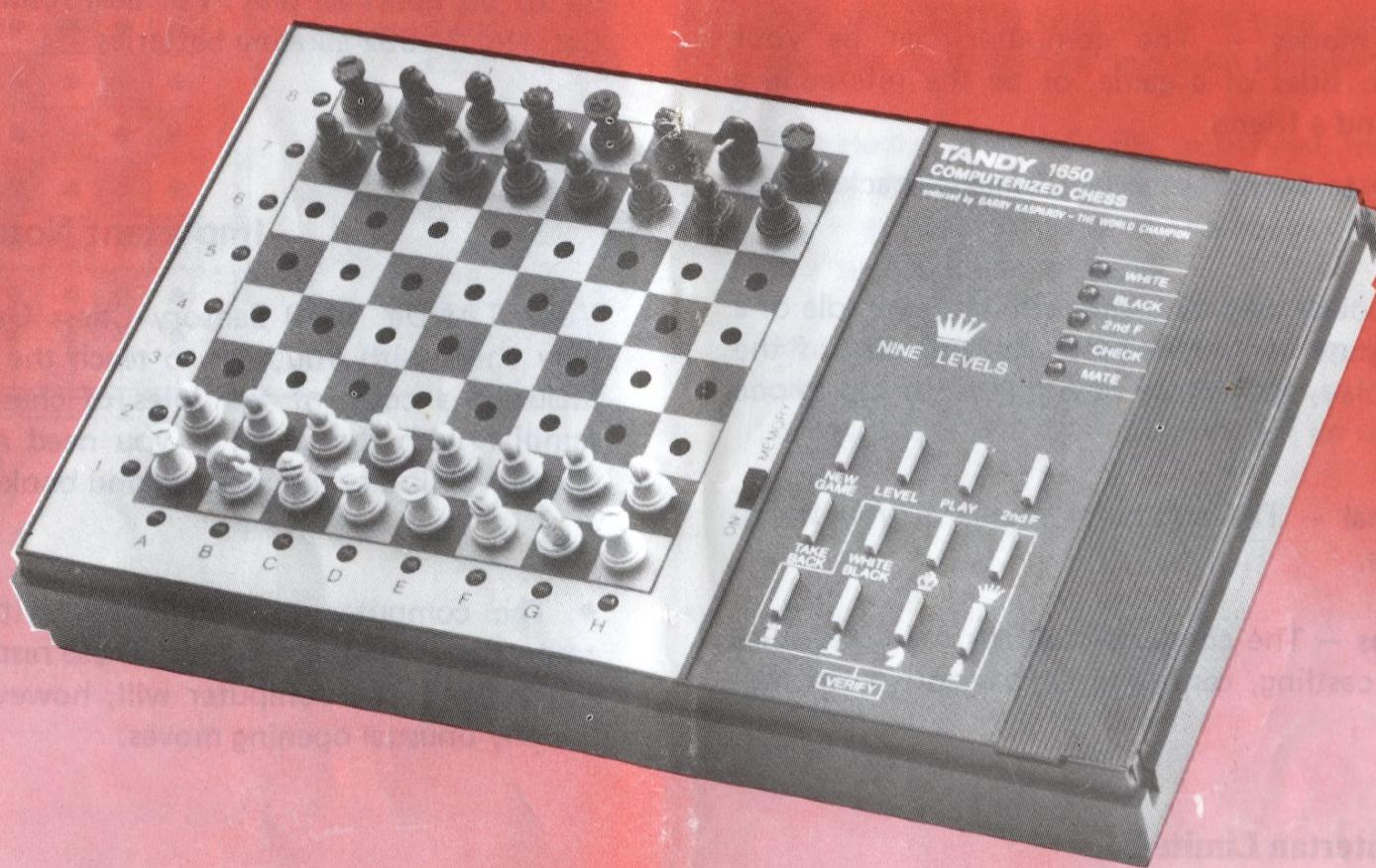
OWNER'S MANUAL

Cat. No. 60-2187

TANDY 1650

COMPUTERIZED PORTABLE SENSORY CHESS

PLEASE READ BEFORE USING THIS EQUIPMENT



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TANDY®*

You'll never be without a chess partner again, with your TANDY 1650 Sensory Chess Game.

You can select from nine different levels of ability for the computer (eight normal play levels and one "special problems" level), to match your own ability. The easiest level will allow even a beginner to win occasionally; the most difficult level will give even a master a rough time.

Other features include:

- **Selectable Play Modes** — The computer can be your opponent, play both sides of a game, or be the referee in a game between you and a friend.
- **Take Back** — Up to two moves may be taken back if you change your mind.
- **Memory** — The power may be turned off in the middle of a game and the computer will remember the position of the board, the level of play, and whose turn it is — for up to one year.
- **Illegal Move Signal** — The computer signals if you try to make an illegal move.
- **Usual Chess Rules** — The computer follows the usual rules of chess, including castling, capturing en passant, pawn promotion, etc.

- **"Plug-in" Pieces** — The moves are entered into the computer when the pieces are pressed lightly into the holes in the chess board.

- **Carrying Case Cover** — The pieces are held in place so you may move the game without changing the position of the board. It may also be placed under the board as a support stand for easy viewing.

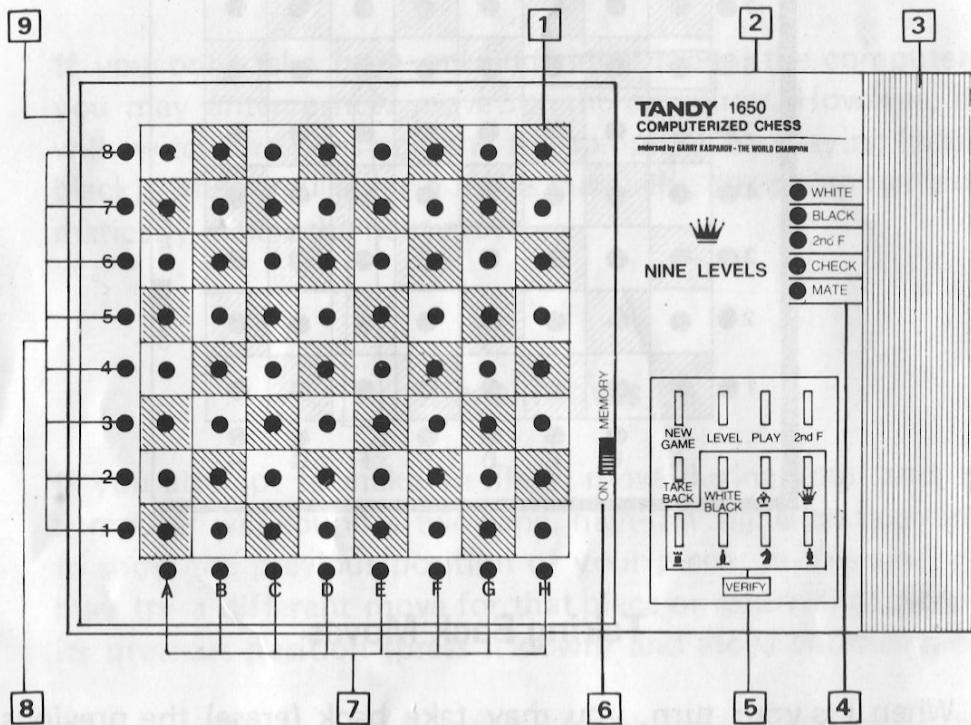
- **Battery Power** — Three AA batteries will power the unit for up to 50 hours of play. For best results, we recommend our Cat. No. 23-552 alkaline batteries.

Important Note

Your TANDY 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 from the "Opening book". The computer will, however, calculate responses for any unusual opening moves.

KEYS AND FUNCTIONS



(1) **Sensory Chess Board** — enters the moves into the computer when the pieces are pressed into the board's holes (page 6).

(2) **Battery Compartment** (See page 5 for battery installation.)

(3) **Chess Piece Compartment** — holds the complete chess set and reference instructions.

(4) **Control Indicators**

WHITE — lights when it is white's turn to move, or when white pieces are being set-up (page 8-9) or verified (page 8).

BLACK — lights when it is black's turn to move, or when black pieces are being set-up or verified.

2nd F — lights when the 2nd F key is pressed. Pressing 2nd F again turns it off.

CHECK — lights when the computer places you in check.

MATE — lights in addition to the CHECK indicator when a checkmate situation is reached; the game is over. The WHITE or BLACK indicator will light to show which player has been checkmated.

The **MATE** indicator lights alone when the game is declared a draw because of a stalemate or immediate three-fold repetition, or when the computer finds no mate within four moves to a given chess problem when set to level 8.

(5) Control Panel Keys

NEW GAME — press to set the computer for the beginning of 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 when the 2nd F indicator is on, to completely clear the computer.

LEVEL — press to select one of the nine ability levels for the computer: 0–7 for normal play, 8 for special problem solving (page 10).

Press when the 2nd F indicator is on, to turn the sound on/off.

PLAY — press when you want the computer to make your move for you; this allows you to switch colors with the computer, or make the computer play both sides. Also, when playing at level 0–7 the computer can be very slow in making its moves, because of all the possibilities it considers. Press this key while the computer is "thinking" to force it to make a move immediately.

Press when the 2nd F indicator is on, to change to the player-vs-player mode (page 10).

2nd Function — press to turn on the 2nd F indicator. This activates the alternate functions of the control panel keys.

Press it again to turn the 2nd F indicator off.

TAKE BACK — press when you want to take back moves already entered into the computer (see page 6–7)

Piece Keys — press to select particular chess pieces when in the set-up or verify mode.

(6) **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.

(7) **Horizontal Position Indicators** — show the horizontal position of the pieces on the board.

(8) **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).

(9) **ACL Button** — 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.

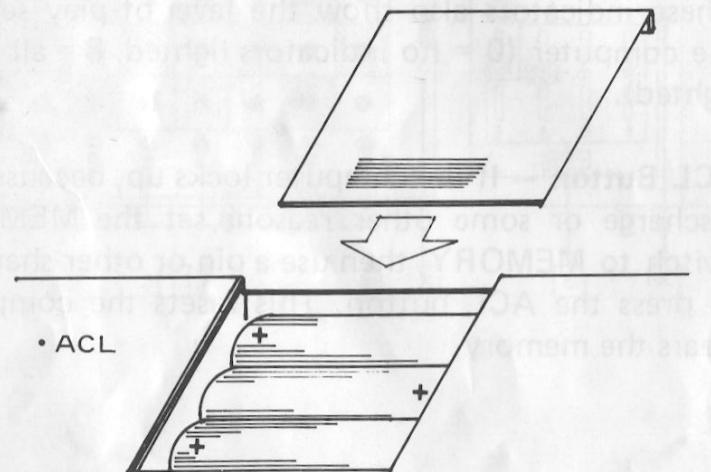
GETTING STARTED

Battery Installation

Remove the battery compartment cover on the bottom of the unit and install three AA batteries. Be sure to observe correct polarity as indicated inside the compartment. Then replace the cover.

For longest life, we recommend our 23-552 alkaline batteries.

Never leave weak or "dead" batteries in this unit. Even "leak-proof" batteries can leak damaging chemicals.



Setting the Level

After installing the batteries, set the ON/MEMORY switch to ON and press LEVEL. The number of lighted vertical position/level indicators will show the setting of the computer's skill level (0-8). 0 is the easiest level and 7 is the most difficult. Level 8 is a special problem solving level (page 10).

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

Repeatedly press LEVEL until you reach the desired level setting. You may change the level setting as often as you like — at the beginning of a game, or during a game (when it is your turn to make a move).

You may check the level setting during a game, when it is your turn, by pressing LEVEL once. When you resume play, the vertical position/level indicators will go off.

PLAYING THE GAME

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.

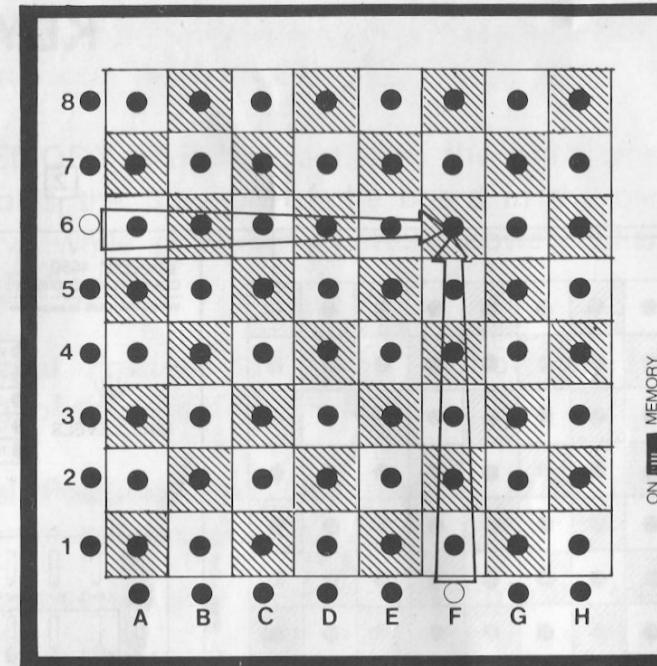
If you change your mind about your move before you press down the piece in its new position, press it a second time in its present position and begin again (with the same piece or a different one).

Computer Moves

After you complete your move the computer will begin to consider its move, unless the computer is set for the Player vs Player mode (page 10). The indicator for the computer's side (Black or White) will flash while the computer is 'thinking'. When ready, the computer will indicate its move. First the horizontal/vertical indicators will show the position of the piece to be moved. Press it down and the computer will indicate the piece's new position; move the piece and press it down in its new position.

It's your turn again.

The computer may take anywhere from a few seconds to many hours to decide its move, depending on the level setting and the progress of the game. You may press PLAY during this time to force the computer to make its move immediately.



Taking Back Moves

When it is your turn, you may take back (erase) the previous two individual moves.

To do this, press TAKE BACK. The indicators will show the last piece moved (the computer's move). 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 (page 8) 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.

Illegal Moves

If you attempt to make an illegal move during your turn, the computer will sound a two-tone, high-low signal and continue to show the previous position of your piece. In this case, you may try a different move for that piece or return that piece to its previous position (press it down) 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.

If you press an improper control panel key (such as LEVEL, while the computer is deciding its move) a low pitched signal will sound.

Castling

If you want to castle, press down the king, move it to the proper position, and press it down again. Then move the rook to the proper position **without pressing it down**.

(Check, Checkmate, Stalemate, and Draw by 3-fold Repetition)

When the computer puts your king in check, the CHECK indicator will light. 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 CHECK and MATE indicators will light; the WHITE or BLACK indicator will also light to show which side is checkmated.

For a stalemate or draw by immediate 3-fold repetition, only the MATE indicator will light.

Starting a New Game

You may reset the computer for a new game, when it is your turn, by pressing NEW GAME. The level will remain the same.

Changing Sides

In addition to the method described under "Taking Back"

Moves," you may change sides with the computer by pressing PLAY when it is your turn. The computer will indicate a move for your side and you may begin playing the other side.

You may change sides as often as you like; you may even press PLAY every time and let the computer play the entire game against itself.

If you want to begin a game playing the black pieces, set up the board with the black pieces at the bottom and the white at the top. Then press NEW GAME and PLAY in turn. The computer will make a move for white (at the top of the board) and you begin by moving the black pieces.

Verifying Piece Positions

If you upset the position of the pieces, or for other reasons are not sure that the board is correct, the computer can tell you the proper position of every piece.

When it is your turn, press the desired piece key. A vertical indicator and one or more horizontal indicators will show 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. **If the computer finds no more of the selected piece, it will sound a two-tone signal and return to the play mode (the correct WHITE/BLACK control indicator will light).**

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 WHITE/BLACK key. The WHITE and BLACK control indicators will show which side is being verified.

You may verify all the piece positions for both sides or only a single piece. Always check the WHITE/BLACK control indicators when you are verifying.

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

Clearing the Board

If you want to clear the board completely, in order to set up special situations, press the 2nd F key so that the 2nd F indicator lights; then press NEW GAME. (See "Setting Up Special Situations" below.)

Setting Up Special Situations

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 situation with only a few pieces, you may clear the board (as described above) and then add only the pieces you need.

To enter the set-up mode, press 2nd F so that the 2nd F indicator lights; then press the piece key for the piece you want to move, add, or remove; select the desired color by pressing the WHITE/BLACK key.

To move a piece, press down the desired piece (in its current position), move it to a new position, and press it down again.

To add a piece, simply press down the new piece in any empty space.

To remove a piece, press down the piece in its current position and remove it.

When you exit the set-up mode, by pressing the 2nd F Key so that the indicator goes off, the first move must be made by the side with the same color as the last piece you set-up. If you want the computer to make the first move after exiting the set-up mode, press the PLAY Key. This mode is especially useful when using level 8 (page 10).

(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).

Turning the Sound On and Off

The sounds from your Chess Game aid you during play and warn you when a mistake has been made. However, you might find situations where the sounds are distracting to you or others. In this case you may temporarily turn off the sound.

You must watch the indicators and press the keys carefully when playing without sound.

To turn off the sound press LEVEL while the 2nd F indicator is on. Repeat the procedure to turn the sound on again.

Game Memory

You may move the ON/MEMORY switch to MEMORY at any time — during a game, even while the computer is deciding on a move. The play will be stopped at that point, **and battery power will be conserved**, but the computer will remember the position of the board and will resume play when you move the switch back to ON.

The computer will “remember” the position of the board for up to one year, with a fresh set of batteries.

Average Computer Move Times

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.

Level	Average Time Per Move
0	2 seconds
1	5 seconds
2	15 seconds
3	1 minute
4	2 minutes
5	3 minutes
6	8 minutes
7	2 hours
8 (problem solving)	10 seconds to 24 hours

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

Player vs Player (PVP) Mode

If you want to use your TANDY 1650 Chess Game when playing a game with a friend, set it to the PVP mode. In this mode the computer will act as the referee, making sure all the moves are legal and keeping up with the position of the board.

To enter this mode, press PLAY while the 2nd F indicator is on. Repeat the procedure to return to the computer play mode.

While in the PVP mode, you may ask the computer to make a move for you by pressing PLAY (with the 2nd F indicator off). The computer will indicate a move, but the game will remain in the PVP mode.

Level 8 – Special Problems

Level 8 is not intended for normal chess play. When set to level 8, the computer will try to find a way to checkmate the defense (the side playing against the computer) in four or less moves. It will compute all possible moves and countermoves (a maximum of four moves of its own and three counter moves by the defense) until it finds a solution. If there is no solution to the problem in four or less moves, the computer will light the MATE indicator. Checkmate solution in two moves normally takes about a minute while the solution in four moves will probably take around 24 hours.

If you use the set-up mode for a special problem, set up your pieces first and the computer's pieces second. Then after you exit the set-up mode, by pressing the 2nd F Key so that the 2nd F indicator goes off, press the PLAY Key once to tell the computer to start evaluating the problem.

If you press play after the computer has started evaluating the problem, the MATE indicator will light and the computer stops thinking.

You may set up special situations, 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.

CARE AND MAINTENANCE

Your TANDY 1650 Sensory Chess Game is a precision electronic device. Don't drop it or subject it to rough handling. Do not expose your game to extreme temperatures, or moist, damp areas.

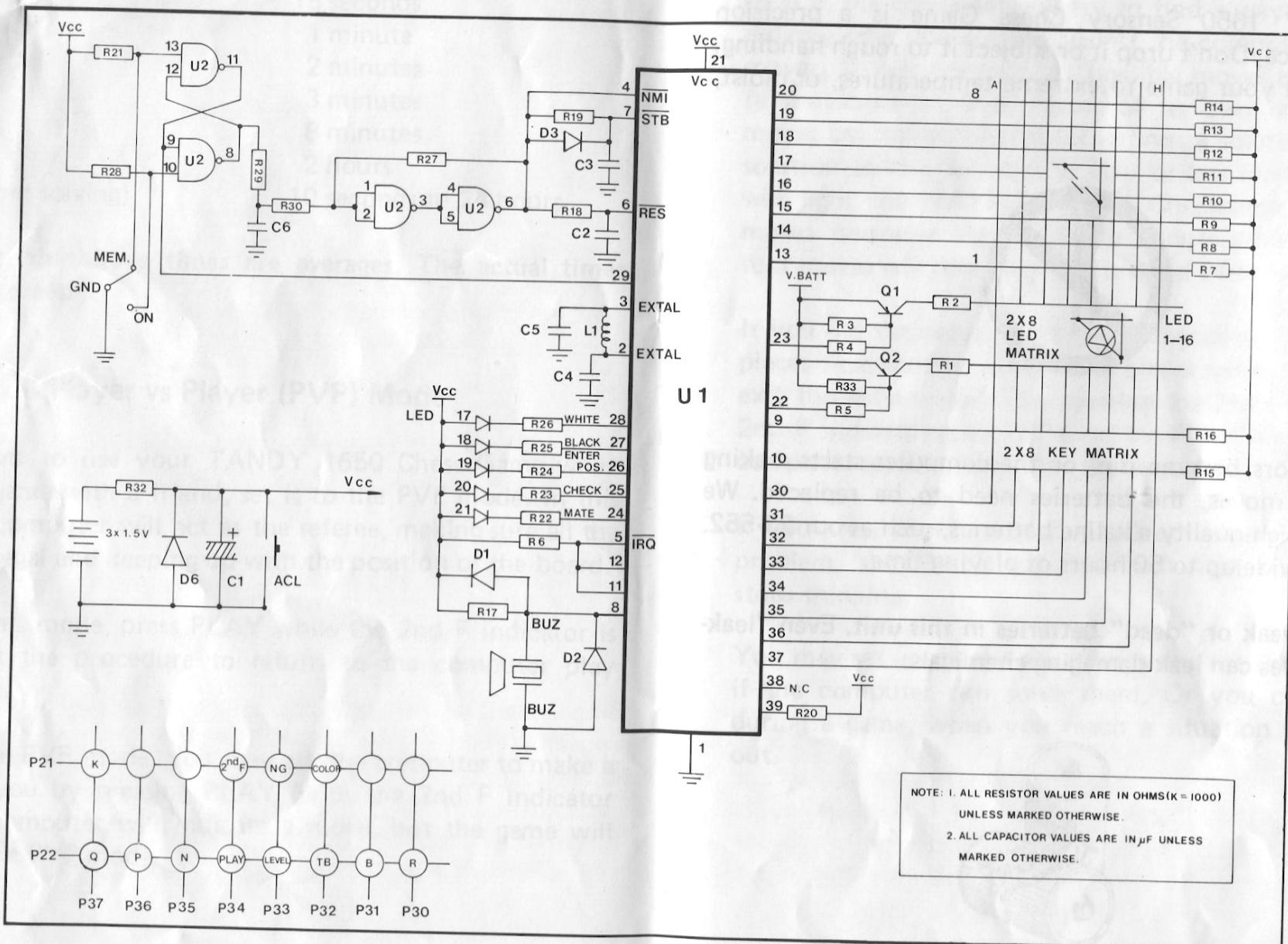


If the indicators become dim or the computer starts making "impossible" moves, the batteries need to be replaced. We recommend high-quality alkaline batteries, such as our 23-552. They will provide up to 50 hours of playing time.

Never leave weak or "dead" batteries in this unit. Even "leak-proof" batteries can leak damaging chemicals.



SCHEMATIC DIAGRAM



INTERTAN WARRANTY

INTERTAN warrants that this product will be free from defects for a period of **ninety (90) days** from the date of its purchase from any of INTERTAN's company owned stores and authorized dealers. Within this period, the product will be repaired without charge for parts and labour. There may be a slight charge for transportation. **Simply bring in your proof of purchase** to any of INTERTAN's stores or dealers. Any product which has been subjected to misuse or accidental damage is excluded from this warranty.

Except as stated above, INTERTAN makes no promises or warranties either expressed or implied including warranties of merchantability or that the product is fit for any particular purpose.

This warranty is only applicable to products purchased through INTERTAN's company owned stores and dealers that operate in the country where the products are offered for sale. The warranty gives you specific legal rights and you may have other rights which will vary under the laws of the various countries, states, provinces, etc., in which INTERTAN operates.

WE SERVICE WHAT WE SELL!

For service, return this set to your nearest Tandy store.

CUSTOM MANUFACTURED FOR TANDY/INTERTAN FABRIQUE POUR TANDY/INTERTAN

AUSTRALIA

INTERTAN AUSTRALIA LIMITED (INC. IN N.S.W.)

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U.K.

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