

Bedienungsanleitung  
Instruction manual  
Mode d'emploi  
Manual de Instrucciones

**Mephisto<sup>®</sup>**  
**europa A**

Hegener + Glaser AG

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*Mephisto*<sup>®</sup>  
**europa A**

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**Instruction manual**



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Dear reader!

We would like to congratulate you on the purchase of your new *MEPHISTO EUROPA*. This computer offers you an excellent price-to-performance ratio. Although the computer costs relatively little, testgames against much more expensive chess-computers (also higher rated) have shown that the *MEPHISTO EUROPA* is a very strong partner. With its TUTOR function the computer offers you a completely new feature which will help you to learn and improve your chess.

You will probably not have played with a chess-computer before. Despite this you will soon see that your *MEPHISTO* is simple to operate. Please read the instruction manual carefully and try the various functions before you start to play a game. This will avoid you being disappointed with your first game with *MEPHISTO*. Your computer is the product of German top-technology and design ability. Please treat your computer with care and clean it only with a damp cloth (no detergents).

We of the *MEPHISTO* team wish you many happy hours with your *MEPHISTO* chess partner.

**HEGENER + GLASER AG**  
**W. Germany**



## **A) Introduction**

### **A1) Operating the computer**

Operating the computer is both a simple and logical matter. There are various **functions** and **features** which are grouped together in different **modes**. Generally you can only use particular features whilst in particular modes.

#### **PLAY MODE:**

This is the **normal state** to which the computer is set. Whilst in this mode you can play a game against the computer using one of the fifty playing levels at your disposal. The computer has a separate problem chess level to enable you to solve chess problems.

#### **INFO MODE:**

Whilst in this mode the computer can give you various pieces of **information**. For example during a game it may tell you which move the computer is considering and the analysis depth. When it is your turn to play the computer will also make move hints.

#### **POS MODE:**

Whilst the computer set in this mode it is possible **to check** and **change positions** on the board. You can introduce new pieces to the game or move the pieces from one location to another on the board. It is also possible to set up pre-defined positions (e.g. for a chess problem). It is also possible to use this to make the computer analyse the position.



## **MEM MODE:**

Whilst in this mode the computer will accept **moves** which are **played forwards** (e.g. openings lines) or **backwards**.

## **TUTOR MODE:**

In this mode you can call up one of the **64 pre-programmed practice positions** and can play through them with the computer's help. During a game the computer will help you analyse a position. It can also tell you which move it intends to play and, if you have made a move, which response it is considering. You always have the opportunity to take your move back and to ask for a move hint (the best) from the computer.

You can always see in which mode the computer is by the LEDs (small lights) at the bottom of the chess-computer's board.

**IMPORTANT:** Note that these LEDs have another function too; in particular cases the computer will use these LED's to show the different chess pieces on the board (from right to left): King (TUTOR-LED), Queen (INFO), Rook (+), Bishop (MEM), Knight (POS), Pawn (PLAY).

## **A2) Power supply**

Your MEPHISTO can run on battery power or with an adapter. The latter will of course save you money in the long run, however you can use the computer on battery power where there is no power supply available.

Even when using the computer on the mains power please place four 1,5 V batteries in the battery compartment on the underside of the computer. It is a good idea to use alkaline batteries which will give you a longer battery life.



When using an adapter we recommend strongly that you only use the official HEGENER + GLASER adapters (HGN 5001 or international equivalent). The corresponding jack plug is on the lower left side of the computer.

**Note:** Please plug the adapter into the mains before connecting the jackplug to the computer. If you do this then MEPHISTO will keep you company for much longer!

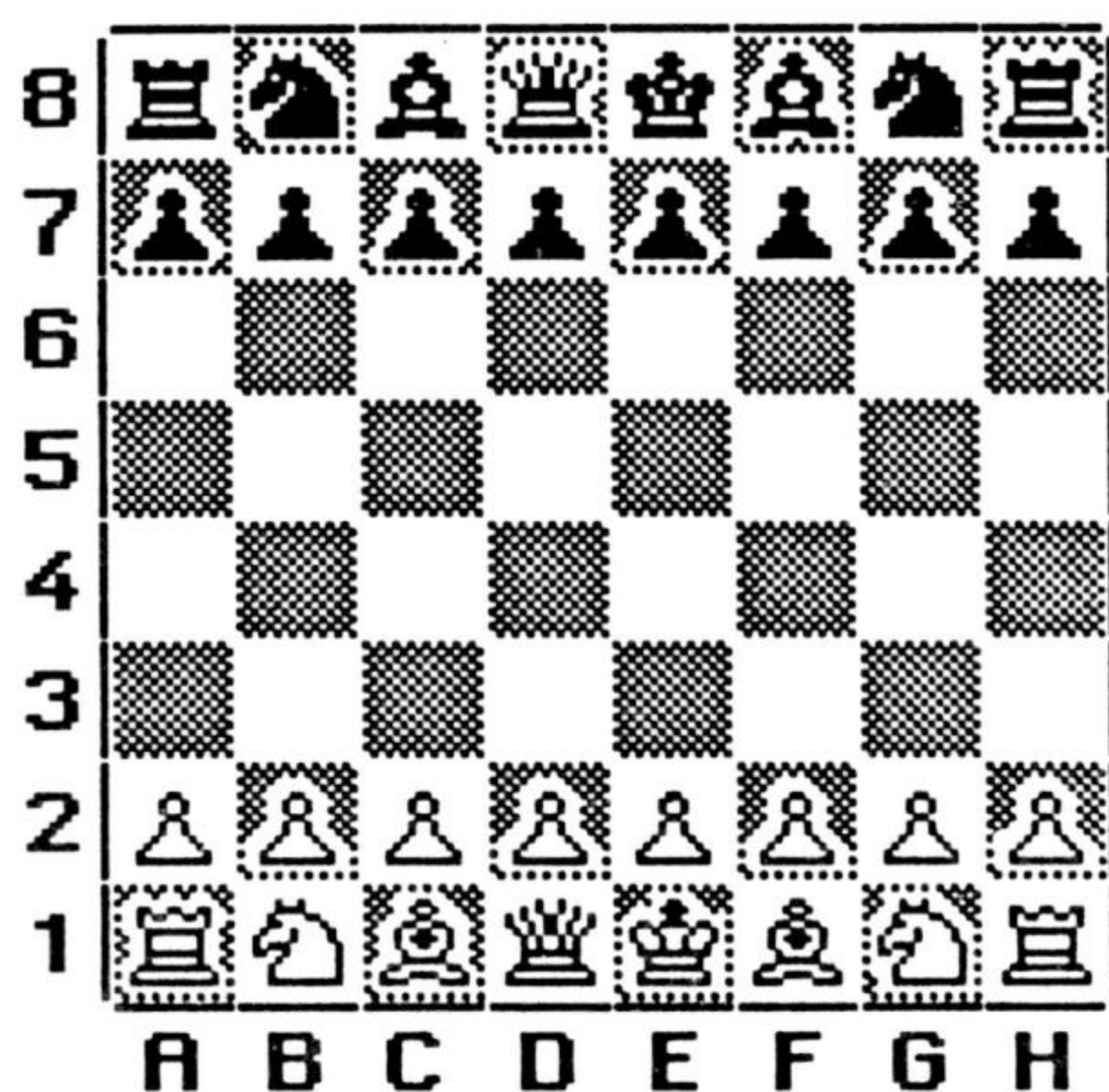
Keep the batteries in the computer even when using the mains power supply. Your computer will automatically switch to the correct power supply.



## **B) Playing with the computer**

### **B1) Setting up and starting a game**

Before switching the computer on set up the chessmen in their basic starting position as shown below. The white chessmen should be closest to you i.e. from squares A1 to H1 and A2 to H2.



### **Playing with White**

When you switch the computer on, the 16 LEDs on the lefthand side and the bottom on the board will light up one after the other. After this they will switch off and the LEDs for White and PLAY at the bottom of the board will be switched on. This means that you are now in the PLAY mode and it is White's move. You can now start to play for White and make your first move (see section B2). If however you would like the computer to play for White (so that you have Black) you must make MEPHISTO play the first move. This is done by pressing the 'ENT' key. You must however remember one thing:



Before you start a game the computer will automatically turn the board around if you press 'ENT'. This means that it will play its first move from the top of the board to the bottom i.e. the computer will assume you wish to play with Black against it and will start to play with White from the opposite side of the computer. Assuming that you will still want to play with White in front of you i.e. not from the opposite side of the board, you can first press the 'LEV' key, then square G1 and then the 'ENT' key. The computer will then play with White from the bottom of the board to the top. Press 'ENT' once again and the computer will make its first move.

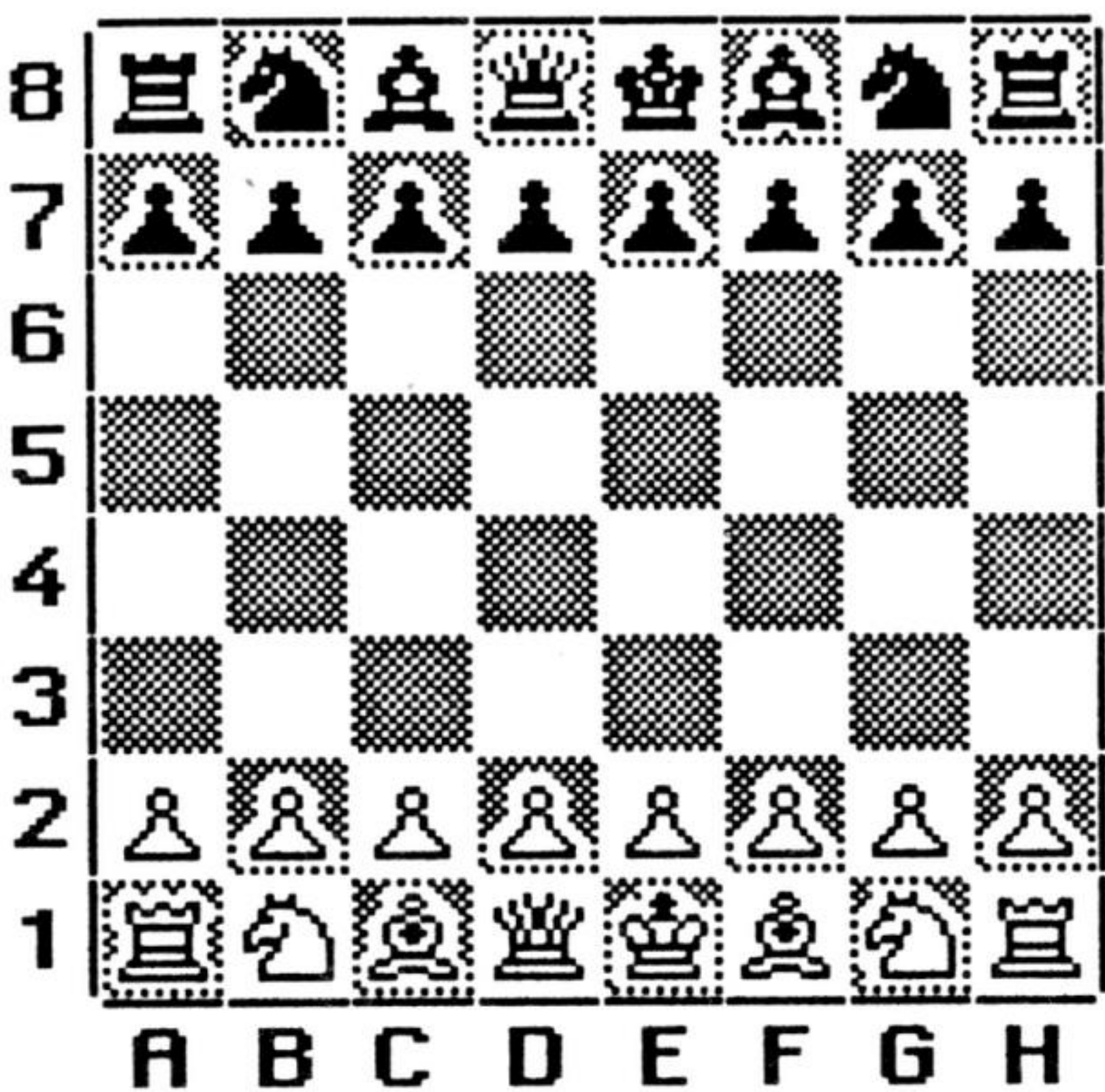
If, during a game, you want the computer to make the next move simply press the 'ENT' key. If you continue to do this during the whole game, the computer will play a game from the start to the end i.e. play an automatic game.

The computer will not turn the board if you enter a position or a sequence of moves in the POS or MEM modes and then change sides.



## B2) Making moves, move displays

Let us assume that you are playing with White and are about to make the first move. Press the piece which you wish to move (in our example the Queen's Pawn) on its present square. You will hear a beep and two LEDs on the edge of the board will light up (the co-ordinates of the square).

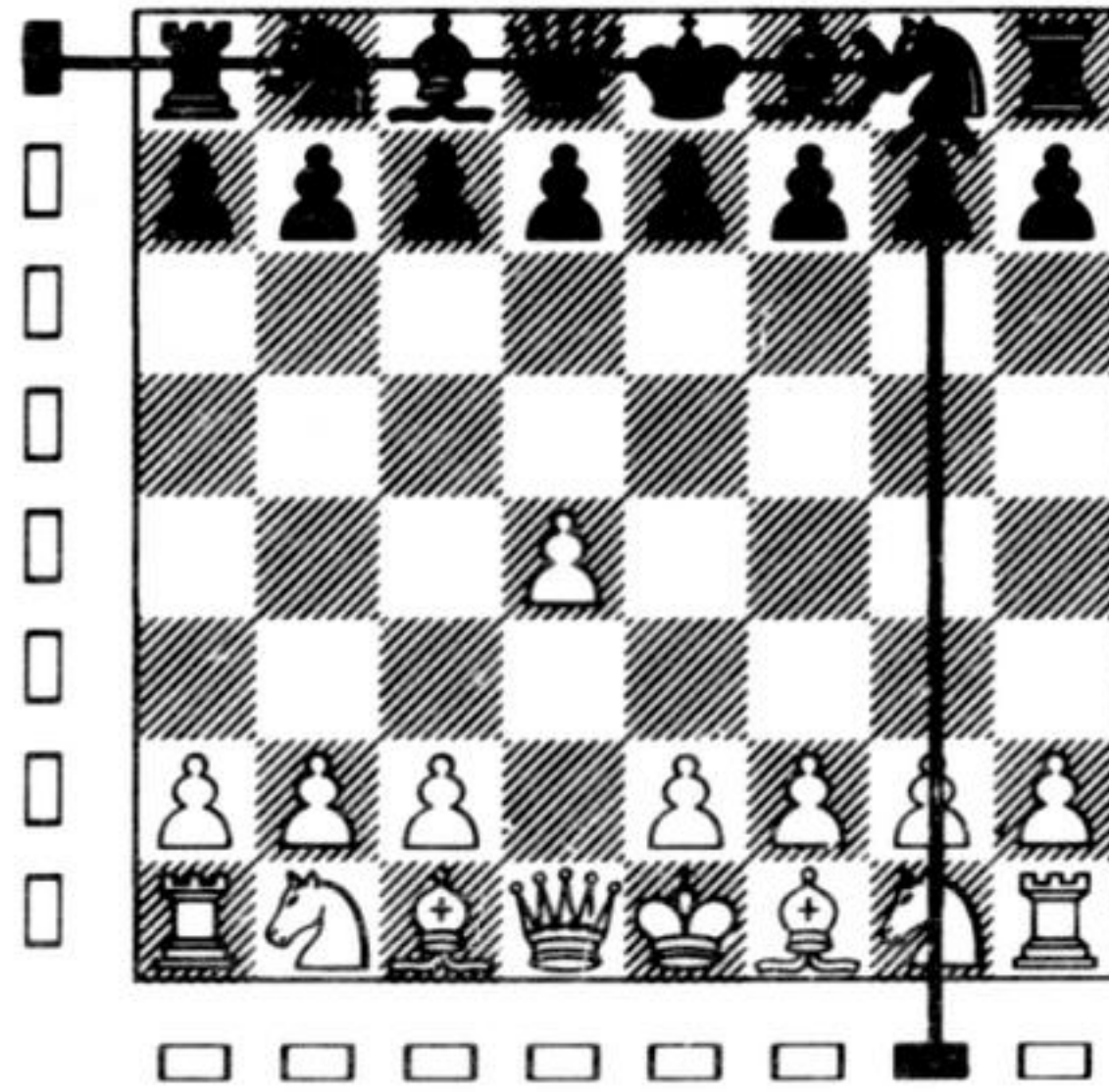


Next place the piece on its objective square and press it down again. The computer will sound another beep but will not light up the co-ordinate LEDs of this square. Instead the LED which shows whose turn it is will change from White to Black. The computer has registered your move and is now analysing a move for Black.

During a game and when it is your turn, the LED which indicates your colour (White/Black) will be switched on; whilst the computer is analysing its colour LED will flash. When the computer has found a move, it will sound a beep and its LED will stop flashing but remain switched on. At the same time the co-ordinate LEDs will be switched on to indicate which piece the computer wishes to move.



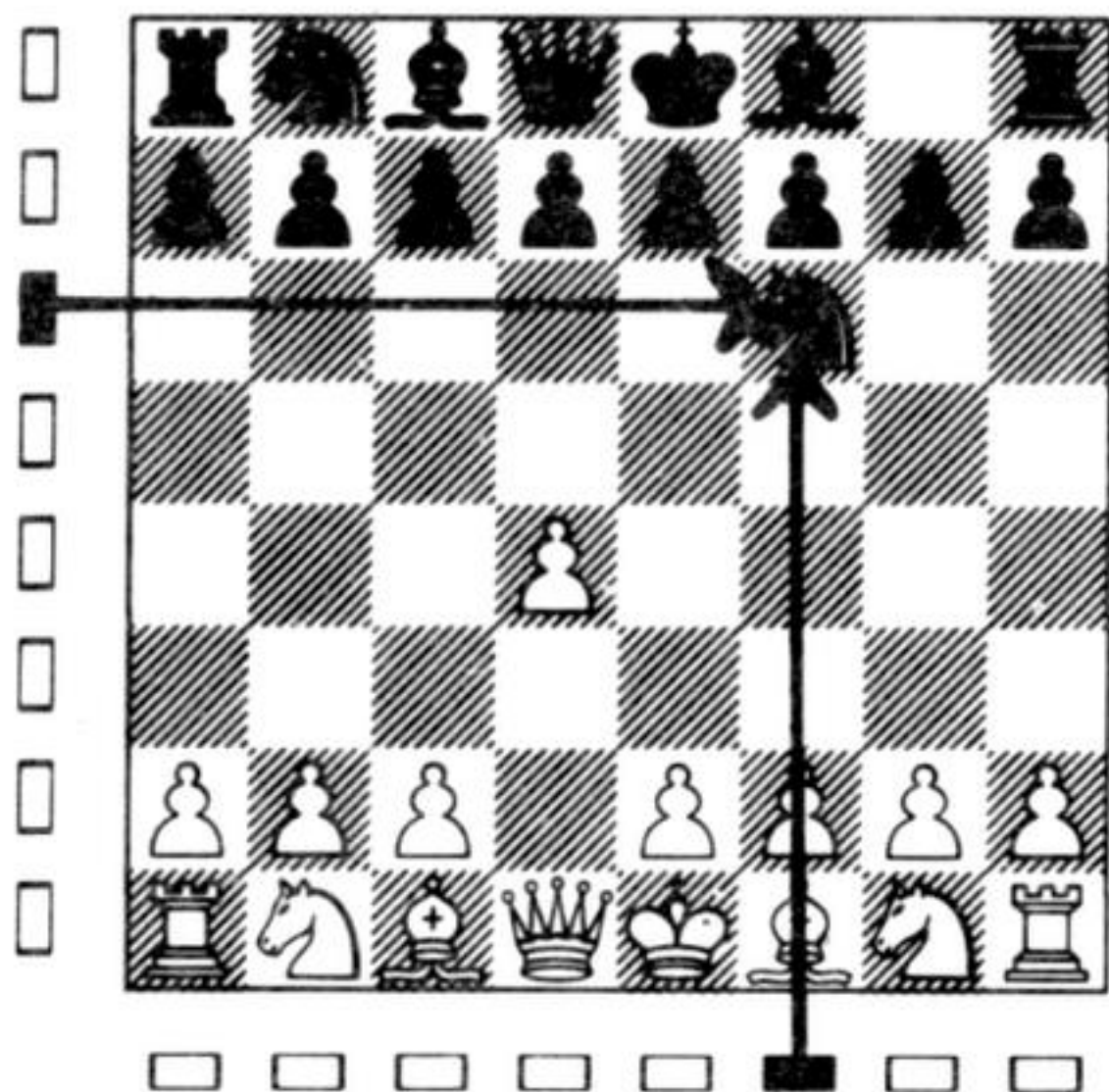
MEPHISTO makes a move



First the board lights show you the "From" square. Here, the computer wants to move the Knight. Press it down lightly.

Press the piece indicated onto the square where it is standing (the computer beeps) and the computer will then light the co-ordinate LED's of the square to which it wishes to move the piece. Take the piece and press it on the destination square as indicated.

**Note:** Whilst making moves on your sensor board it is best to tilt the chessmen slightly and to use the edge of the base of the piece to activate the squares used. You will see that the sensors on the board respond much better to this. Be careful not apply too much pressure though; if you gouge a hole into the playing surface it can not be repaired.



Now the computer shows you the "To" square. Place the Knight on this square and press down gently.



The computer beeps once more and it is your turn to move. You can recognize this by the change of the LED's indicating whose turn it is to move.

At the beginning of the game the computer will not analyse very long but respond immediately as long as the moves played against it are part of chess theory. The computer will then play a line from its **opening book** i.e. will play chess theory openings from its memory. You will also see that the computer has a **random move generator** which causes it to play different opening lines against the same opening which you may always play. As long as the moves played are part of chess theory the computer will play quickly from its opening book i.e. it will respond immediately after you have completed your first move.

**Capturing a piece:** You can make a capturing move in the same way as described above. The only exception is that you must first remove the captured piece (without pressing it on its square) before replacing it with the capturing piece.

### **B3) Special moves**

**En passant:** The same applies as for a normal capturing move with one difference: after you have made the move the co-ordinates of the Pawn which has been captured are switched on. Press this Pawn down on to the board (the LED's switch off) and then remove it from the board.

**Castling:** First move the King in the normal way. The computer will then automatically show the move for the Rook. When MEPHISTO castles it will first show the King's move and then (as above) the Rook's move.

If you are able **to promote a Pawn** (it reaches the opposite side of the board) then first move the Pawn to the end of the board. Next you will see that four LED's above the chess pieces from the Queen to the Knight are switched on. MEPHISTO is asking you into which piece you wish to promote the Pawn. Press the corresponding key and the computer will continue the game with your new piece.



**MEPHISTO promotes a Pawn:** It is extremely difficult to program a computer with a small amount of memory space to underpromote a Pawn (to promote to a piece to lower than a Queen). The computer will thus promote to a Queen). When the computer promotes a Pawn it will first show the Pawn's move, and, after you have made this, will then promote it to a Queen (LED for Queen is switched on). Place the new Queen on the board and press it down on the square where the Pawn was before. The 'PLAY' LED and the LED for the other side will be switched on and it is your move again.

#### **B4) Checks, checkmates and draws**

If the computer places you in check, the check (+) LED will be switched on. This will not happen if you place the computer in check. However when a checkmate occurs (whether it is your move or MEPHISTO's) all the 8 LEDs below the board will flash. If the game ends in a draw then the 4 right LEDs and the 4 left LEDs will flash alternately. MEPHISTO will recognize a draw when the King is in a stalemate position or both Kings are the only pieces on the board.

#### **B5) Mistakes whilst making moves and how to correct them**

If you make an illegal move (or one which breaks the rules of chess) a special beep will be sounded (the so-called **ERROR beep**) and the co-ordinates of the square from which the piece was moved will remain switched on. Replace the piece on the original square and press it down and you will see that the co-ordinate LED's switch off. You can then make another move (which should be a legal one!). **Note:** If you are moving the same piece again simply place it on its new correct destination without pressing the starting square again.

**Taking a move back:** If you have already pressed the moving piece on to its starting square but not on its objective square you can replace the piece (and press it down again) and the computer will accept that you have not made a move. If however you have already placed



the piece on its objective square and the computer has started to think about its own move then you may not interrupt its analysis (if you try, you will hear the error beep). Instead you must wait until MEPHISTO shows a responding move and then switch to the MEM mode. Then using the information in section E2), you can take back the computer's last move and then your own before playing a new move.

It may happen that you will **knock a piece** over on the board and replace it on a wrong square. Later the computer may protest when you try to make a move which you think is legal and the computer knows is not. The best thing to do is to take back the move concerned, then switch to the POS mode and check the position on the board using the information in section D1). If you then see that the piece was replaced on the wrong square then simply place it on the correct square (**without pressing** it on to the board) as shown by the computer. If you insist on playing the move you want, you must first remove the piece its previous (computer stored) square in the POS mode and then place it on the new destination which you would like. (This procedure is described in D2).

## **B6) Interrupting a game, resetting the computer**

If you need to interrupt a game for a long time press the 'STOP' key. The computer will then switch to its standby mode and will reduce the current consumption (battery power reduction) to an absolute minimum.

To take up the game again press the 'ON' key and play from the position which was last attained on the board. If you are not sure what position was on the board, switch to the POS mode and check the position.

If, however, you press the 'RESET' key (RES) the computer will cancel the position in its memory and return to the starting position. You can then start to play a new game. If at any time during a game you wish to start from the beginning again simply press the 'RESET' key and you will find yourself in the PLAY mode with White to move.



## B7) Playing Levels

As previously mentioned, your MEPHISTO Europa has 50 different playing levels. This means that the computer can play a variety of blitzgames or other games up to analysis situations which can take days and weeks, as you desire. The following tables show you the first 24 playing levels which are named after the squares on the playing board via which they are activated:

Playing levels **A1** to **A8**: these are the standard playing levels with a set **average response time**:

A1 = 2 seconds  
A2 = 5 seconds  
A3 = 15 seconds  
A4 = 30 seconds  
A5 = 1 minute  
A6 = 2 minutes  
A7 = 3 minutes  
A8 = 6 minutes

**Note:** In a difficult position on the board the computer may exceed these average response times by a number of seconds or minutes.

Levels **B1** to **B8**: these are the **beginners playing levels** in which the computer will generally play weaker moves and will even make and allow mistakes to simulate a human player. If you set one of these playing levels, then an average response time is not set. The playing levels themselves however differ in the playing ability whereby B1 is the weakest and B8 is the strongest playing level.

If you use playing levels **C1** to **C8** then you set the **maximum analysis depth** which the computer has and not the average response time.



C1 = 1 ply  
C2 = 2 plys  
C3 = 3 plys  
C4 = 4 plys  
C5 = 5 plys  
C6 = 6 plys  
C7 = 7 plys  
C8 = 8 plys

When you switch the computer on it resets itself to the **basic playing level A3**. You may alter this playing level at any time when you are in the PLAY mode and the computer is not thinking about its next move.

Squares A1 to C8 therefore represent the first 24 playing levels. To actually select a playing level, first press the 'LEV' key and then the square for the level you wish to select. Note that when you press the 'LEV' key the LEDs will light to show the level which is presently set. When you have pressed the square to change the playing level you must confirm your choice by pressing the 'ENT' key. The level is now set and remains set even if you press the 'RES' key to start a new game. The computer will only erase this playing level if you switch the computer off completely.

You can obtain access to a further 24 playing levels via the 'LEV' key and by pressing the respective square not once but twice. This has the effect of de-activating the "permanent brain": "permanent brain" is what one refers to when your opponent permanently thinks about his responding move even when it is your move. This has the result of MEPHISTO playing a quick response even though you may have thought about a difficult position on the board for some time. The computer may (having used your time to think too) play a very strong responding move).

When you press a square twice you set a level which forbids MEPHISTO to use your thinking time for its own moves. This obviously limits the playing strength of the computer. The computer can then only analyse moves on its own time.



This means that you have practically two playing levels allocated to each square from A1 to C8. The difference between the playing levels is marked in the playing strength of the computer.

**Note:** Please do not switch off the permanent brain function when using the TUTOR (= instructor) mode, as this may effect the work of the TUTOR program.

The remaining two playing levels of the 50 mentioned are allocated to squares **D1** and **E1**. **D1** is the so-called **correspondence chess** level (or analysis level).

When set at this level, the computer will analyse the next move until you interrupt it by pressing the 'ENT' key. The computer will then play the best move found until that point in time.

Square E1 is the problem chess level used to solve mate-in-x chess problems. For more information concerning the problem chess level consult section D4).

It is not purposeful and therefore not possible to switch off the permanent brain function when using squares D1 and E1.

A further special feature is associated with A1, namely **switching the "beep tone" on and off**. Normally the "beep" is set on. If, however, you press the 'LEV' key and then square H1 followed by the 'ENT' key, the tone is switched off. If you wish to switch the tone back on again press the same sequence of keys ('LEV', H1 + 'ENT').

At this point we would like to repeat that square **G1 turns the board**. Refer to section B1) for more information.



## **C) The INFO mode**

### **C1) Monitoring the analysis and analysis depth**

It is obviously not possible to see what a human opponent is thinking when you are playing or analysing a game with him. However, this is possible with MEPHISTO! By pressing the 'INFO' key you will obtain two pieces of information concerning what the computer is thinking about.

If you press the 'INFO' key once then the computer will show the co-ordinates (alternately) of the move which it is considering. Pressing the 'INFO' key a second time you will be able to see the analysis depth via the LEDs which are switched on. The analysis depth is the extent to which the computer has been able to look into the position on the board. The analysis depth is measured in "plys". (A ply is a move for White or for Black, two plys equal one complete move, therefore a ply is a "halfmove"). MEPHISTO shows a depth of eight plys on the left side of the board and if it extends this it shows nine plys and more using the LED's on the bottom side of the board towards the right (A1 to H1).

When set to the normal level the computer will show an average of four to six plys into which it has analysed in advance. In simple situations (especially in endgame situations the computer can show up to 12 plys. If you set a higher playing level (so that you give the computer longer to analyse) you can see how the analysis depth increases and how the computer considers different moves which it could play. By pressing the INFO key again after having reached the analysis depth phase you return to the analysis phase.



## **C2) Interrupting the analysis phase**

If you wish to leave the INFO mode and return to the PLAY mode press the PLAY key. You can force the computer to interrupt its analysis and play the best move found so far by pressing the 'ENT' key. If you remain in the INFO mode whilst the computer is analysing you will see that the computer will switch the mode off when it has found its next move. The LED switches off. If, during MEPHISTO's next move, you wish to look into the computer's mind once more you must again use the 'INFO' key.

## **C3) Move hints**


You may also use the INFO mode when it is your move. If you press the 'INFO' key when it is your move then MEPHISTO will show you the move which it considers best for you to play. The computer shows alternately the co-ordinate LED's of the move. Whether you play the move which is suggested or another move, the INFO LED is switched off and the computer jumps to its analysis phase.



## **D) The POS mode**

To obtain access to this mode, press the 'POS' key during the PLAY mode. The PLAY LED is then switched off and the POS LED switched on. Please remember not to press the 'POS' key whilst the computer is analysing.

### **D1) Checking the position on the board**

The simplest example is to check the basic position on the board. First press the 'RES' key in able to clear the board and then press the 'POS' key. Next start to ask the computer for the position of the pieces using e.g. the  key. The LED next to the TUTOR key is switched on and co-ordinates of square E1 are switched on too. This means that the white King is standing on square E1. Press the King key again and the co-ordinates of square E8 will be switched on. This means that the black King is located on this square. If you press the key a third time then the TUTOR LED will still be switched on but no co-ordinate LEDs will be activated. This means that there are no further Kings on the board.

(If you press the key a fourth time then the computer will show you where the white King is located again).

In the same way you can check the position of all the other pieces on the board. After you have selected the piece the computer will first show you the white pieces (the LED's are permanently switched on) and then the location of the black pieces (LED's flashing). If you have more than one piece of the same type on the board (e.g. two Queens) then the computer will start from the bottom of the board and then show the next one towards the top of the board. For example the computer will first show the white Pawns on the second rank and then on the third rank and so on until the seventh rank.

The black Pawns are shown in the same way from the second to the seventh rank (practically backwards). You should press the chessman key repeatedly until the computer shows you no more pieces are on the board (co-ordinate LED's do not light).



The order in which you check the position of the pieces on the board is not important. You can start to check the position of the Rooks or Pawns as you like. Don't forget that the computer will always show the white pieces first and the black pieces second.



**Important note:** whilst checking the position on the board do not press a piece down onto its square! This would erase the piece from the computer's memory (see section D2). If you wish to move a piece from one square to another in order to correct a mistake which you have made (see section B5) then you should do this with the greatest of caution.

## **D2) Changing the position on the board**

As mentioned above, the simplest thing to do is to remove a piece from a position: switch to the POS mode, press the piece on its square and then remove it from the board. Thus if you wish to remove a piece during a game you first switch to 'POS', then remove the piece having first pressed it down onto its square and then press the 'PLAY' key. The game can then be continued without the piece you have just removed.

If you wish **to place a chessman on another square** then you should first remove it from its square (as mentioned above) and then place it on its new location (pressing it down). The co-ordinate LED's of the square where the piece is now located should be switched on. It is important that you make sure that the LED for the correct colour of the piece you are moving is switched on before you move the piece e.g. if you wish to move the black King although it is White's move and you are in the PLAY mode then first press the 'POS' key then the 'S/W' key (= colour key). You can then remove the black King (press it down first) and place it on its new square. After this press the 'S/W' key again (otherwise Black will play the next move) followed by 'PLAY' and you may continue the game. If you wish the computer to continue the next move then press 'ENT'. When moving a white piece when it is White's turn to play you do not need to press the 'S/W' key.



If you wish to introduce a new piece to the game then the method is virtually the same. Assuming (during a game) you wish to introduce a new black Queen on square D4 although it is White's move. First press 'POS' then 'S/W' (to change to the colour of the piece you are introducing) then press the key  , the  (= INFO) LED flashes. The co-ordinates of the white Queen (if you have one still) are shown on the board –ignore this, and press the new Queen on square D4. The co-ordinates flash and after changing the colour again using the 'S/W' key and by pressing 'PLAY' you can return to the normal state of the game with White to play.

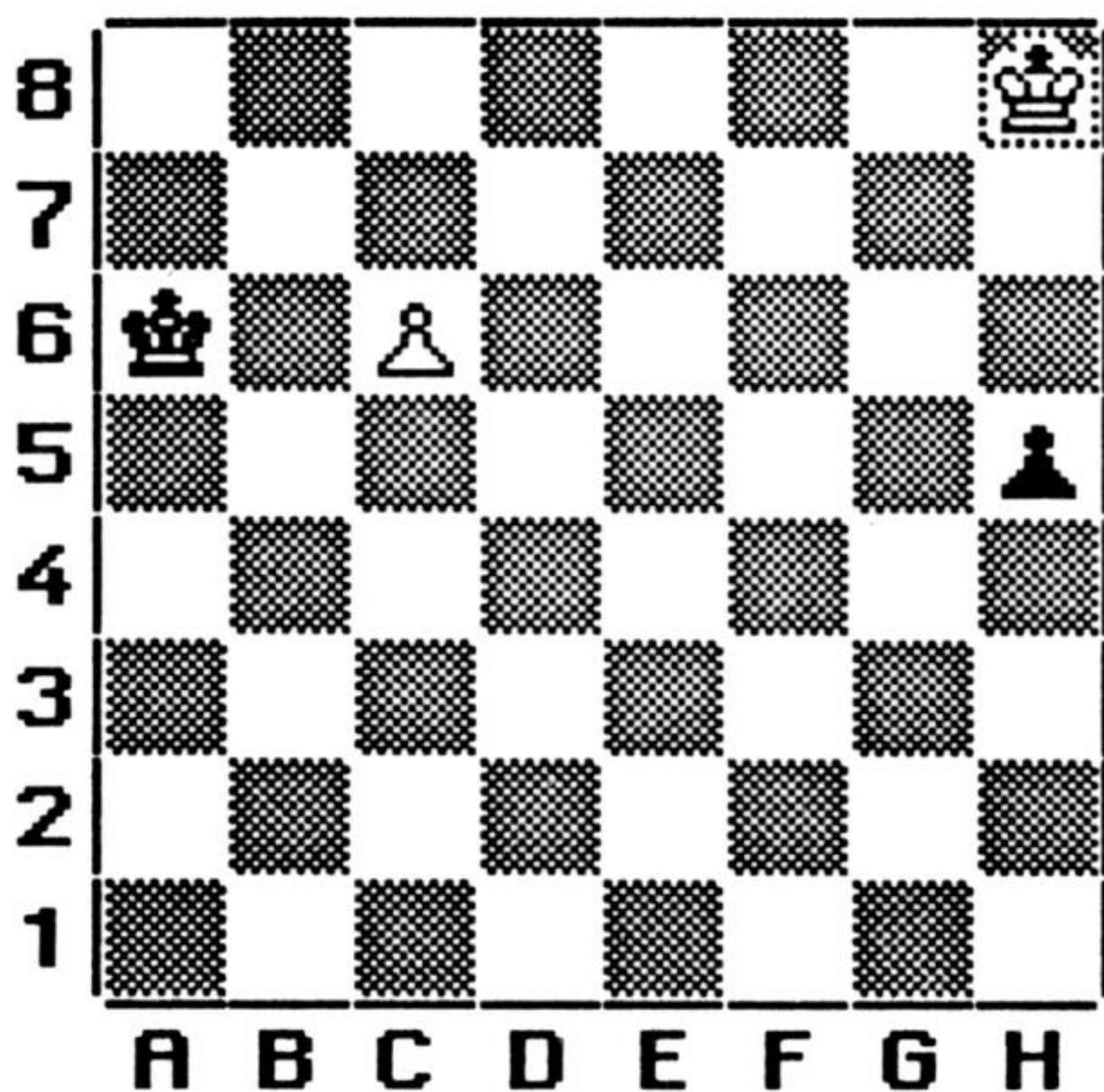
You can of course introduce, remove, or move any number of pieces in the same way. If introducing etc. two or more of the same pieces you do not need to select the chessman each time. If, however, you try to introduce two Kings of the same colour (or if you are trying to remove one of the Kings which is legally there) then MEPHISTO will refuse to return to the PLAY mode and will sound the error beep tone as you have tried to break the rules of chess.

### **D3) Entering new positions**

If you wish to start a game from e.g. the thirteenth position (i.e. not the starting position) or to let the computer analyse the position or to give it a chess problem to solve, then the system whereby you can do this is similar to introducing new pieces. Start by pressing the 'POS' key and then the 'ENT' key. This causes the computer to cancel or erase the starting position, stored in its memory. After this you can start to introduce the individual pieces.

**Important:** When introducing pieces, make sure that the colour LED for the piece you are entering is the correct one i.e. Black's LED should be switched on when you are entering black pieces.





The above example has been taken from chess literature by a player by the name of Richard Reti. It is White's objective to save the game by playing a draw which, when one looks at the board, seems impossible. If you give the computer a chess problem to solve we recommend that you select a high playing level e.g. A6.

The following outlines the key-in procedure to store the position shown above in the computer.

We have started with the white pieces:

- 'POS' and 'ENT' (erase board)
- 'S/W' key (to be pressed only if the LED for Black is switched on)
- for King • Press White's King on square H8
- for Pawn • Press White Pawn on C6
- 'S/W' key
- ♔ for King • Press Black's King on square A6
- ♙ for Pawn • Press Black's King on square H5
- 'S/W, 'PLAY' and 'ENT'

You will see that White's LED will start to flash i.e. the computer is thinking about its next move.



**Important note:** Whilst entering or altering a position on the board you must make sure that you are not breaking the rules of chess. For example you may only have one King for each colour.

If you disregard this rule then your computer may do „strange“ things. The only way to correct this is to switch the computer off and press the 'ACL' key (see section G). Only then you will be able to continue further normal games with the computer.

## **D4) Problem chess**

First enter the position as shown in section D3) in the computer. Please remember how important it is that you remember who's turn it is to play. If you forget to use the 'S/W' key to change to the correct colour then the computer will search for moves for the wrong colour and will obviously not find a solution.

As previously mentioned, the problem chess level is selected by the square E1. To activate this level first press 'LEV', then square 'E1' and then 'ENT'. This activates the problem chess level. Press 'ENT' a second time and MEPHISTO will automatically start to search for a solution to the problem on the board in the least number of moves possible, using the colour who's LED is switched on on the board (Black or White). This means the computer will start to search for a mate in one move solution and if it doesn't find one will continue to search for a mate in two moves and so on to a maximum of checkmate in six moves. It is possible to monitor the analysis depth as previously described although it is important to know that the LEDs are not longer showing the depth in plys but in complete moves (two plys).

Please remember that the computer will look for a checkmate solution which suits it best. This can mean that in certain cases MEPHISTO will prefer a more complicated checkmate solution involving a small number of moves as compared with a simple checkmate in more moves, therefore if (for example) MEPHISTO solves a solution in two moves rather than in three, it does not mean that the computer is broken or that the problem was not correct.



## **E) The MEM Mode**

You may only activate this mode whilst in the PLAY mode and whilst the computer is not analysing. To leave the mode and to return to the PLAY mode do the same as previously described for the PLAY mode, namely press the 'PLAY' key.

**Note:** in the MEM mode it is not possible to use the 'S/W' key i.e. entering moves or sequences of moves or taking back moves may only be done in the normal way i.e. in the normal sequence. This obviously means it is not possible to continue a game with White if the last move was White's.

### **E1) Entering move sequences**

You may enter move sequences either from the starting position of a game or from any particular position which you desire. One use of this feature is to enter an opening line which MEPHISTO may not have necessarily played only to continue a game from the position you have built up. To activate the mode press the 'MEM' key (the 'MEM' LED switches on) and simply make the moves on the board as normal. To check that the moves you have entered are registered, the co-ordinates on the respective squares flash and the 'S/W' LED (for Black or White) is switched on to show who's move it is. The computer will also check that you only enter legal moves and will protest if you try to break the rules of chess.

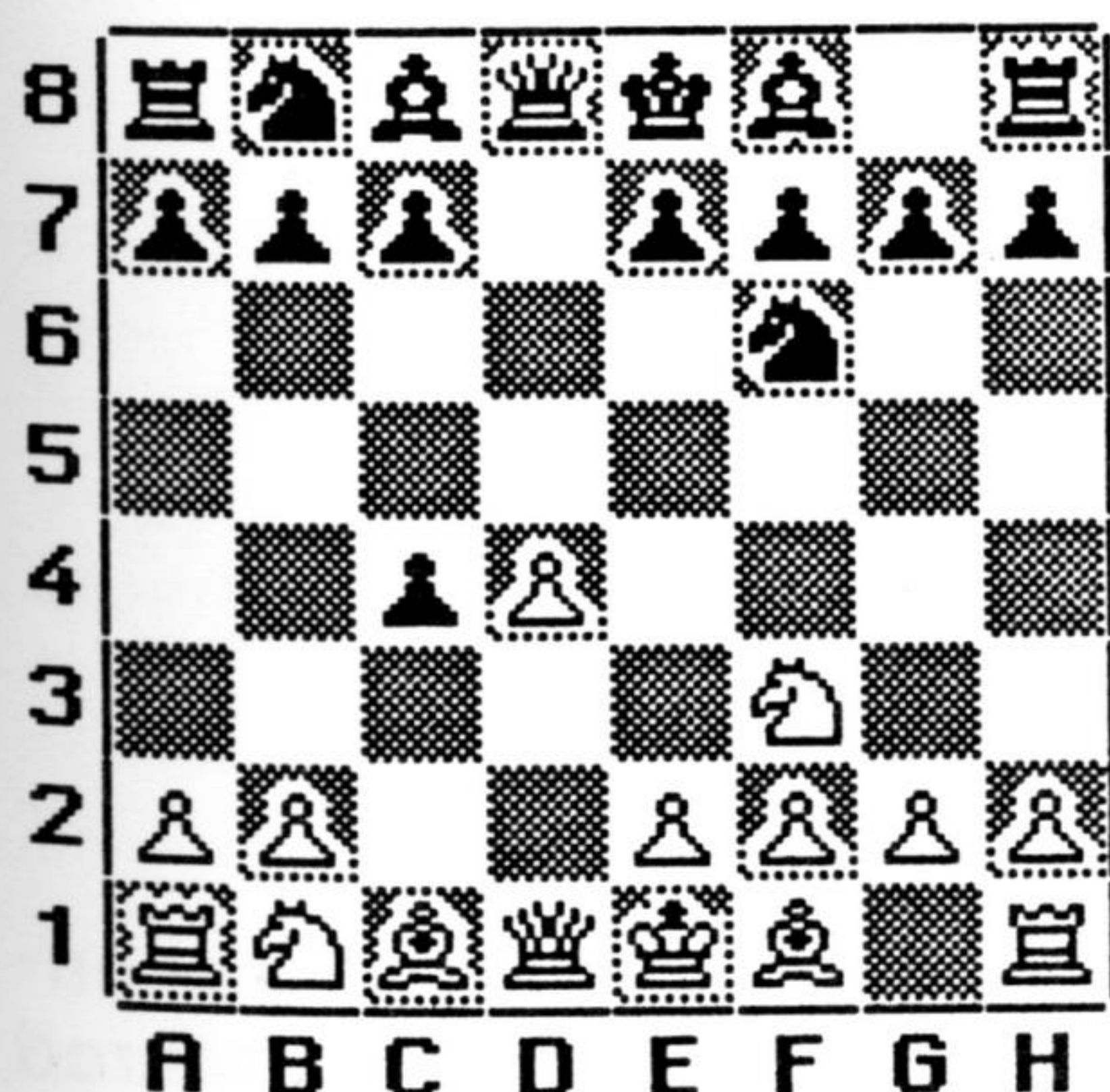
In this way it is simple **to analyse the games** of other players using the computer. First press 'RESET' to obtain the initial starting positions then 'MEM' and then play through the game. When you reach the critical position you can press the 'PLAY' key and then continue to search for interesting variations on how to continue the game using the computer.



Using the MEM mode the computer can also be used as a referee for games between two human players. After pressing 'RESET', press the 'MEM' key and then play the game on the computer board with your partner. MEPHISTO will then check that no illegal moves are made. If a player wishes to obtain a move suggestion or hint from the computer he can switch to the PLAY mode and then make the next move as shown by the computer (press the 'ENT' key). Don't forget to switch back to the MEM mode after making the move and before continuing the game.

## E2) Taking moves back

You may take back moves from any position during a game. Using the MEM mode you may take back any number of moves in a game (right back to the start). Press the 'MEM' key twice to take back the first move and press the 'MEM' key again to take each further move. Whilst taking moves back you must be careful not to make mistakes as the moves shown are in reverse and therefore sometimes easily wrongly made. The computer will first show the co-ordinates of the square from which the piece is to be moved and then the co-ordinates of the square where it came from. Let us look at the following example:





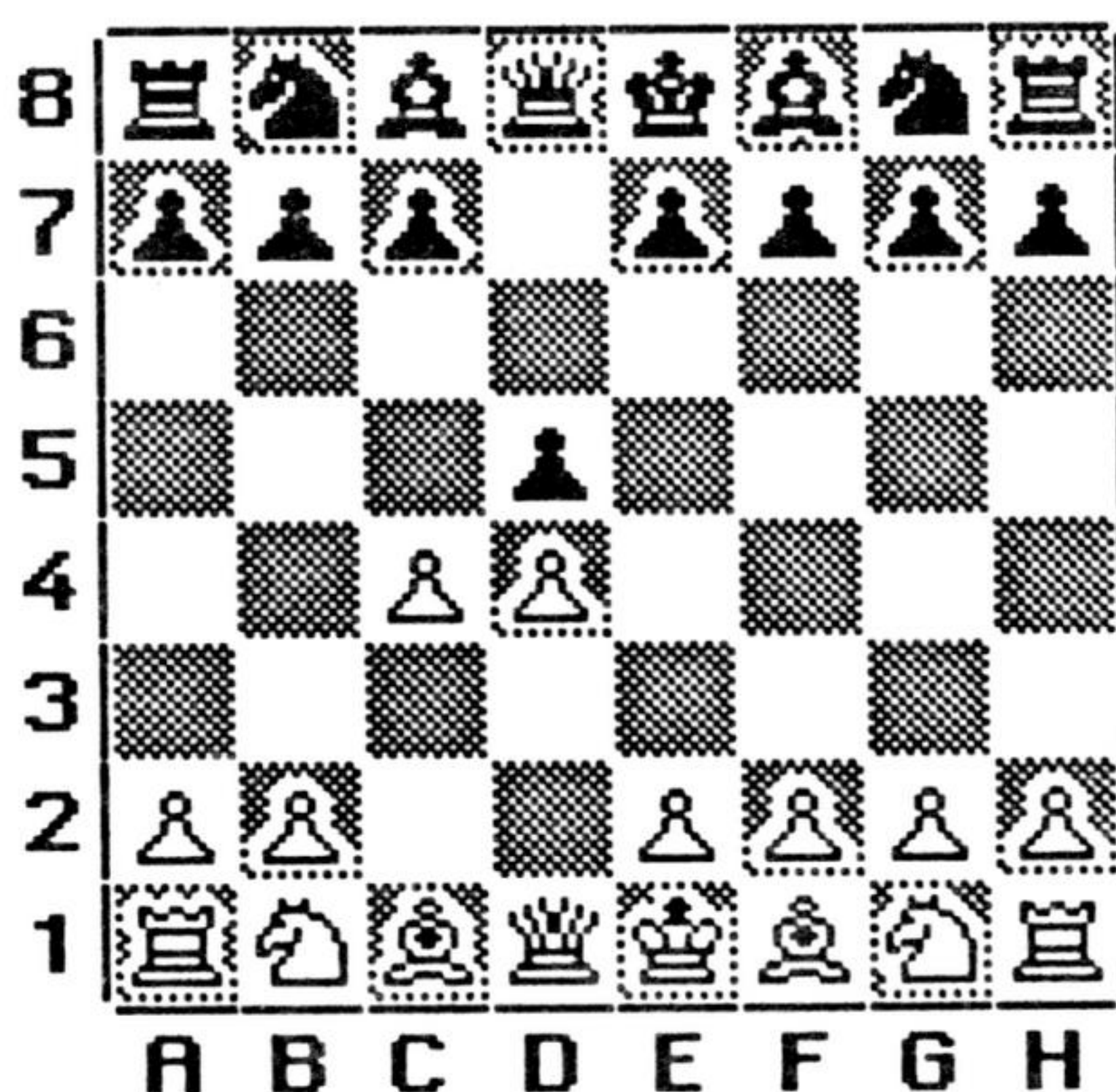
The following position is reached after playing the following moves  
**1. d2 – d4 d7 – d5 2. c2 – c4 d5 – c4 3. Sg1 – f3 Sg8 – f6**  
**(S = a Knight).**

Let us assume that you know wish to take back these moves. Press the 'MEM' key twice to start. The computer will first show square F6. Press the Knight onto this square and the computer will then show square G8. Move the Knight to G8 and press it onto this square again. If you wish to play back several moves then all you have to do is keep pressing the 'MEM' key and replace the figures as shown by the computer.

Playing back the moves and having replayed the third move for White you will remember or see that the next move which you wish to take back is a capturing move by Black. The computer will again first show the move to be taken back by indicating square C4 and then square D5.

When you have replaced Black's Pawn, as indicated by the computer, the co-ordinates of square C4 will be switched on. At the same time the LED for White and that of PLAY ( ♘ ) will be switched on (flashing).

MEPHISTO is reminding you that a white Pawn was originally standing on square C4. When you place this Pawn on the board again and press it onto the square, the previously mentioned LEDs will be switched off.



In the same way if you take back a capturing move which was en-passant then the co-ordinates of the square where the captured Pawn once stood will be switched on. Place the capturing Pawn on the square again, press it down and the LED's will switch off.



When the computer shows you how **to take back a castling move** it will first show you the King's move and then that of the Rook.

When you **take back a move during which a Pawn** was promoted after you have made the move first the PLAY ( ♁ ) LED and that of the respective colour will flash. The computer is reminding you that the piece you are taking back was originally an unpromoted Pawn. If the promoting move was at the same time a capturing move, then after you have played back the move the co-ordinate LED's and the colour and chessmen LEDs will flash to remind you to replace the captured piece. This is easy to understand when seen, but sounds difficult when described.

You may take back a maximum of 10 plys (i.e. 5 moves for White and 5 moves for Black) during a game. If you continue to use the 'MEM' key to try to take back more moves the computer will react with the error beep. Whilst in the 'MEM' mode a sequence of moves which you have entered may however be taken back, well over the 10 plys limit.



## F) The TUTOR (instructor) mode

You may activate this mode at any time during a game by pressing the 'HELP' key. The only exception is when the computer is thinking. Having pressed the 'HELP' key the TUTOR LED will be permanently switched on.

If you wish to switch the TUTOR mode off again simply press the 'HELP' key once more: the LED will also be switched off. The TUTOR mode not only gives you the advantages of the 'HELP' function but also gives you access to 64 pre-programmed practice positions which are stored in the computer and selectable via the playing squares. To use the 64 exercises you should consider buying the MEPHISTO chess-school book. Ask your retailer for more information if you wish to buy the *MEPHISTO chess-school book*.

### F1) Access to the practice positions

As previously mentioned each square of the playing board (i.e. 64) gives you access to a chess problem. Each problem is named by the square via which you select it i.e. squares A1 to H8. If for example you wish to solve or practice the position stored under square F5, first press the **'BOOK' key then square F5 and then 'ENT'**. The PLAY and TUTOR LED's and that of the colour of who's turn it is to move will be switched on and you can immediately start to play with the colour who's turn it is from the position stored. If you make an incorrect move (by this we mean a move which would not solve the problem) then the computer will not accept it but will sound the error-beep. If you have found the correct move then MEPHISTO will play with the other colour as in a normal game. Should the continuation of the game start to make a solution impossible after the second or third move the computer will accept the moves but will generally react as described in section F2b), which is to be regarded as a **warning**. When you select the practice positions stored in MEPHISTO the 'HELP' function is automatically switched on.

If you can't find the solution and wish to ask the computer for help you press the 'ENT' key. The computer will show you the first move of the solution and you will then be able to think about the continuation of the game.



## F2) The HELP function

Using this unique function the computer can help you in two ways during a game. Please note that this will not necessarily be the case after every move; it depends on the situation and its complexity on the board.

a) **When MEPHISTO is making a threatening move** it will show (by flashing alternately the LED's of the starting and ending square of the move) which move it is considering to play next. It will also sound a beep and flash the INFO-LED. The move which is shown by the computer may be one which you will immediately see will have the consequence of a checkmate or the loss a piece. However, the move may seem fairly unthreatening. Be careful anyway as the computer may probably have analysed a combination of moves which will only have drastic consequences for you after the second or third move. The computer will only show the first move it is making in the sequence, but do not underestimate the computer. In some situations the computer will react in the same way if it thinks it is playing a strategically vital move. The moves therefore are not always ones which are immediately drastic.

b) **If you make a move which the computer does not think is very good** and reacts accordingly via the HELP function, then this may mean that the computer either considers the move to be bad or it may mean that the computer would like to show you a possible responding move. As described above the computer protests at the move (switching the INFO and TUTOR LED's on) and will sound the error-beep instead of a normal beep. The computer thus did not think much of your move. If however, you are of the opinion that your move is still a good one e.g. a correct sacrifice of a piece, you can still make the move although the computer will still protest as it is not sure that you are aware of the direct consequences of your move.



To sum up, the function should be regarded as a warning which will be used when the computer thinks you may have overseen something.

For moves indicated as in section a) you only need to register the information shown by the computer and can respond with your move. For moves which are described in section b) you must first react before you move. If you insist on the move which you were making, press 'PLAY' and the game will continue. If however you have decided that the computer is probably right, you can simply take the move back (press the piece on its objective square and then on its starting square). Next play another move.

In a situation like this (whilst in the normal PLAY mode) you can use the 'INFO' key to obtain a move hint from the computer.

**Technical note:** The HELP function is based on an internal position evaluation system stored in the computer. This means that the feature can not be used where the computer does not have a position evaluation; for example if the last move was still played from the opening book or a move has just been taken back or a position just entered or if you have played a move very quickly and not allowed the computer time to analyse the position properly.

Please remember that this HELP function is something completely new and unique in the world of computer-chess. Please remember too that we have offered you this feature in a remarkably low-price chess-computer. These two reasons combined mean that this function can not master every position and operate absolutely reliably in the millions of different possibilities which may be found on the board. Although the function may seem to fail or operate less than optimally in your opinion at some time we are sure that the feature will, as a whole, be useful to you.



## G) Technical data

Microprocessor:	6301 Y
Speed:	8 MHz
Program memory:	16 KByte ROM
User memory:	256 Byte RAM
LED-lights:	24
Function-keys:	18
Current consumption:	approx. 100 hours battery-life with 4 x 1,5 V alkaline batteries (AM3)
Dimensions:	approx. 29 x 23 x 2,7 cm
Weight:	approx. 1 kg (without batteries)

### **ACL-key:**

If there is a voltage jump or spike on the mains power supply (e.g. during a thunderstorm) or the computer is subjected to a static shock, or the batteries run low, the computer may refuse to continue the game and will not react to the keyboard. If this should happen to you press the 'STOP' key or remove the adapter jackplug or the batteries for a short time. Shortly after switch the computer on again and using a suitable instrument press the **ACL** key **for one to two seconds** (on the underside of the computer). By doing this you will reset the computer, its memory and its internal registers. This will enable you to use the computer again normally. Do not remove the batteries whilst resetting.



## **H) Summary**

<b>Function</b>	<b>Key(s)</b>	<b>Comments</b>
<b><u>1. PLAY mode:</u></b>		
New game	RESET	Erases memory and all information except the level setting
Interrupting a game	STOP	All data remains stored
Taking up the game again	ON	Continuation of the game from the last position
Selecting playing level and playing strength	LEV, SQUARE, ENT	48 levels via squares A1-C8. By pressing the square twice alteration of playing level!
Correspondance chess level	LEV, D1 ENT	Computer analyses until interrupted (ENT)
Problem chess	LEV, E1, ENT	Computer will search for shortest checkmate solutions
Turning the board	LEV, G1, ENT	If ENT is pressed at the beginning of a game the computer will automatically turn the board
Switching the beep off	LEV, H1 ENT	Switching on again with the same sequence
Computer makes the next move	ENT	(when it is the player's turn)



Function	Key(s)	Comments
Interrupting analysis of the computer	ENT	(when it is the computer's move)
<b><u>2. INFO mode:</u></b>	(Press INFO key)	
Monitor analysis	INFO	(when it is the computer's move being analysed is shown)
Monitoring analysis depth	2 x INFO	(when it is the computer's move) number of plys analysed is shown
Move hint	INFO	(when it is player's move)
<b><u>3) POS mode:</u></b>	(Press POS key)	
Check position	chessmen key	White's pieces are shown Black pieces are shown (flashing)
Removing pieces	.....	press piece on the board and remove
Moving a piece	colour key if necessary	press old location square then new location square
Introducing a piece	colour key if necessary, chessmen key	place selected piece on location on board
Erasing the board	POS, ENT	prior to entering a position for analysis or checkmate solution
Return to game	PLAY	note who's turn it is to move (colour key if necessary)



Function	Key(s)	Comments
<b><u>4. MEM mode:</u></b>		
Enter move sequence	MEM	make moves
Take moves back	2 x MEM	max. 10 plys: press MEM each time to take back
Return to play	PLAY	
<b><u>5. TUTOR mode:</u></b>		
	(PRESS HELP key)	
Call up practice positions	BOOK, Square, ENT	each exercise accessible via the squares on board
When computer sounds error-beep and switches on INFO LED:		
Keep to move played	PLAY	computer continues the game
Take move back	.....	play move backwards
Move hint	INFO	possible before new move
Leave TUTOR mode	HELP	



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Not recommended for children under the age of 3 years due to the risk of them swallowing pieces.





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