# IMPORTANT INFORMATION

USE OF CHESS PIECES

1 If you are using pieces with magnets in the bases and your move does not seem to have registered, press down with the **EDGE** of the piece.

Magnets in bases of chess pieces are **NOT** essential to the proper operation of the computer. If a magnet falls out of the base of a piece, continue to use it in the normal way without the magnet and the computer will function correctly.
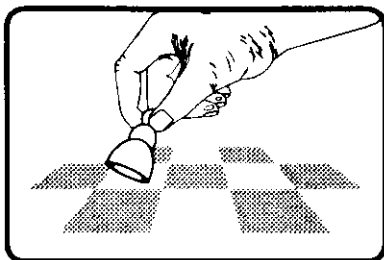
RESET SWITCH

Sometimes computers malfunction due to electrostatic discharge or other electrical disturbances, or when batteries are inserted. If this happens push a thin rod into the RESET hole in the base of the computer and press down for about one second. This Resets the computer, clears its memory and returns it to normal operation.

WARNING

The chess pieces supplied with this chess computer may be small enough to be swallowed. Please keep the chess pieces out of the reach of small children.

**NOT SUITABLE FOR CHILDREN UNDER AGE 3 YEARS.**

CHESS PIECES AND SYMBOLS

The chess pieces supplied with your *Star Wars*™ Galactic Chess Computer are representations of various characters from the *Star Wars*™ Trilogy instead of the classic chess pieces.
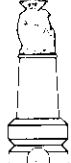
To assist you in setting up the pieces correctly, and playing the game of chess, the following table outlines the *Star Wars*™ characters used in place of classic chess pieces.

Please note that in the text of the instruction book, classic chess piece symbols are used.

Classic Chess Symbols (white)

KING	QUEEN	ROOK	BISHOP	KNIGHT	PAWN

Naboo™ **Group (white)**

YODA	AMIDALA	ANAKIN	OBI WAN	JAR JAR	R2-D2

Classic Chess Symbols (black)

KING	QUEEN	ROOK	BISHOP	KNIGHT	PAWN

Federation Group (black)

DARTH SIDIOUS	DARTH MAUL	BATTLE DROID	NUTE GUNRAY	WATTO	DESTROYER DROID

QUICK START

This is a brief introduction to your Chess Computer. To fully understand its operation it is necessary to **READ THE INSTRUCTION MANUAL CAREFULLY.**

CHESS RULES The rules of chess are explained in the "Learn Chess" section of the instruction manual. Your computer knows the rules of chess - **THE COMPUTER WILL NEVER BREAK ANY OF THE RULES,** so if you think the computer has "cheated" check this instruction manual, especially the section on SPECIAL MOVES.

STARTING PLAY
INSERT BATTERIES Insert the batteries in the base of the computer as specified by the label near the battery compartment, remembering to ensure that the positive tip of each battery matches up with the + sign in the battery compartment.

SWITCH ON Press the ON key. **IF YOU HAVE JUST INSTALLED NEW BATTERIES AND THE COMPUTER DOES NOT RESPOND, PUSH A THIN OBJECT INTO THE "RESET" HOLE IN THE BASE OF THE COMPUTER AND PRESS DOWN ONCE.**

SET UP THE CHESS PIECES Set up the chess pieces in the initial position with the white pieces nearest to you.
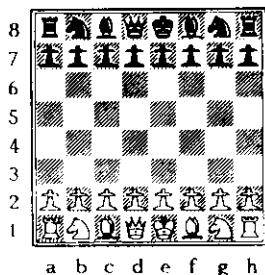
For those of you who are beginners or fairly new to the game of chess, the chess pieces and their symbols are identified in a chart in the instruction manual.

Chess board set up for the start of a game.

> **Do not mix old and new batteries.**
> **Do not mix alkaline, standard (carbon zinc),**
> **or rechargeable (nickel-cadmium) batteries.**

START THE GAME The computer indicates squares and functions using an LCD display. Press the NEW GAME key - When you see **PG** in the display, press NEW GAME again - the "White" symbol □ will appear in the display.

SETTING THE LEVEL OF PLAY The computer has 420 levels of play. When first switched on, Black's thinking time is set to a maximum of 10 seconds per move while White's is unlimited.

To change levels follow the procedure explained in "Setting the Levels of Play" (section 6) in the instruction manual.

MAKING MOVES Normally you play the white pieces. Each square is identified by co-ordinates (a letter and a number) which are marked on the chessboard, for example E2. To make your move, press down with the piece you wish to move - there will be a beep and the co-ordinates of the square will show in the display. Move the piece to its new square and press down. **IF YOU ARE USING PIECES WITH MAGNETS IN THE BASES AND THE MOVE DOES NOT APPEAR TO HAVE REGISTERED, PRESS DOWN WITH THE EDGE OF THE PIECE.**

When you have completed your move the "Black" symbol ■ will show in the display and the computer indicates its move by showing in the display the co-ordinates of the piece it wishes to move (e.g. **E7**). Press down on this piece - there will be a beep and the co-ordinates of the square to which the piece should be moved will show in the display (e.g. **E5**). Press down on the piece to complete the move.

*Example of a square shown in LCD display.*

CAPTURING A PIECE To make a capture, press down with the piece you want to move. Remove the captured piece and press your piece down on the square of the captured piece.

TO START A NEW GAME First make sure that the computer's move has been completed. Then press the NEW GAME key - when you see **PG** in the display, press NEW GAME again - the "White" symbol □ will appear in the display. You may now proceed to play the new game.

TO VERIFY THE POSITIONS OF THE PIECES You may wish to check the position of the pieces on the chess board, for example if you accidentally knock a piece over. The section VERIFYING THE POSITION in the instruction manual explains how to check positions.

SPECIAL MOVES Sometimes beginners or inexperienced players do not understand some of the special moves - in particular EN PASSANT captures and CASTLING. These moves are explained in detail in the instruction manual. **REMEMBER THAT THE COMPUTER MAY ALSO MAKE THESE SPECIAL MOVES.**

EN PASSANT captures An EN PASSANT capture is possible when an enemy pawn, on its first move, moves two squares and crosses over a square attacked by your pawn. Your pawn may act as if the enemy had moved only one square and capture it *en passant*, **but ONLY ON YOUR NEXT MOVE.**
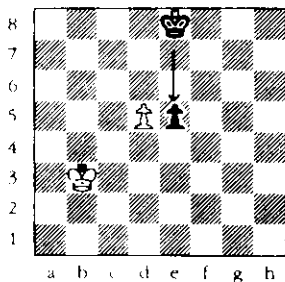
Black advances two squares: E7 to E5.
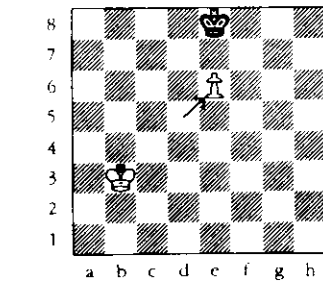
White captures En Passant by moving his pawn from D5 to E6.

CASTLING allows the king to be moved to a safer position near a corner and at the same time brings the rook into play. This is done by moving the king two squares (**in either direction, left or right**) towards a corner and the rook in that corner jumps over the king onto the square next to it. For the conditions in which castling is allowed read the section on CASTLING in section 2 (Learn Chess).
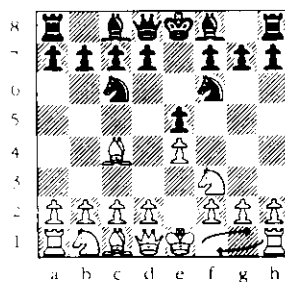
Before King-side castling   *After King-side castling*
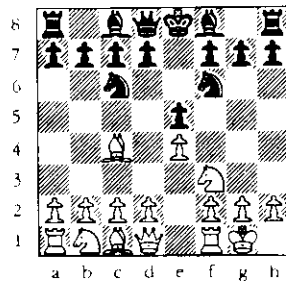
SWITCH OFF AND SAVE THE POSITION When you want to stop playing press the OFF/SAVE key. The computer switches off and remembers the position. To resume play press the ON key.

NOTE: The computer **CANNOT BE SWITCHED OFF** (or a NEW GAME started) **WHILE IT IS STILL THE COMPUTER'S TURN TO MOVE.** Complete the computer's move, then press OFF/SAVE.

WHEN TO REPLACE BATTERIES If the computer appears to act abnormally or will not switch on, even after the RESET switch has been used, the batteries probably need replacing.

KEYS

ON
Press the ON key to switch on the computer. The game is resumed from the position where the OFF/SAVE key was pressed.

OFF/SAVE
Press to switch the computer off while saving the current game position.

NEW GAME
Press the NEW GAME key **twice** to start a new game.

MOVE
Press the MOVE key to make the computer play the next move. At the start of the game press MOVE if you want the computer to play White.

TAKE BACK
Press TAKE BACK after the computer has moved, if you want to take back its move and your last move.

LEVEL
Press the LEVEL key to see White's current maximum thinking time for each move. Then press the LEVEL key again to change the maximum thinking time.

When White's maximum time has been set press the WHITE/BLACK key to see Black's current maximum time and then use the LEVEL key to change it.

WHITE/
BLACK
Press the WHITE/BLACK key to select the colour of a piece being set up. (See also "LEVEL".)

SOUND
Press SOUND to switch the sound on or off.

SET-UP
POSITION
Press SET-UP POSITION to enter "set-up" mode, allowing you to change or enter a position.

VERIFY
POSITION
Press VERIFY POSITION to enter "verify position" mode, allowing you to verify where the pieces are.

Piece Keys
These are the keys identified by the chess piece symbols.

Press the appropriate piece key in "set-up" mode before putting that piece on its chosen square.

Press the KING/STYLE key to see the computer's current playing style then press the KING/STYLE key again to change the style.

After pressing NEW GAME, press the pawn, knight, bishop, rook or queen key if you want to play a game with limited material (teaching mode).

DISPLAY

The display shows which colour is to move next, the square where a piece is located or moving <u>from</u> or <u>to</u>, as well as check and the result of the game. Here you can see all of the symbols and other information which can be shown on the display.

☐   This is the "White" symbol. It will be on when you are playing white and it is your turn to move. It will also be on when you are setting up a chess position in the computer and the next piece you set-up is going to be a white piece. It will be on when the computer is displaying White's maximum thinking time per move. And it will be on when you are verifying the squares for the chess pieces in the computer's memory and the square you are verifying is occupied by a white piece.

This symbol will be flashing when the computer is playing White and it is thinking about its move.

■   This is the "Black" symbol and is used in a similar way to the "White" symbol.

■ □   The "Black" and "White" symbols are on together when the computer is displaying its "style".

+ #   The "Check" and "Set-up" symbols are on together when the computer is displaying the time limit per move for White or Black.

+   The "Check" symbol. It is on whenever you or the computer makes a move which puts the other player in check.

The "Set-up" symbol. It is on whenever you have put the computer into "set-up" mode in order to be able to set-up a special position on the computer's chess board, for example a position from a chess book or magazine.

E 2   This is an example of how the computer displays a square on the chess board. This part of the display can also show the result of the game and other information.

PRODUCT SPECIFICATION

MODEL NO.	88-506
PRODUCT	421 level chess computer. Battery Operated.
MICRO-PROCESSOR TYPE :	8-bit single chip
ROM SIZE	4K x 8
RAM SIZE :	176 x 8
OSCILLATOR FREQUENCY	4 MHZ
MATERNAL CLOCK FREQUENCY :	2 MHZ
DISPLAY TYPE	2-DIGIT LCD
FEATURES	Sensory chess board

   - LCD display indicates moves & other information
   - Position verify / position set-up
   - Take-back moves
   - Long term memory
   - Detects draws by 50 move rule, 3-fold repetition, & stalemate
   - Pawn promotions, castling & en passant captures
   - Audible tone to indicate moves
   - Has teaching feature programmed into computer

BATTERY SUPPLY :   6   VOLT (4 x AA)

NOTE : Product should not be operated using rechargeable batteries.

RESET SWITCH   Resets computer and clears its memory. Reset switch
accessible   through base of unit. Reset switch is necessary since
product   can be affected by electrostatic discharge or other
electrical   disturbances

NOTE. This product is not designed to be immune from the effects of electrostatic discharge, strong electromagnetic radiation or other electrical disturbances since malfunction under such conditions is non-critical. The Reset Switch is included in the design to allow unit to be Reset to normal operation and a new game started in the event of malfunction

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This product conforms to the EMC-Requirements as laid down by the Council Directive 89/336/EEC.

CONTENTS

1   WHAT IS A CHESS COMPUTER?

A chess computer is a traditional board with real chess pieces and electronic circuits which respond to the position of the pieces on the board. An important benefit is that you can play a game of chess against your computer when a human opponent is not available. You can do this at any time, and even switch off in the middle of a game and start again later, because the computer will remember exactly where all the pieces are even when it is switched off.

If you are a beginner the computer's advanced teaching mode will help you to learn the game, to learn about all the pieces and how they move.

Finally, do not think that you have no chance against the computer. It has many levels of skill and if you start off by playing on the lowest level you should find that as you get used to playing the computer you will learn more about the game and have a good chance of winning. As you improve and want a more challenging game you simply increase the level of skill.

Your chess computer is an ideal opponent. It is ready to play you at any time, as often as you like, at whatever level of skill you choose.

A knowledge of chess would be useful to fully understand these operating instructions.

2   LEARN CHESS
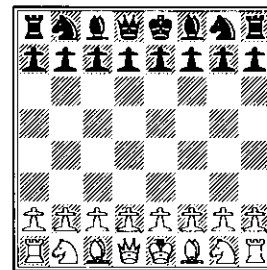
Chess is a game for two players which is played on an 8 x 8 board. At the start of the game the chess board is placed so that there is a white square at each player's bottom right hand corner.

Each player starts with an army of 16 pieces. We call the two players White (the player who is moving the white pieces) and Black (the player who is moving the black pieces). White always moves first and then the players move alternately.

WINNING A GAME

The object of the game is to "**checkmate**" your opponent's king. This means that whatever move your opponent plays you will still be attacking his king.

A move which attacks the enemy king is called a "check" and you may never make a move which leaves your king in check. In friendly games a player will usually say "check" when he makes a move that gives check.

Checkmate is a move which gives check and to which there is no reply that gets the opponent out of check. **A move which gives checkmate wins the game at once!**

DRAWING A GAME

Sometimes, even though your king is *not* already in check, any move you make with any of your pieces would *put* your king in check. This situation is called "**stalemate**" and when it occurs the game ends immediately in a draw.

A game can be drawn by agreement between the players; or if both players make 50 successive moves without moving a pawn or capturing an enemy piece; or if the same position occurs 3 times with the same player to move each time (for example, if the players move the same pieces back and forth 3 times).
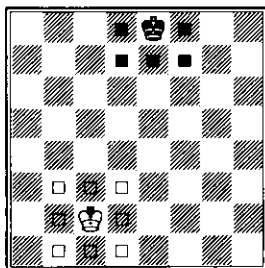
THE KING AND HOW IT MOVES

The king is the most important piece in chess and must be guarded with great care. It moves around slowly, one square at a time in any direction. It may not move to a square which is attacked by an enemy piece and it may not move to a square occupied by one of its own pieces.

In this position White's king can move to any of the squares marked □ and Black's king to any of the squares marked ■.

Like most other pieces, the king captures by moving in the same way as when it makes an ordinary move. So the king may capture any enemy piece provided that the king would legally be able to move to that same square if the square was empty.
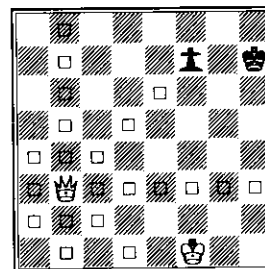
THE QUEEN AND HOW IT MOVES

The queen is the most powerful piece on the chessboard because it can move across any number of empty squares at a time in any direction: horizontally, vertically or diagonally, and it can capture an enemy piece when the queen arrives on its new square. Here White's queen can move to any of the squares marked □, or it can capture the black pawn.
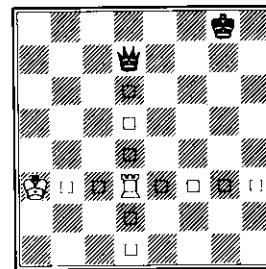
THE ROOK AND HOW IT MOVES

The rook is the second most powerful piece. It can move or capture in a horizontal or vertical direction, as far as it can see without obstruction by another piece. Here the white rook can move to any square marked □ or it can capture the black queen.

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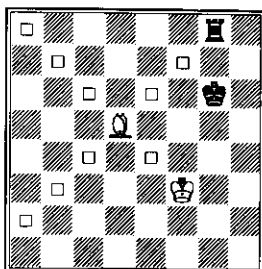
THE BISHOP AND HOW IT MOVES

The bishop is less powerful than the rook because it moves diagonally and is restricted to squares of only one colour during the whole game. Bishops can move or capture as far as they can see without obstruction by another piece. Here White's bishop can move to any square marked □ or it can capture the black rook.
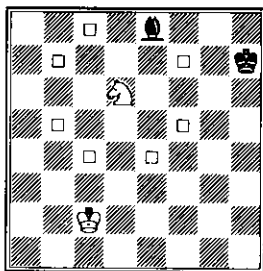
THE KNIGHT AND HOW IT MOVES

The knight is the only piece which may jump over an occupied square. The knight's move consists of two parts, like a letter L. Firstly, it moves two squares in a horizontal or vertical direction; then it moves or makes a capture one square at right angles to the first part of its move. Here White's knight can move to any square marked □, or it can capture the black bishop.
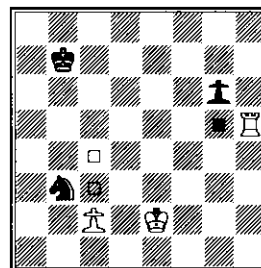
THE PAWN AND HOW IT MOVES

The pawns are the least valuable of all the pieces on the board, partly because they can never move backwards. From its starting square each of the pawns may be advanced one square or two, at the player's choice, but *after* a pawn has made its first move it may only advance one square at a time. Any other pawn which has not yet moved may still advance two squares on its first move if the player so wishes.

Another unusual thing about the pawn is that it does not capture in the same way that it moves. Pawns move vertically forwards, one or two squares, but they capture diagonally (one square only, even on their first move). Here the White pawn may move to either of the squares marked □, or capture the black knight. The black pawn may move to the square marked ■ or it may capture the white rook.

PAWN PROMOTION

Although a pawn is the most lowly of pieces, if it advances all the way to the far side of the board it is immediately promoted, as part of the same move, into a queen, rook, bishop or knight, whichever its owner chooses. Since a queen is the most powerful and valuable piece it is nearly always chosen as the promotion piece.
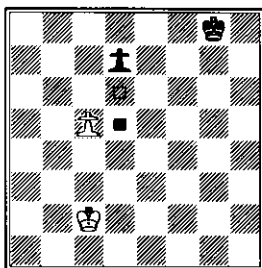
EN PASSANT CAPTURES

In this position, if Black advances his pawn two squares to the square marked ■, the white pawn may make a special type of capture called an "*en passant*" capture ("*en passant*" is French for "in passing"). To make the *en passant* capture the white pawn moves to the square marked □ and White captures the black pawn, taking it off the board.

An *en passant* capture may only be made as the reply move to a double pawn move, and only by a pawn which is side-by-side with the pawn which has just made the double pawn move.

CASTLING

Castling allows the king to be moved to a safer part of the board, nearer to the corner, and at the same time it brings a rook into play. In one move, the king slides two squares towards a corner square and the rook in that corner jumps over the king and lands next to it. Each player may "castle" once, at most, during a game.

In the next position White may castle by moving his king to either of the squares marked □ and then jumping the nearby rook over it to the nearest square marked ■. Black has already made the castling move.
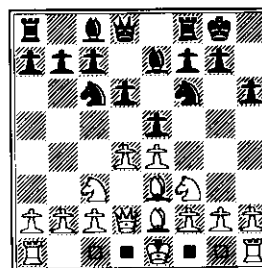
There are a number of restrictions that apply to castling and it is important that you learn all of them:

(1)   You may not castle if your king has already moved.

(2)   You may not castle with a rook which has already moved.

(3)   You may not castle if you are "in check".

(4)   You may not castle if your king would land on a square where it is "in check".

(5)   You may not castle if the square that your king crosses over is attacked by an enemy piece.

(6)   You may only castle if the squares between your king and rook are all vacant.

HINTS FOR BEGINNERS

The most obvious way to work towards victory is to try to increase your own fighting force relative to that of your opponent. We call this "winning material". It is usually a good idea to capture any of your opponent's pieces that are not defended or insufficiently defended. The bigger your material advantage, the easier it will normally be for you to dominate the game and to force a win.

The pieces do not all have the same value and power because some are more mobile and control more squares than others. The following table of material values will serve you as a useful guide.

PAWN	= 1 point
KNIGHT	= 3
BISHOP	= 3
ROOK	= 5
QUEEN	= 9
KING	= beyond material value

The most common mistake that beginners make is to put a piece on a square where it may simply be captured at once. So every time that you are about to make a move, spend a few seconds to ask yourself:

[i]   Can your opponent safely capture the piece that you are going to move?

[ii]   Did his last move threaten one of your pieces?

[iii]   Has your opponent been careless and made a move which allows you to win material, possibly by capturing the piece he has just moved?

Material is not the only important factor in chess. During the first 10 or so moves of the game you should try to bring out both of your knights and both bishops so that they are active, and you should try to castle. And finally, try to use your pieces to attack the central squares - the player who controls the centre usually has the advantage.

3   THE CHESS PIECES AND THE INITIAL POSITION

If you are a beginner or fairly new to the game of chess, the chart of chess pieces at the front of this instruction book will help you to learn the symbols for the different pieces. Set up the pieces on your computer in their starting position, as shown in this diagram.
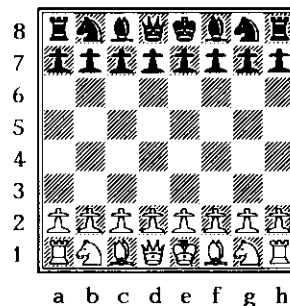
Chess board set up for the start of a game.

Note that if your chess computer comes with pieces that have pegs in their base, the pegs should be inserted into the holes in the centre of each square.

4   CHESS NOTATION

The computer communicates its moves to you using a system called "algebraic notation".

The files, or vertical columns of squares on the chessboard, are identified by the letters a-h (looking at the board from White's side, and reading from left to right). The ranks, or horizontal rows, are numbered 1-8, starting from the White end.

This means that every square can be named by giving the letter of its file and the number of its rank - like a grid reference on a map. For instance, at the start of the game the white king is on e1 and the black queen is on d8. In order to make it easier for you to identify each of the squares on the chessboard, they are all marked with their algebraic co-ordinates (for example, e2, d3).

5   STARTING PLAY

The computer is powered by batteries as specified on the label near the battery compartment. Remove the lid on the base of the unit and install the batteries in their compartment, making sure that the polarity of the batteries is correct. If your computer may be operated using an AC/DC adapter, information concerning the adapter is on the rating label on the base of the unit.

When you load new batteries the □ symbol will be on and the computer will be ready to start a new game with a time limit of 10 seconds per move for Black. **OCCASIONALLY AFTER INSERTING NEW BATTERIES OR CONNECTING AN ADAPTER THE COMPUTER MAY ACT ABNORMALLY - PUSH A THIN OBJECT INTO THE "RESET" HOLE IN THE BASE OF THE COMPUTER AND PRESS DOWN ONCE.**

If you have not just loaded new batteries, to switch on the computer press the ON key. The computer will remember the position which was on the board when you last switched it off.

6   SETTING THE LEVELS OF PLAY

Your chess computer allows you to choose between 420 "levels" of play. To make the program play a stronger game give it a longer time limit for its moves. To make it play a weaker game give it less time. To give yourself an easier game set your own time limit high (or "unlimited"), while if you want to make it tougher for yourself set a low time limit. It is the combination of time settings for you and for the computer that create the **420 playing levels.**

By combining the 420 levels of play with the 6 different starting configurations (the 5 teaching modes plus the standard starting position) you can choose from **2,520** level combinations.

To see the current level (the time limits for White and Black) press LEVEL when it is your turn to move. The + and # symbols come on together -- this tells you that a time limit is being displayed. You will also see the □ symbol, and the right hand part of the display shows the time per move allowed for White. If you have just installed the batteries or connected the adapter, White's thinking time is "unlimited", which is displayed as un.

If you want, you can now alter White's time limit by re-pressing the LEVEL key. From un, the display switches to 0. If you press LEVEL a few more times, the display changes to 5, then 10, 15 etc. -- increasing in steps of 5. The number indicates how many seconds White is allowed per move. After going up as far as 95, the display reverts to un, then 0, 5, 10 ... and so on.

When the LCD shows the time limit that you want for White, you can press the WHITE/BLACK key to display the current limit for Black. (Note that the ■ symbol comes on to replace □.) When you first start to use the computer, the time limit for Black is 10 seconds per move. You can change this time by re-pressing LEVEL in the way already described.

You can switch between the colours using the WHITE/BLACK key as often as you like. The options of specifying the time limits for both White and Black gives you a total of 420 combinations - but if both limits are 0 it is a special case (see below). After setting the times for both colours, press any square of the chessboard or any key except LEVEL or WHITE/BLACK (or ON). The display stops showing the + # sign, and play can continue.

The computer will make each of its moves within the maximum thinking time specified for the colour it is playing. If its time limit is zero it will play almost instantaneously. With "unlimited" time, it will take an average of about 5 minutes per move, though some individual moves may take much longer. On this level the computer can solve "mate-in-two" problems - see section 16.

If the time limit for the side you are playing is not "unlimited", the LCD will show your remaining thinking time in seconds, counting down to zero. When you are down to 5 seconds, the computer sounds 3 warning beeps, and if your time runs out it sounds 6 beeps. However, the computer does not mind if you overstep the limit; you can still make your move and continue the game normally. If you don't like the beeps, select "unlimited" time for the side you are playing.

If you set both time limits to zero, the computer will be in "multi-move" mode, as explained in section 15. This means it will allow you to play moves for both sides while it verifies that each of your moves is legal, and it will not compute any moves itself.

7   MAKING MOVES

To make a move simply press down gently with the piece you want to move on its "from" square. The liquid crystal display (LCD) will display the colour symbol (□ if you are playing white or ■ if you are playing black) and the letter and number corresponding to the "from" square. **IF YOU ARE USING PIECES WITH MAGNETS IN THE BASES AND THE MOVE DOES NOT APPEAR TO HAVE REGISTERED, PRESS DOWN WITH THE EDGE OF THE PIECE.**

Then press down with the same piece on the "to" square to complete the move, or re-press the "from" square to cancel the move.

Here is an example at the start of a new game. If you wish to move the pawn in front of White's king from e2 to e4, press with that pawn on the e2 square and you will see **E2** appear on the LCD. Now press down with that pawn on the e4 square and your move is completed.

8   THE COMPUTER'S MOVE

If the colour symbol on the LCD is flashing it means that the computer is thinking about its move. While the computer is thinking none of the keys has any effect, except for the MOVE key (see section 14).

When the computer has decided on its move the LCD will display its colour symbol and the letter and number corresponding to the "from" square. Press down the computer's piece on this square. Then the computer will display the "to" square. Press the computer's piece on its "to" square. The LCD will then display the □ or ■ symbol according to which player's turn it is next. Here is an example.

Imagine that the computer is playing White. If it is the computer's turn to move from the position in the left hand diagram on the next page and it decides to advance its pawn from e5 to e6, the □ symbol will be on and the display will show E5.
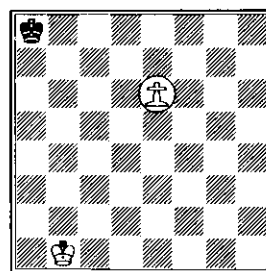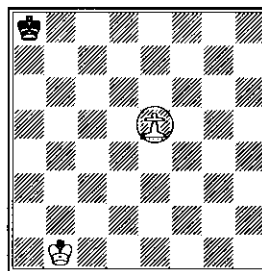
If you press down with the computer's pawn on the e5 square you will see the display change to e6. If you then press down with the computer's pawn on the e6 square the □ symbol will go off and the ■ symbol will come on, showing you that it is now Black's turn to move (in other words, it is your move next).

The position on the chessboard should then look like the one in the right hand diagram because you have moved the computer's pawn from e5 to e6.

9   THE CHESS RULES

Remember that your chess computer knows the rules of the game, including the rules about castling, *en passant* captures, pawn promotion and stalemate. **It will never break any of these rules.**

Sometimes it may seem that the computer has made an irregular move but what will have happened is that you will accidentally have made a mistake when entering a move (either your own move or one by the computer), or you may have accidentally put one or more of the chess pieces on the wrong square during the game. If this happens you should verify the locations of all the pieces by using "verify position" mode (see section 17).

If you are in any doubt about any of the rules of chess you should take another look at "LEARN CHESS" (section 2).

10   ERRORS

To cancel a move after pressing the "from" square press the same square again.

When you press a key or square in the normal way, the computer acknowledges the press with a high pitched "beep". If you press an inappropriate key or square you will hear the error signal (a low buzz). This will clear the "from" square if one has already been selected. Start your move again, or (if it is the computer's move) continue normally by pressing the square indicated by the LCD.

11   SPECIAL MOVES

CAPTURES

Captures are treated normally with no special display. If the computer makes a capture it will display its "from" square in the usual way and then, after you have pressed down with its piece on the "from" square, the computer will display its "to" square in the normal way. The computer's "to" square will be currently occupied by one of your pieces, and the computer's move captures this piece.

If you make a capture the computer also displays your "from" and "to" squares in the usual way, with no special display to indicate that you are making a capture.

EN PASSANT CAPTURES

Press the "from" and "to" squares of the capturing pawn. The computer will then display the square of the pawn being captured. You should now press the square of the pawn being captured as you remove it from the board. This applies whether the *en passant* capture is made by you or the computer.

Here is an example. In the position in the left hand diagram on the next page let us imagine that the computer is Black and has just advanced its pawn from e7 to e5. This double pawn move, landing on a square next to your pawn on d5, allows you to make an *en passant* capture. (If you do not understand why, take another look at the paragraph "*EN PASSANT* CAPTURES" in section 2.)
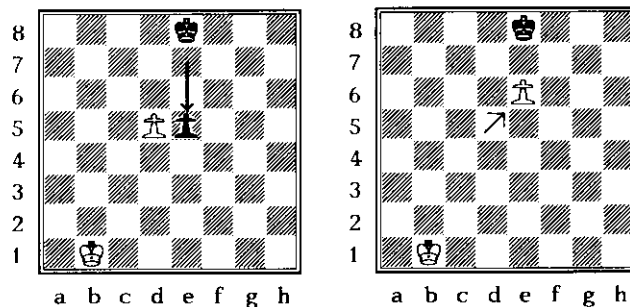
To capture the black e5 pawn, move your pawn from d5 to e6 (marked ☐) in the usual way by pressing down with the pawn first on d5 and then on e6 (as though the black pawn had advanced just one square, to e6, instead of two squares to e5). Then press down with the black pawn on e5 and remove it from the board. The position will now be as shown in the right hand diagram.

PAWN PROMOTION

Press the "from" and "to" squares for the pawn in the normal way. The LCD shows the appropriate colour symbol and the number 5 (denoting a queen). If you wish to promote your pawn to a queen there is no need to change what is on the LCD. Simply press the QUEEN key to select it. The LCD then shows the promotion square again. To complete your move, press down on this square as you place the new piece on the board.

If, instead of a queen, you wish to promote to a rook, bishop or knight, when the computer displays the number 5 on the LCD press the ROOK, BISHOP or KNIGHT key to display 4, 3 or 2 respectively. When the number of the desired piece is shown, press the piece type key again to select it. The LCD then shows the promotion square. Press this square to confirm the move as you place the promoted piece on the board.

If the computer promotes a pawn it will display its move in the usual way (the "from" square then the "to" square of its pawn) then, when you have moved the computer's pawn to its promotion square, you will normally see the number 5 on the LCD, indicating that the computer wishes to promote its pawn to a queen. This directs you to press the piece type key corresponding to the number. Finally, press the promotion square as you place the newly promoted piece on its square.

CASTLING

If you wish to castle, move your king first and then your rook. When you have pressed your king on its "from" and "to" squares the computer will give an extra "beep" and automatically display the "from" and "to" squares of your rook. For example, if you are playing white and you decide to castle king's side, you press with your king on the square e1 followed by the square g1, and the computer will display **H 1** followed (after you press the rook on h1) by **F 1** to remind you to move the rook to the square f1.

When the computer castles, the move is carried out in the same way. Here is how the board will look before and after this example.


```
8  a b c d e f g h
7
6
5
4
3
2
1
   a b c d e f g h
```
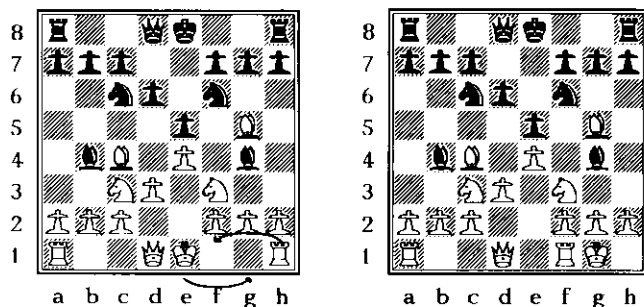
In the position shown in the left hand diagram imagine that you are playing White and you decide to castle king's side. First you press down with the white king on the square e1 and your computer will display the fact that you are moving from the e1 square. Then you press down with the white king on the square

g1. This tells the computer that you are making the castling move (since any other move by the king may only be to a square adjacent to its current square).

Once the computer knows that you are castling it will remind you to make the second half of the castling move with your rook. In this case the computer will display **H 1** and then, when you have pressed down with your rook on h1, the computer will display **F 1** to remind you to put your rook there. When you have pressed down with your rook on f1 the computer knows that the castling move has been completed.

When you have finished making the castling move in this example the chess board will look like the position in the right hand diagram.

12   CHECK, CHECKMATE, etc.

If either player gives check, the computer turns on the **+** symbol on the LCD display and sounds **6 beeps**.

If you or the computer give checkmate the LCD will show either **0 1** (Black wins) or **1 0** (White wins). You will also hear **12 beeps**.

If either player gives stalemate the LCD shows **==**

If either player makes a move which causes a simple repetition of position (the same moves back and forth 3 times) the LCD shows **3=**

If the game is drawn under the 50-move rule the LCD shows **50**.

13   NEW GAME

To start a new game press the NEW GAME key. The LCD will display

P G

and you may now press NEW GAME again to confirm that you want to start a new game, in which case the ☐ symbol will be displayed and the computer is ready to begin.

Instead of pressing NEW GAME a second time to start a new game with all the pieces on the board, when the LCD displays **PG** you may press:

	PAWN	to start a game with only kings and pawns
	QUEEN	to start a game with only kings, queens and pawns
	ROOK	to start a game with only kings, rooks and pawns
	BISHOP	to start a game with only kings, bishops and pawns
or	KNIGHT	to start a game with only kings, knights and pawns

If you start a game by selecting one of the above options the computer will be ready to play with only those pieces indicated (the kings, pawns and one other piece type where appropriate), all of which will be on their usual squares for the start of the game. These five options are designed to help beginners. When you first learn to play it may help you to understand how to make good use of your pawns if you just play with the kings and the pawns on the board. When you feel that you know how to use your pawns properly, and how to use your king to attack your opponent's pawns, try playing with just kings, knights and pawns. Then work through all the other pieces, one by one.

In some situations (e.g. the computer is thinking or displaying its move, or you are in the middle of carrying out a "special" move), pressing the NEW GAME key will have no effect. In that case: If the LCD is showing a letter and a number, for example E2, press that square. If the LCD is showing a piece type (1, 2, 3, 4 or 5) press the corresponding "piece type" key (PAWN, KNIGHT, BISHOP, ROOK or QUEEN). If the LCD shows # (the set-up symbol), you should exit from "set-up position" mode as explained in section 18. Having completed the operation you should now be able to press the NEW GAME key to get a new game.

14 INTERRUPTING THE COMPUTER and CHANGING SIDES

If you press MOVE when the computer is thinking it will immediately make the best move it has found so far.

If you press MOVE when it is your move, the computer will swap sides with you and make the next move.

Note that the MOVE key is inoperative if the time limit for both sides has been set to 0 (multi-move mode) - see section 15.

15 PLAYING BOTH SIDES (MULTI-MOVE MODE)

This mode is useful if you want to use the computer as a chessboard and referee for a game between yourself and a friend, or if you wish to enter a special sequence of moves, for example the moves of a particular chess opening or the moves of a game which you have found in a newspaper or a chess book.

To enter multi-move mode set both players' maximum time to 0. You will then be able to make moves for both sides. When you have entered a move for one side the computer will not start to think about a reply move, it will wait for you to enter the move for the other side.

If you are using multi-move mode to enter a special sequence of moves into the computer, once you have finished entering all the moves you may continue to play from the resulting position by changing levels, i.e. by giving White and Black the amounts of thinking time you find suitable. Once you have selected the new level you may make the next move yourself, or you may ask the computer to make the next move by pressing the MOVE key.

16 SOLVING MATE-IN-2 PROBLEMS

Your computer can solve chess problems of the kind found in newspapers, chess books or magazines. Such problems normally have a caption saying something like "White to play and mate in 2 moves". This means that you must find the next move for White and it must be a move which forces checkmate on the following move. So White's first move in the problem position is the key to

solving the problem and no matter how Black responds to it White will be able to give checkmate on his second move.

Your computer can solve any of these mate-in-2 problems (unless they involve a pawn promotion to a knight, bishop or rook, which would be quite unusual).

First set-up the problem position as described in section 18 (Setting Up a Position). Then set your computer's maximum time setting (see section 6) to "unlimited" and press the MOVE key so that it starts thinking. Once it finds the solution to the problem it will display the first move of the solution. You may then make this move on the computer's chess board in the usual way. If you then make a defensive move in reply, the computer will respond with a checkmating move.

If you set-up a position for unlimited thinking time by the computer but there is no way to force checkmate in 2 moves, the computer will make the best move it can find.

17   VERIFYING THE POSITION

In case of confusion (e.g. if pieces get knocked off the board), you may want the computer to tell you which pieces should be on which square.

To enter "verify position" mode, press VERIFY POSITION when it is your turn to move, and the display will show

u

in the left-hand digit.

To verify what is on a particular square, press on that square. If the square is occupied then the LCD will display the appropriate colour symbol, followed by "u", followed by the piece number (1=pawn; 2=knight; 3=bishop; 4=rook; 5=queen; 6=king). If the square is vacant, the display will show "u0".

To exit from verify position mode, re-press VERIFY POSITION (or press any other key). The **u** disappears, and you may continue play.

18   SETTING UP A POSITION

It is possible to construct a particular position, for example one that you have found in a chess book or magazine, and play against the computer from there.

To enter "set-up position" mode press SET-UP POSITION when it is your turn to move. The display will show the □ or ■ symbol, which indicates the side whose piece will next be placed on the board. The computer will also display the set-up symbol, which is the # symbol near the lower left-hand corner of the LCD.

While the computer is in set-up position mode you can clear the board. To do so press the MOVE key. The LCD will display   **Cb** and you should then re-press the MOVE key to confirm that you want to clear the board, or you may press any other key or square to cancel the "clear board" command.

To place a piece on a square, press the appropriate "piece type" key, then press the square. This automatically replaces any piece that was on the square before.

To clear a square, press that square without first pressing a piece type key.

If the next piece that you wish to place on the board is the opposite colour to the last piece placed, switch colours by pressing the WHITE/BLACK key.

To exit from set-up mode press SET-UP POSITION. Note that whichever colour symbol is displayed when you exit from set-up mode, it will be that player's turn to move next. If you wish to change the side to move next, simply press the WHITE/BLACK key immediately before you exit from set-up mode.

You should now be able to play against the computer from the position you have constructed. Either carry out a move for the side whose turn it is to move next, or press MOVE to make the computer do so.

When you exit from set-up mode the program tests that: (a) each player has exactly 1 king; (b) the side to move is not giving check;

and (c) there are no pawns on the 1st or 8th rank. If the position is illegal, the computer gives its error signal and displays "??". You can now: [i] press VERIFY to use verify position mode (see section 17) in order to find out what you have done wrong; [ii] press SET-UP POSITION to re-enter set-up mode (to correct the position); or [iii] simply press NEW GAME twice to start a new game.

N.B.: There can be no castling with a rook that has been inserted on the board in "set-up" mode. If you want to create a position in which the players have castling rights, you can do so by entering "set-up" mode after using the NEW GAME key to return to the starting position. Then leave the rooks alone while you rearrange other pieces as appropriate. To make castling with a particular rook impossible, remove the rook and re-insert it.

19   TAKE BACK

If you make a move which you realize is a mistake, after the computer replies you can take back the computer's reply and your own move. To take back a move press TAKE BACK, whereupon the LCD displays the "to" square of the last move. You may now press TAKE BACK again to cancel the command or you may press on the "to" square, in which case the LCD displays the "from" square. Now move the piece back to its "from" square and press that square.

If the move was a capture the LCD will now display the colour symbol and the number corresponding to the captured piece (1=pawn; 2=knight; 3=bishop; 4=rook; 5=queen.) Press the piece type key corresponding to the captured piece and the computer will display the square on which the capture was made. Now press the square where the capture was made as you replace the captured piece on the board.

If the move taken back was a castling move, the computer directs you to take back the king move first, then the rook move.

If the move taken back was a pawn promotion, the computer directs you to move the promoted piece back by indicating the "to" and "from" squares, then it displays the number 1 (because the piece moved was a pawn) whereupon you should press the

PAWN key. Finally press the "from" square again as you replace the pawn on the board.

If the move taken back was a capture *and* a pawn promotion, press the "to" square, the "from" square, the "piece type" key (for the captured piece), the "to" square (as you replace the captured piece on the board), the PAWN key and finally the "from" square as you replace the pawn on the board.

N.B.: Take-back resets the 50-move count and erases any repetition of position data, but restores castling rights where appropriate.

20   STYLES OF PLAY

The computer can play in 5 different styles:

Style 1	Very Passive
Style 2	Passive
Style 3	Normal
Style 4	Aggressive
Style 5	Very Aggressive

In **Very Passive** style you will generally find that the computer keeps its own pieces near its side of the board and does not like to advance them very much.

In **Passive** style it still has a tendency to keep its own pieces near its side of the board but less so than when playing in "Very Passive" style.

In **Normal** style the computer does not play unusually passively or aggressively. With this style its play is likely to be strongest.

In **Aggressive** style the computer the computer likes to advance its pieces up the board more than normal.

In **Very Aggressive** style it likes to advance its pieces up the board even more than when playing in "Aggressive" style.

Changing Styles

To enter "change style" mode press the KING/STYLE key. The display will show the "STYLE" symbol (this is made up of the ■ and □ symbols together) and the current style number. To change the style number press the KING/STYLE key again - this increases the style number by 1 (after style 5 the computer cycles back to style 1).

To exit from "change style" mode press any other key or square.

21   SOUNDS

The beeper normally sounds whenever you press a key, and at certain other times. If you prefer to play without the sounds, press SOUND to switch the sound off. Press it again to switch the sound on (you will then hear a double beep).

When the sound is off, the LCD will display **?** in all cases where it would normally give its audible error signal. Press any key or square to clear the **?** from the display, then proceed as you would with the sound on.

22   MEMORY

If a game in progress has to be interrupted, the computer can be switched off (with the OFF/SAVE key) and will retain the game position in its memory.

When you switch on again, the situation will be wholly unchanged, and the game can be resumed as before.

23   SWITCHING OFF and SAVING THE GAME

Press OFF/SAVE - the board position is retained in memory. You may even put away the chess pieces, since you can find out where they are when you resume the game simply by using verify position mode (section 17) or by writing down the locations of the pieces when you interrupt the game.

HOW TO USE YOUR PIECES
A Special Teaching Method
Built into your Chess Computer!

WHAT IS OUR SPECIAL TEACHING METHOD?

Our special teaching method teaches beginners in a simple, methodical way the fundamentals of chess, ranging from individual-piece moves to strategies for the whole game.

New players can choose from five easy-to-follow teaching modes. In the first mode, for example, you compete against the computer in a game in which only the pawns and kings are used. Once you have understood that mode, you progress to the next modes where more chess pieces are used. The five teaching modes are:

MODE 1:   Uses kings and pawns.

MODE 2:   Uses kings, knights and pawns.

MODE 3:   Uses kings, bishops and pawns.

MODE 4:   Uses kings, rooks and pawns.

MODE 5:   Uses kings, queens and pawns.

This simple teaching method has proven to be the most effective teaching method in chess.

HOW THE SPECIAL TEACHING METHOD WORKS

You can start a new game in which each player has only the king and eight pawns. By playing this form of "mini-chess" you will gain valuable experience as to how the pawns and kings interact with each other, for example - how a king can be used to attack

enemy pawns or to prevent a passed pawn from being promoted.

To start a game of mini-chess with only the kings and pawns on the board press NEW GAME followed by the PAWN key (see section 12).

Similarly, you can learn how each of the other piece types interacts with the kings and pawns by pressing NEW GAME followed by one of the other piece type keys (KNIGHT, BISHOP, ROOK or QUEEN).

In the following pages you will learn about the pawns and the other piece types, and how they interact with each other. The piece symbols in the chess diagrams are similar to those used on the piece type keys on your chess computer.

CHESS NOTATION

We describe the moves of a chess game using a system called "algebraic notation". The files, or vertical columns of squares on the chessboard, are identified by the letters **a-h** (looking at the board from White's side, and reading from left to right). The ranks, or horizontal rows, are numbered **1-8**, starting from the White end.

Black plays from this side
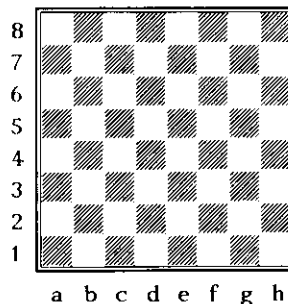
White plays from this side

So every square can be named by the letter of its file and the number of its rank - like a grid reference on a map. So at the start of the game the white king is on **e1** and the black queen is on **d8**.
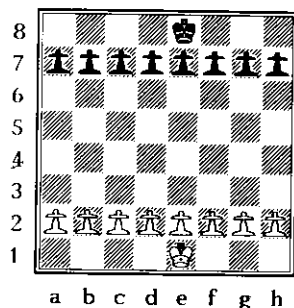
" **-** " between the "from" and "to" squares indicates a simple move.

" **x** " between the "from" and "to" squares indicates a capture.

The initial letter **K** (king), **Q** (queen), **R** (rook), **B** (bishop) or **N** (knight - to distinguish it from a king), is used before the "from" square whenever a piece other than a pawn is being moved.

Thus   **Ng1-f3** means "**knight moves** from g1 to f3"

while   **Re1xe7** means "**rook on e1 captures** on e7".

KINGS AND PAWNS

When you press the NEW GAME key to start a new game you will see PG displayed on the LCD. Instead of pressing the NEW GAME key again to confirm that you wish to start from the usual initial position, you may now press the PAWN key to indicate that you wish to play with the kings and pawns only. The computer will then be ready to start from the position shown in the above diagram.

By playing many games against the computer from this position you will learn how the kings can be used to attack and defend pawns and to help create "passed pawns" which can later be promoted to queens. This is a very good way to learn the fundamentals of chess. Once you are confident that you understand how the kings and pawns relate to each other you can use the modes which allow you to commence a game with only the kings, knights and pawns on the board; or kings, bishops and pawns; kings, rooks and pawns; or kings, queens and pawns.

From the above position let us assume that the game begins as follows:

1	e2-e4	d7-d6
2	d2-d4	e7-e5
3	d4xe5	d6xe5
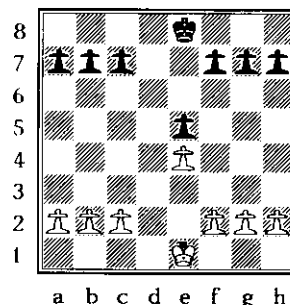
We will first study the difference between an **ACTIVE KING** and a **PASSIVE KING**. In this position, which is completely even, we shall see what happens if White uses his king ACTIVELY, while Black does nothing and hides his king away PASSIVELY in the corner.

4	Ke1-d2	Ke8-f8
5	Kd2-d3	Kf8-g8
6	Kd3-c4	Kg8-h8

In just three moves White's king has advanced to a menacing position while Black's is taking no active part in the game.

| 7 | Kc4-d5 | |

White threatens the pawn on e5. If this pawn falls White will be a pawn ahead which is usually enough of an advantage to force a win.
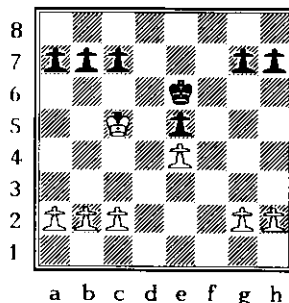
| 7 | ... | f7-f6 |
| 8 | Kd5-e6 | |

Although Black has defended his e5 pawn White's king marches on mercilessly. The target is now the group of black pawns on c7, b7 and a7.

| 8 | ... | Kh8-g8 |
| 9 | Ke6-d7 | c7-c5 |

10	Kd7-c7	b7-b5
11	Kc7-b7	a7-a5
12	Kb7-b6	

Black's pawns at a5, b5 and c5 will now fall like ripe plums, and White will win easily.

PROBING FOR WEAKNESSES

In the previous example we learned some very important advice for the endgame. **YOUR KING IS AN ACTIVE PIECE USE IT!** Here White's king is actively placed but this time Black has also placed his king near the centre of the board. How can White make progress? The answer is to probe Black's position and try to create weaknesses. White now starts an advance on the Q-side where he has the advantage because of his well placed king.

1	a2-a4	g7-g6
2	a4-a5	h7-h6?

A mistake. Black has completely overlooked White's idea.

| 3 | a5-a6!! | |

A fine move. No matter how Black responds, the black pawns on the queen's side will be forced to weaken their formation, allowing the white king to decimate them.

| 3 | ... | b7xa6 |

White was threatening simply 4 a6xb7, followed by 5 b7-b8, promoting to a queen. Black's only alternative was equally unpalatable: 3 ... b7-b6+ 4 Kc5-c6, followed by Kc6xc7, Kc7-b7, Kb7xa7 and the white a-pawn will then promote in a few moves.

| 4 | Kc5-c6 | |

White's king will pick up the c7 pawn, then it will capture the pawns on the a-file, and finally White will advance his b- and c-pawns to promotion.
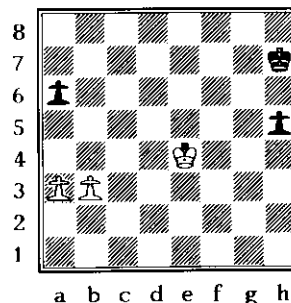
CREATING A PASSED PAWN - WHICH PAWN TO ADVANCE FIRST

In positions with only kings and pawns on the board, the key to victory lies in creating passed pawns and marching them up the board to promotion. Usually the player who first makes a new queen will be the one who wins the game.

In the above position Black has the only passed pawn on the board. White has a 2:1 pawn majority on the queen's side but has not yet converted this into a passed pawn. How can he do so? White's king must keep an eye on Black's h-pawn and prevent it from advancing to promotion, so White must advance either his a- pawn or his b-pawn. Which should it be?
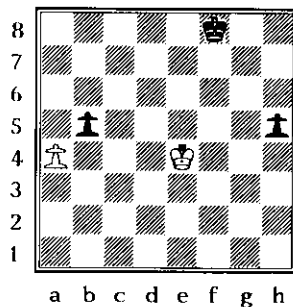
1   b3-b4!!

With this move White creates a passed pawn. The alternative, 1 a3-a4 allows Black to blockade the queen's side with 1 ... a6-a5, when White can not advance his b-pawn without losing it for nothing.

1   ...   Kh7-g8

Black sees what is about to happen and rushes back to try to stop White from promoting.

2   a3-a4   Kg8-f8
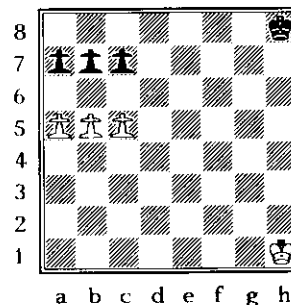3   b4-b5   a6xb5

4   a4-a5!!

The only good move. If White recaptures on b5 Black can catch the passed pawn in time: 4 a4xb5 Kf8-e7 5 b5-b6 Ke7-d7 6 b6-b7 Kd7-c7, and the white pawn will be captured so the game will end in a draw.

4   ...   b5-b4
5   a5-a6   b4-b3
6   Ke4-d3

and White's king prevents the black b-pawn from promoting so White will be able to promote his own a-pawn for an easy win.
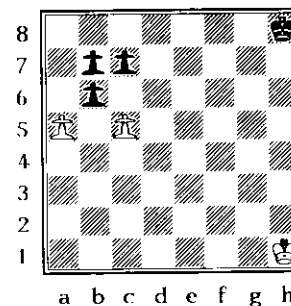

Here White has a very neat way to win. The idea is to force through one of his pawns to promotion before the black king can rush back to the queen's side. Can you see how?
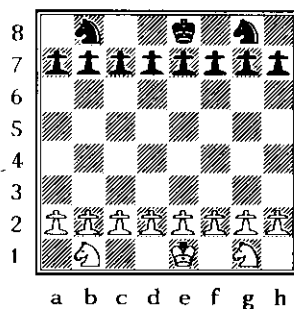
1   b5-b6!!   a7xb6

If Black tried 1 ... c7xb6 then 2 a5-a6!! sacrifices a second pawn to decoy the black pawn on b7 away from its defence of c6: 2 ... b7xa6 3 c5-c6, followed by 4 c6-c7 and 5 c7-c8=Q, winning.

2   c5-c6!!   b7xc6
3   a5-a6

And the promotion of White's a-pawn cannot be stopped.

KINGS, KNIGHTS AND PAWNS

After pressing NEW GAME and seeing PG displayed on the LCD, if you press the KNIGHT key the computer will be ready to start play from the above position, with only the kings, knights and pawns on the board.

Even in a symmetrical position such as this, it is very easy for an unsuspecting player to overlook a simple threat.

| 1 | Nb1-c3 | Ng8-f6 |

This move appears to be a serious mistake because it does not take into account White's threat. Safe moves for Black include 1 ... Nb8-c6 or 1 ... a7-a6.

| 2 | Nc3-b5 | Nb8-a6 |

Defending the c7 pawn.

| 3 | Nb5xa7 | |

So White has won a pawn. Does this mean that the game will be a relatively easy win for White? Not at all.

| 3 | ... | c7-c6! |

The white knight on a8 cannot escape and now Black is threatening to march his king to b8 and pick up the errant knight.

| 4 | Ng1-f3 | Ke8-d8 |
| 5 | Nf3-g5 | Kd8-c7 |
| 6 | Ng5xf7 | Kc7-b8 |

White is already two pawns up but his knight on a7 is attacked and has nowhere safe to go. Under the circumstances White extracts as much as he can for his knight:

| 7 | Na7xc6+ | d7xc6 |

An interesting choice. Should Black capture the knight with the d-pawn or the b-pawn? If Black captures with the b-pawn then White will have a "passed" a-pawn. The a-pawn will not have any enemy pawns to oppose it on its path to promotion and so Black will need to use his king or one of his knights to keep the a-pawn under observation. If Black captures on c6 with his d-pawn he leaves the pawn on e7 "isolated", that is to say, it has none of its own pawns on adjacent files to protect it. But by capturing on c6 with his d-pawn, Black avoids leaving White with a passed pawn, and although the black e-pawn (on e7) represents a weakness, it is less important than allowing White a passed pawn. So 7 ... d7xc6 is stronger than 7 ... b7xc6.

After recapturing on c6 Black has won a knight for 3 pawns. In pure material terms a knight is worth roughly the same as 3 pawns, but in this position White has no passed pawns and none of White's pawns is any kind of a threat to Black, so Black has a clear advantage.

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8   ♜ ♝ ♛ ♚ ♝   ♜
7   ♟ ♟ ♟ ♟ ♟ ♟ ♟ ♟
6
5
4
3
2   ♙ ♙ ♙ ♙ ♙ ♙ ♙ ♙
1       ♗   ♔ ♗

    a b c d e f g h
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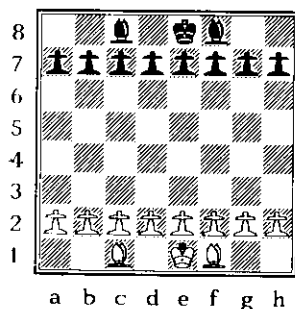
KINGS, BISHOPS AND PAWNS

After pressing NEW GAME and seeing PG displayed on the LCD, if you press the BISHOP key the computer will be ready to start play from the above position, with only the kings, bishops and pawns on the board.

The bishop is often a mobile piece but it is important that it does not get hemmed in and even trapped by the enemy pawns. Here is an example of what can happen from the above position.

1	e2-e4	e7-e5
2	Bf1-b5	a7-a6
3	Bb5-a4	b7-b5
4	Ba4-b3	a6-a5

Can you see what Black is threatening?

| 5 | d2-d3?? | |

White is anxious to get his c1 bishop into play and completely overlooks Black's idea. Better moves, for example, would be 5 a2-a4 or 5 c2-c3.

| 5 | ... | a5-a4 |
| 6 | Bb3-d5 | c7-c6 |

White's bishop on d5 is attacked and has no safe place to go, so White loses a bishop in return for only a pawn.

37

THE TRAP THAT BEAT BOBBY FISCHER

There is a very common trap which almost all beginners fall into at some time or other. One player, say White, captures a pawn at a7 or h7 with his bishop, only to see his bishop trapped when his opponent advances the neighbouring pawn one square. Here is an example, starting from the position in the previous diagram.

1	e2-e4	e7-e6
2	d2-d4	Bf8-d6
3	Bf1-d3	Bd6xh2??
4	g2-g3!	

So Black has won a pawn but the bishop on h2 is now shut in by the white pawn chain on f2 and g3. Black must act quickly to try to save his bishop.

| 4 | ... | h7-h5 |

Black's plan is to advance the pawn to h4, then to exchange pawns on g3 and finally to capture on g3 with his bishop, extricating the bishop. Alternatively, when the black pawn advances to h4, if White captures (g3xh4) then the black bishop can escape from h2. But here this plan is too slow.

| 5 | Ke1-f1 | |

Black has no satisfactory way to meet the threat of Kf1-g2.

| 5 | ... | h5-h4 |

Of course, White must not now play g3xh4 because then the bishop on h2 would escape. This is one of the ideas behind the advance of Black's h-pawn.

| 6 | Kf1-g2 | h4xg3 |
| 7 | f2xg3 | |

And on the next move Black loses his h2 bishop. Even though Black could play 7 ... Bh2xg3, the material advantage of a bishop for two pawns is normally sufficient to guarantee a win.

38

Amazingly the famous American Grandmaster Bobby Fischer lost the first game of his 1972 World Championship match against Boris Spassky in exactly this manner. Fischer (black) grabbed a pawn at h2 with his bishop, expecting the bishop to be able to extricate itself eventually. Unfortunately for Fischer he was wrong - he lost the bishop and the game (but he won the match).
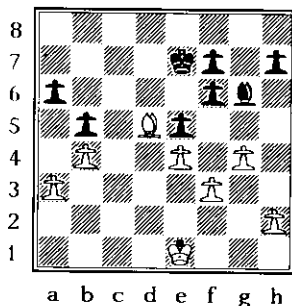
ACTIVE BISHOP v PASSIVE BISHOP

In this position White has a well posted bishop in the centre which is free to manoeuvre over much of the board. Black's bishop, in contrast, is "biting on granite". It has no scope because of the white pawn chain: e4, f3, g4. If Black were to try the move ... h7-h5, to break open the prison bars, White would simply respond with h2-h3, so that if Black exchanged pawns on g4 White could recapture with the h-pawn, thereby keeping the prison intact. So although White's bishop and Black's bishop have the same material value, Black's piece is useless to him. White already has the unstoppable threat of Bd5-b7, picking up the a6 pawn.

|	1	...	Ke7-d6
	2	Bd5-b7	

The attempt to trap Black's bishop by 2 h2-h4 (threatening 3 h4-h5) does not work and, in fact, would be a serious mistake because it allows 2 ... h7-h5 under favourable circumstances - White would no longer have the reply h2-h3 at his disposal.

2	...	Kd6-c7
3	Bb7xa6	Kc7-b6
4	Ba6-c8	Kb6-c7

The only safe squares for the white bishop are a6 and f5, and if the bishop returns to a6 then the black king returns to b6. So White plays

5	Bc8-f5	Bg6xf5
6	g4xf5	

And White will eventually win because of his extra pawn.
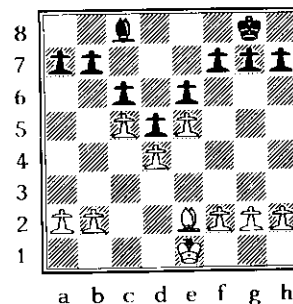
"GOOD" BISHOP v "BAD" BISHOP

We refer to a bishop that has plenty of scope as a good bishop and one which is restricted by its own pawns as a bad bishop. In the above position the black bishop on c8 is bad because its own pawns at e6, d5, c6 and b7 create what is almost a coffin, keeping the black bishop out of play for several moves.

In order to escape from behind this pawn chain Black must go through the somewhat tortuous manoeuvre: ... Bc8-d7, ...Bd7-e8, ...f7-f6 and ...Be8-g6 (or ...Be8-h5). The problem with this plan is that it takes 4 moves to carry out and in the meantime White will be doing something active. It is rare in chess to be given the luxury of 3 or 4 "free" moves to carry out a plan without the opponent being able to use his reply moves very productively.
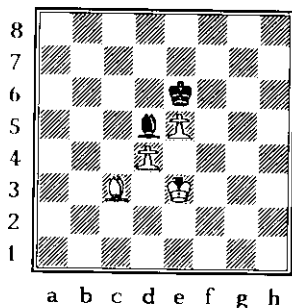
Contrast the restricted scope of the bishop on c8 with that of the "good" white bishop on e2. This bishop is ready to come into play on the Q-side or K-side, whichever is appropriate. It is also able to switch from one side of the board to the other very rapidly.

WHEN TO EXCHANGE BISHOPS

There will be many instances in your games when you are unsure about whether to exchange off a particular bishop. A useful rule is to first decide whether the bishop is "good" or "bad". In general you should be happy about exchanging a bad bishop for a good one or for an enemy knight.


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8 . . . . . . . .
7 . . . . . . . .
6 . . . . ♚ . . .
5 . . . ♝ ♟ . . .
4 . . . ♙ . . . .
3 . . ♗ . ♔ . . .
2 . . . . . . . .
1 . . . . . . . .
  a b c d e f g h
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"OPPOSITE COLOURED" BISHOPS

The above position provides an excellent example of what are called opposite coloured bishops. This does not mean that White has one bishop and Black has one bishop. It means that each player has only one bishop and they stand on squares of opposite colours. Here, for example, White has a bishop on a dark square whereas Black has a bishop on a light square. What then is the significance of opposite coloured bishops?

If you think about this position you will soon realise that half of the squares on the board are completely safe for each player. Black's king, for example, cannot be dislodged from the e6 square because it can NEVER be checked by the black bishop, and by leaving his own bishop occupying or controlling the d5 square Black prevents his opponent from advancing the pawn from d4 to d5.

To put it very simply, Black can simply move his bishop back and forth between the squares (for example) a8, d5 and h1, and refuse to move his king. There is absolutely no way that White can then make progress. So in a position in which White is two pawns ahead, and they are both passed pawns, White can do no more than draw.

Since the presence of opposite coloured bishops very often heralds a draw in the endgame, if you find yourself behind in material you should always try to trade off the bishops and knights in such a way as to leave opposite coloured bishops on the board, preferably without any knights, rooks or queens on the board. On the other hand, the presence of opposite coloured bishops can sometimes help a player who is attacking his opponent's king with the assistance of his queen.

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8  ♖ . . . ♚ . . ♖
7  ♟ ♟ ♟ ♟ ♟ ♟ ♟ ♟
6  . . . . . . . .
5  . . . . . . . .
4  . . . . . . . .
3  . . . . . . . .
2  ♙ ♙ ♙ ♙ ♙ ♙ ♙ ♙
1  ♖ . . . ♔ . . ♖
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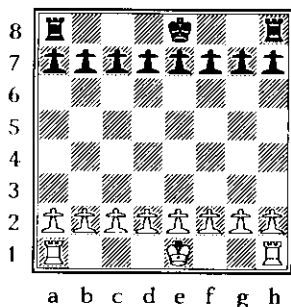
KINGS, ROOKS AND PAWNS

After pressing NEW GAME and seeing PG displayed on the LCD, if you press the ROOK key the computer will be ready to start play from the above position, with only the kings, rooks and pawns on the board.

There are two important rules to remember about using your rooks. The first and most useful is that you should nearly always try to place your rooks on "open" files, that is columns of squares (such as the column from a1 to a8) which have no pawns on them. A rook on an open file has plenty of scope to advance at the correct moment into the enemy camp.

| 1 | 0-0 | 0-0 |

We use the symbols 0-0 to indicate castling king's side.

2	c2-c4	c7-c6
3	d2-d4	d7-d5
4	c4xd5	c6xd5
5	Rf1-c1	

Now, after 5 ... Rf8-c8, it would be a mistake for White to play 6 Rc1xc8 because then Black's recapture 6 ... Ra8xc8 would leave BLACK in command of the only open file on the board. Black would then follow up with 7 ... Rc8-c2, with a dominating position. (The second rule for rooks is that they are very well placed on their 7th rank in the endgame. For Black this means putting the rooks on the rank numbered 2 in the above diagram.)

After 5 ... Rf8-c8, White should continue with the plan: Kg1-f1, Kf1-e1, Ke1-d1, followed only now by Rc1xc8 and then Ra1-c1, challenging for control of the open file.

If, instead of playing 5 ... Rf8-c8, Black forgets about the open file, White can quickly build up a completely overwhelming position. Watch how easy it is for Black to go astray.

| 5 | ... | e7-e6? |

This innocuous move probably loses the game for Black.

| 6 | Rc1-c7 | b7-b6 |

Safeguarding the b-pawn.

| 7 | Ra1-c1 | |

Now there is no way that Black can challenge White's control of the c-file.

7	...	g7-g6
8	Kg1-f1	Kg8-g7
9	Kf1-e1	Kg7-f6
10	Ke1-d2	

White will continue with Kd2-c3, Kc3-b4, Kb4-b5, Kb5-a6 and then Rc7xa7, winning the a-pawn at once and the b-pawn soon afterwards. Black is virtually helpless against this plan, which could not have worked if Black had neutralized the c-file.

This example demonstrates not only the importance of controlling open files with your rooks, it also illustrates the power of rooks on the 7th rank. All pawns start life on their 2nd rank (i.e. the opponent's 7th rank) and even in the late stages of the game there are often pawns still on their starting squares. By placing a rook on the 7th rank you therefore put pressure on your opponent's pawns and hopefully win one or more of them.

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8 | ♜ ♛ ♚ ♜
7 | ♟ ♟ ♟ ♟ ♟ ♟ ♟ ♟
6 |
5 |
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3 |
2 | ♙ ♙ ♙ ♙ ♙ ♙ ♙ ♙
1 |       ♕ ♔
    a b c d e f g h
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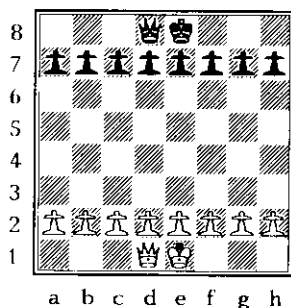
KINGS, QUEENS AND PAWNS

After pressing NEW GAME and seeing PG displayed on the LCD, if you press the QUEEN key the computer will be ready to start play from the above position, with only the kings, queens and pawns on the board.

The queen is the most active piece and can move around an open board with great speed. The most important advice to remember about the queens is - BE CAREFUL. Always think about every move that your opponent can make with his queen, in case one of them would cause you a serious problem. Here we can see how easy it is to overlook a powerful queen move.

    1   e2-e4   d7-d6?

From the normal starting position with all 32 pieces on the board this would be a perfectly acceptable first move. In the above position, however, it is a fatal mistake that loses a pawn.

    2   Qd1-h5

Threatening the pawn at h7.

    2   ...   h7-h6
    3   Qh5-b5+

No matter how Black evades check, White will reply 4 Qb5xb7, and should win comfortably because of his extra pawn.

TROUBLESHOOTING GUIDE

Your chess computer has been manufactured and tested to very high quality standards and it is most unlikely to have a fault. We have found in the past that almost all so-called "faults" can be traced to the user accidentally pressing a wrong key or moving a piece to the wrong square, which makes it appear later in the game that the chess computer is not operating as expected.

THE MOST COMMON "FAULT" TO BE FOUND WITH CHESS COMPUTERS IS THAT THE USER HAS DONE SOMETHING WRONG AND, WITHOUT REALISING IT, PUTS THE BLAME ON THE COMPUTER!

Often a "fault" is due to the user having misunderstood something about the way the pieces move. Just in case you do encounter a problem when using your chess computer we have prepared this troubleshooting guide.

If there is nothing showing on the display and the computer does not react to any key press or to pressing any of the chess pieces down on its square:

1   If you are using batteries make sure that they are held firmly by the battery clips and that the positive tips of the batteries are all the right way round. If you have had the batteries a long time they may have run down so try replacing them.

2   If the batteries appear to be OK the computer may have been affected by a static discharge which might have caused it to "lock up". Press a thin object in the "RESET" hole in the base of the computer and press it down firmly once.

If the computer has been playing normally but then refuses to make a move:

1. If the computer's colour symbol (□ or ■) is flashing then the computer is still thinking. Be patient if you can, or press the MOVE key and the computer will respond immediately with the best move it has found so far.

2. If your colour symbol (□ or ■) is on, the computer thinks that you have not made your last move. Ensure that the pieces on the chess board are on the same squares as those in the computer's internal memory by using "verify position" mode (see section 17). If the pieces all appear to be on the same squares as the computer thinks they should be, this means that it is still your turn to move.

If you make a move but the computer refuses to accept it as a move:

1. Ensure that you have completed your move by pressing down on the "to" square. If your move was castling, ensure that you have moved the rook as well as your king (see section 11). If the move was an *en passant* capture, ensure that you have moved the capturing pawn in the correct way and that you also pressed down on the square of the captured pawn before you removed it from the board (see section 11). If your move was a pawn promotion ensure that you pressed on the promotion square with the newly promoted piece (see section 10).

2. If the check symbol + is on look to see if the computer's last move put you in check and if so, make sure that your reply move does not leave you in check.

3. If the check symbol is not on look to see if your move puts your king in check, either by moving the king to a square attacked by an enemy piece or by moving something away from a square where it blocked an attack on your king by an enemy piece.

4. Make sure that your move was not against any of the other rules of the game. If in doubt read through the parts of section 2 ("LEARN CHESS") which could affect whether your last move is against the rules.

5. If the # symbol is displayed on the LCD the computer is in "set-up position" mode. You may have gone into this mode deliberately, or you may have accidentally pressed the SET-UP key by accident. Read section 18 to learn how to exit from "set-up position" mode.

If the computer makes a move which you believe to be against the rules:

1. Ensure that the pieces on the chess board are on the same squares as those in the computer's memory. You can do this by using "verify position" mode (see section 17). If the pieces all appear to be on the same squares as the computer thinks they should be, this means that nothing is wrong. You have probably misunderstood one of the rules (see section 2), particularly if the computer's move was castling, a pawn promotion or an *en passant* capture.

2. Press the MOVE key to see if the computer makes a normal reply move. If it does you will know that the computer is working properly. Then you can use the "take back" feature (see section 19) and make a move of your own choosing to continue the game.

If you do not hear any sound when you press the keys:

Press the SOUND key to ensure that the sounds are switched on.

INSERTING THE BATTERIES:
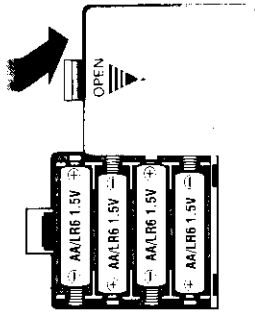
1. Place the game face down on a flat surface and locate the battery compartment on the bottom of the unit.

2. Open the battery compartment door by pressing on the tab with your thumb and lifting up.

3. Insert four AA or LR6 size batteries as shown in the illustration below.

4. Close the battery compartment cover.

TO ENSURE PROPER FUNCTION :

- DO NOT MIX OLD AND NEW BATTERIES.

- DO NOT MIX ALKALINE, STANDARD OR RECHARGEABLE BATTERIES.

- BATTERY INSTALLATION SHOULD BE DONE BY AN ADULT.

- NON-RECHARGEABLE BATTERIES ARE NOT TO BE RECHARGED.

- RECHARGEABLE BATTERIES ARE TO BE REMOVED FROM THE TOY BEFORE BEING CHARGED (IF REMOVABLE).

- RECHARGEABLE BATTERIES ARE ONLY TO BE CHARGED UNDER ADULT SUPERVISION (IF REMOVABLE).

- ONLY BATTERIES OF THE SAME OR EQUIVALENT TYPE AS RECOMMENDED ARE TO BE USED.

- BATTERIES ARE TO BE INSERTED WITH THE CORRECT POLARITY.

- EXHAUSTED BATTERIES ARE TO BE REMOVED FROM THE TOY.

- THE SUPPLY TERMINALS ARE NOT TO BE SHORT-CIRCUITED.