

Bedienungsanleitung  
Instruction manual

**Mephisto<sup>®</sup>**

**MM V**

Dear chess enthusiast,

Welcome to the ranks of MEPHISTO chess computer owners! We are sure that your new acquisition will give you many hours of pleasure.

Your MEPHISTO is a quality product from a German manufacturer. It is easy to operate and offers a wide range of options. It is the ideal training partner for every chess player.

In order to enable you to get the most from your computer right from the outset, we are providing this manual, which is intended to help you become an expert in the handling of your computer within a very short time.

This instruction manual has been written in the form of short sections which can be read independently of one another. There are copious cross-references to supplementary material in other sections.

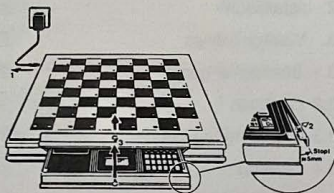
We recommend that you start out by going through the entire manual section by section once. After having thus obtained a general overview of the way your computer is operated, you can make a more detailed study of specific points whenever the need arises.

And now we wish you lots of fun with your new electronic chess partner!

1. General remarks	28
2. Installation	28
3. Making moves	29
3.1 Starting a game	29
3.2 Captures	30
3.3 Capturing en passant	30
3.4 Castling	31
3.5 Pawn promotion	31
3.6 Illegal moves	31
3.7 Checkmate, stalemate, draw	32
3.8 Starting/interrupting calculations	32
3.9 Starting a new game	32
4. User interface	33
5. Level Mode	33
6. Information Mode	42
7. Memory Mode	45
8. Position Mode	48
9. Extensions	50

### EXCHANGING THE MODULES:

The computer should be switched off (1) before you exchange or replace modules or introduce extension modules.



**EXCLUSIVE or MÜNCHEN boards:** First pull out the module drawer as far as possible. The modules are secured by the drawer frame.

Push the securing plastic latch on the top right hand side of the module drawer frame away (2) so that the drawer frame is released and can be tilted upwards, away from the modules (3).



You can now pull out the modules (sharp tug!) and re-arrange or swap them. Note that when pushing modules back into the bays they have to be pushed in firmly until solidly in place.

## PART 1: YOUR FIRST GAME AGAINST THE COMPUTER

### 1. General remarks

Your MEPHISTO is a chess computer that is operated in a very easy and logical fashion. There are three rows of six keys each that allow you to set all the necessary parameters and to access various items of information. You are assisted in the handling of your computer by a four-character, seven-segment display, 6 function indicators (the light-emitting diodes or LEDs located above the keys) and 64 square indicators (one LED on each square of the chessboard).

The extensive explanations contained in this manual are intended to help you familiarize yourself with the operating system of your computer and to make the most of its almost unlimited possibilities.

### 2. Installation

Plug the mains adapter cable into the jack on your computer and connect the adapter to the mains socket. Set up the chessmen in the basic position. Sliding the switch on the side of your computer towards the front will now turn on the power. In the display window you will see the following message:



At the same time, two of the function indicators (i.e. the LEDs located above the keys) will light up: the one for PLAY and the one for WHITE. If you have placed some of the pieces too far off centre on their respective squares, the computer will flash one or two square LEDs to make you aware of this problem. Place the wayward pieces firmly in the centre of their squares, and the LEDs will go out.

When the power is first switched on, your MEPHISTO is always set to the default playing level with an average response time of 5 seconds per move.

**MEPHISTO Modular** : This unit can also be run on batteries. There is a compartment in the body of your computer that can house either 5 alkaline "C" type batteries or rechargeable accumulators. Accumulators constantly recharge themselves while the computer is connected to the power supply.

Important note: When using standard batteries rather than accumulators, don't forget to disconnect the mains adaptor from the power supply after switching the computer off; otherwise the batteries may be damaged.

In order to install the batteries in your MEPHISTO

Modular, pull all three cartridges out of the unit towards the front. Insert your fingers underneath the front part of the sensor board and press upwards. After the board has been flipped upwards at an angle of about 45 degrees, it can be detached from the unit. Now you can access the battery compartment, which is located at the bottom of the casing. After inserting the batteries, you can reassemble the unit by carrying out the same steps in reverse order. Please note that spent batteries can pollute the environment and take care to dispose of them in a safe way.

### 3. Making moves

#### 3.1 Starting a game

Once you have installed your MEPHISTO as described in chapter 2, it is ready for action and waiting for you to make your first move. Magnetic sensors underneath the board enable you to execute your moves directly on the chessboard. One word of warning, though: please LIFT the pieces from the board when moving them to their destination squares; do not SLIDE them over the board!

Let us assume that you want to open your first game with the move E2-E4. Lift the white pawn from the E2 square. The LED on that square will now start flashing until you have set the pawn down on its destination square, E4. After you have



executed your move, the computer will respond at once, since the move E2-E4 is part of its opening library (or "book"). Therefore, in reply to your move E2-E4 you will see something like the following message in the display window:



The computer's answering move will be indicated in two ways: it will be shown in the display window, and the LEDs on the corresponding squares will start flashing. Now execute the computer's move on the board in the same way as your own, once again taking care to **LIFT** the piece from the board and put it down on its destination square – **don't SLIDE** it!

As soon as the computer's move has been executed, the square LEDs on the board will go out. As long as the computer is still playing from its opening library and thus making its answering moves instantly, no time will be registered on its clock.

When the computer goes out of its "book", the display will switch to chess clock mode, and the computer's answering move will not be shown until it has finished its calculations. In addition, one of the LEDs located above the function keys will start flashing to indicate the side (White or Black) for which the computer is now calculating the next move.

The opening program also recognizes <transpositions of moves>. Therefore it may happen that MEPHISTO goes out of book at some point, calculates the next few moves on its own and then returns to the opening library and resumes playing the variation from memory.

### 3.2 Captures

First take the piece that you want to capture off the board (the LED on that square will start flashing) and then execute your move.

Whenever the computer indicates that it wants to move a piece to a square on which there already stands a piece of the opposite colour, this obviously means that it intends to capture that piece. Again, you should always first remove the piece to be captured from the board and only then place the piece that is making the capture on the respective square.

### 3.3 Capturing en passant

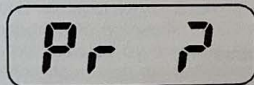
Execute the pawn move in the normal fashion. The computer will then remind you to remove the captured pawn by flashing the LED on the square that it stands on. If you are not sure whether the rules allow an en passant capture, please refer to the relevant chapter in any elementary chess course.

### 3.4 Castling

When castling, you must always move the king before moving the rook, just as it is dictated by the Laws of Chess. Once you have executed the king move, the computer will remind you to carry out the rook move as well by flashing the respective LEDs.

### 3.5 Pawn promotion

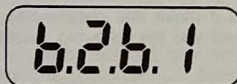
If you have managed to push a pawn to the computer's back rank, the LEDs on the "from" and "to" squares of that move will go on flashing and the following message will appear in the display window:



Press one of the keys with piece symbols on them (i.e. the queen, rook, bishop or knight key) in order to inform the computer of the type of piece you want to promote the pawn to. Remove the pawn from the board and place the desired piece on the promotion square. Then finalize the whole procedure by pressing the ENT key.

The LEDs will go out and MEPHISTO will start calculating its next move. From now on, it will include the newly created piece in its computations.

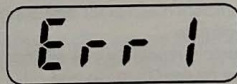
If the computer has managed to move one of its pawns to the opponent's back rank, that move will be indicated in the display window as follows (taking the promotion of the b-pawn as an example):



What the appearance of three dots between the characters in the display means will be discussed in detail in part 2 of this manual. For the moment, it is safe to assume that the computer wants to promote its pawn to a queen. Therefore you square and replace it with a queen of the opposite colour. The two square LEDs will go out and it will be your turn to move again.

### 3.6 Illegal moves

If you happen to have made a move that goes against the rules of chess, the computer will sound a tone signal to draw your attention to this. In addition, the following error message will appear in the display:



Correct your move by first replacing the piece on its original square and then making a legal move.

### 3.7 Checkmate, stalemate, draw

If you make a move that checkmates the computer, you will see the following message in the display:



If the computer has no legal moves left but is not in check, this means you have stalemated it. After you have made your move, the display will look like this:



("Patt" is the German word for stalemate.)

According to the Laws of Chess, there are three cases where a draw may be claimed:

- Insufficient material for delivering checkmate.
- Threefold repetition of a position.
- Draw by the 50-move rule.

In all three cases, the computer will indicate that it is claiming a draw in a way that will be described in detail in part 2 of this manual. For the moment, it will suffice for you to know that even if one of these drawn positions is reached, you can still go on playing as long as you like.

### 3.8 Starting or interrupting the calculation of a move

Pressing the ENT key while it is your turn to move will start the computer calculating the next move in your stead. Pressing ENT while the computer is analyzing will interrupt its current thinking process and cause it to play the best move it has found so far.

### 3.9 New Game

If you have just finished a game and want to start a new one, press the two keys labelled RES (for "reset") together. The "PLAY" message will appear in the display. Set up the chessmen in the starting position, and your MEPHISTO will be waiting for you to make your opening move.

## **PART 2: THE ADVANCED USER'S GUIDE TO YOUR CHESS COMPUTER**

So far, you have been provided with the essential information you need to play a game against your computer. Obviously, your MEPHISTO can do a lot more than just accept and play moves. These manifold and in some cases unique features will be discussed in detail in the second part of this manual.

### **4. User interface**

Your MEPHISTO is operated by means of three rows of six keys each. The keys in the upper row are the so-called function keys. Below them there are two rows of input keys. Each of the function keys corresponds to a specific mode of operation which can be selected by pressing the respective key. The following modes are available:

- LEVEL MODE
- INFORMATION MODE
- MEMORY MODE
- POSITION MODE

Once you have selected a certain mode, the LED above the corresponding key will light up to indicate this. From any of these modes you can always get back to the normal playing mode by pressing the CL key.

### **5. Level Mode**

By entering Level Mode (press the LEV key, the corresponding LED will light up), you can set your computer to a specific type of game, level of skill and time limit as well as select or de-select some of its special options.

Level Mode can be entered only when it is your turn to move.

#### **5.1 General remarks:**

When it is first switched on or after the two RES keys have been pressed together to start a new game, the computer is automatically set to the default playing level with an average response time of 5 seconds per move.

In case you want to play at a level other than the default setting, your MEPHISTO offers you a choice between the following types of playing levels:

- Normal levels
- Blitz levels
- Problem levels

After pressing the LEV key (to enter Level Mode), the playing level that the computer is currently set to will be displayed. You can leave Level Mode at any time by pressing CL.



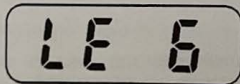
## 5.2 Normal levels

At these levels, the computer is set to a specific average response time per move. Obviously, it may take a little more or less time over a particular move, but on the whole it will respect the average time indicated.

When it is first switched on or after the two RES keys have been pressed together to start a new game, the computer is automatically set to the default playing level with an average thinking time of 5 seconds per move.

If you want to change this default setting, you have to proceed as follows: Press the LEV key once to enter Level Mode.

Now you can select the desired playing level by pressing one of the input keys labelled 0 through 9. For example, after pressing the number 6 key you will get the following display:



The selection of the new playing level can now be finalized by pressing the ENT key. The display will change back to "PLAY" and the computer will be ready to play the next game with the new setting.

Here follows a description of the different playing

levels available with their average response times:

The 0 key: **Easy level.** The computer has an average time of 2 seconds to calculate its answering move. In addition, at this level the program voluntarily reduces its own playing strength a little, so if you feel you would like to win a game once in a while this is the level that offers you the best chances!

The 1 key: Level 1. The average response time is 5 seconds. This is the default setting at power-on or after a reset (pressing both RES keys together).

The 2 key: Level 2. The average response time is 10 seconds.

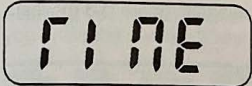
The 3 key: Level 3. The average response time is about 20 seconds.

The 4 key: Level 4. The computer will take about 1 minute for each move.

The 5 key: Level 5. The average response time is 2 minutes per move.

The 6 key: Level 6, **tournament level.** At this level, MEPHISTO will play with a time control setting of 40 moves in 2 hours, which corresponds to an average response time of 3 minutes per move.

If the human player does not make his 40th move in a tournament game within the prescribed time limit of two hours, the computer will repeatedly sound a warning tone and display the following message:



This means that, strictly speaking, you have now forfeited the game on time. However, if you wish to continue the game in spite of that, you are free to do so.

The 7 key: Level 7, **tournament level human-computer**. This is the level you should choose if you want to take part in a chess tournament with your MEPHISTO. Instead of taking 3 minutes per move, the computer will take only 2 minutes and 50 seconds on average, so you will have enough time to execute the moves on the official chess-board and operate the official chess clock.

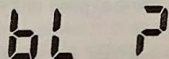
The 8 key: Level 8. The average response time per move is about 6 minutes.

The 9 key: Level 9, **analysis level**. This level is intended for postal chess or for an exhaustive analysis of certain positions. MEPHISTO will go on calculating until its internal memory is full (which normally takes several days) or until it is interrupted by pressing the ENT key.

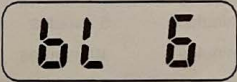
### 5.3 Blitz levels

At blitz or quickplay chess, you set a certain time limit for the entire game, regardless of the number

of moves. You can also allow yourself more time than the computer (handicap settings). If you want to play a blitz game against your MEPHISTO, press the LEV key twice (to enter Level Mode and access the blitz levels). The display will look like this:

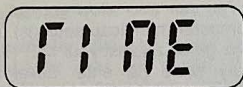


By pressing one of the input keys labelled 1 through 8, you can now select the desired blitz or quickplay level. For example, after pressing the number 6 key, you will get the following display:



The selection of the desired blitz level can now be finalized by pressing ENT. The display will show the time limit for the blitz level you have just selected (in our example: 15:00 minutes). The game starts when the first move is made on the board. The chess clock is now in count-down mode, which means that the time left for each side will be counted down towards 0:00.

If your time runs out before the game has been decided, MEPHISTO will repeatedly sound a warning tone and display the following message:



This means that, strictly speaking, you have now forfeited the game on time. If, however, you wish to continue the game in spite of that, you are free to do so.

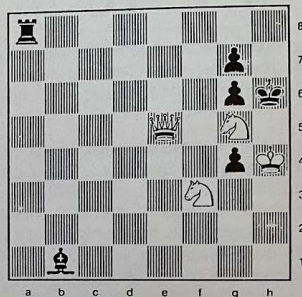
The following table lists the available blitz level settings:

Level	time limit player	time limit computer
bl 1	5 minutes	5 minutes
bl 2	10 minutes	5 minutes
bl 3	15 minutes	5 minutes
bl 4	10 minutes	10 minutes
bl 5	15 minutes	10 minutes
bl 6	15 minutes	15 minutes
bl 7	30 minutes	30 minutes
bl 8	60 minutes	60 minutes

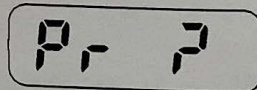
#### 5.4 Problem levels

The problem levels are specifically intended for the solving of "mate in n" problems. At these levels, the computer does not look for ordinary moves but only for a forced mate.

Here is an example (mate in 3 moves):

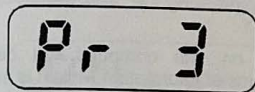


If you want to solve a mate problem with the help of your computer, you first have to set up the position on the computer's internal board as described in section 8 (Position Mode). Then press the LEV key three times (to enter Level Mode and access the problem levels).



By pressing one of the input keys labelled 1 through 8 you can now select the desired problem

level. For example, if you want to solve a "mate in 3" problem, you press the number 3 key:



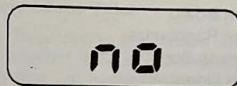
You can now finalize your input by pressing ENT. The display will switch back to PLAY. Pressing ENT again will start the computer searching for the key move leading to the mate.

While the computer is calculating, the display will be showing the chess clock. Mates in 1 to 5 moves are usually found fairly quickly, whereas problems with 6 or more moves may well take several hours.

As soon as MEPHISTO has found a mate in the prescribed number of moves, it will sound a double tone signal and show the key move in the display window. Execute this move on the board for MEPHISTO.

Now it is your turn to enter an answering move for Black. This will start MEPHISTO searching for its second move; then it will wait for you to enter your second move and so on until the mate is given.

If, however, there is no mate in the prescribed number of moves, after finishing its calculations the computer will display the following message:



If a key move has been found, you can make MEPHISTO search for alternative solutions (also called "cooks"). The computer will check whether there are other key moves that also lead to mate in the prescribed number of moves.

Do not execute the first key move on the board but press the 0 key instead. The computer will restart its calculations and finally display the second key move, if there is indeed more than one solution to the problem. If, however, there is no second solution, the computer will display the "no" message.

### 5.5 Additional options

Apart from setting the playing level, you can also use Level Mode to enable or disable a number of additional options that allow you to adapt your computer to your individual requirements as far as possible. The following special options are available:

- Automatic Information
- Automatic Play
- Chess Tutor

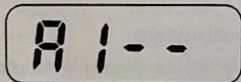


- Invert Board
- Move Randomizer
- Opening Book
- Tone Signal

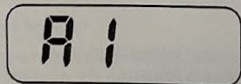
### 5.5.1 Enable Automatic Information

While MEPHISTO is calculating its moves, the display is usually set to the chess clock, which shows the time taken for the current move in minutes and seconds. However, it is possible to make information about the computer's calculations appear automatically in the display window while they are in progress.

To enable this option, press the LEV key 4 times. The display will now look like this:



The two dashes indicate that the option is currently disabled. You can change this setting by pressing ENT. The display will now change to:



The absence of the dashes indicates that the option is now enabled. You can leave Level Mode as usual by pressing CL. The display will switch back to PLAY.

From now on, the computer will display the following items of information while it is analyzing:

- The best move found so far
- The expected reply to the above
- The search depth
- The position evaluation

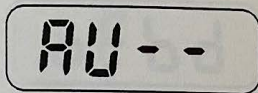
The display changes from one item to the next at one-second intervals.

### 5.5.2 Enable Automatic Play

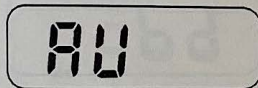
By selecting this option, you can make MEPHISTO play against itself. It will calculate first one move for White, then one move for Black, then again a move for White and so on until the game is finished. The pieces need not be moved on the board.

The automatic play option is ideal for analysis of very complicated positions or adjourned games. Please note that the computer must be given ample time for its calculations (we recommend levels 6 or 8).

Games played with the autoplay option may later be reviewed in Memory Mode. The Automatic Play Option is accessed by pressing the LEV key 5 times:



You can now enable this special option by pressing ENT. The display will change to this:



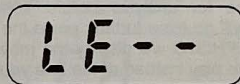
As soon as you leave Level Mode by pressing CL, the computer will start playing against itself automatically, calculating the moves for both sides as described above.

You can stop automatic play at any time by pressing ENT. MEPHISTO will then finish its current calculations and display the best move found until that moment. It will then be waiting for you to make the next move for the other colour. From then on, the automatic play option will be disabled and play will continue in the normal fashion at the current playing level.

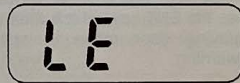
### 5.5.3 Enable Chess Tutor

The Chess Tutor option is intended for beginners. When it is enabled, MEPHISTO will refrain from its usual practice of relentlessly exploiting its opponent's mistakes. Instead, it will draw the learner's attention to the fact that he has just committed a bad blunder.

The Chess Tutor option is accessed by pressing the LEV key 6 times.

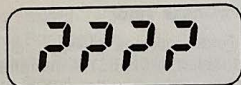


(Le is short for "Lehrer", the German word for "teacher".) Pressing ENT will enable this special option. The display will change to this:



You can now leave Level Mode by pressing CL. The display will switch back to "PLAY".

From now on, whenever MEPHISTO discovers in the course of its calculations that you have made very weak move, it will draw your attention to this by sounding a warning signal and displaying the following message:



Then it will stop its calculations and give you time to have a closer look at the last move you made. If you are not sure where the trouble lies, you can call for assistance by pressing the INFO key. MEPHISTO will then display the move with which it intends to punish you for your mistake. If it had enough time for analysis before sounding the warning, it will go even further: press the number 7 key and MEPHISTO will display the move it would advise you to play instead of the one you made.

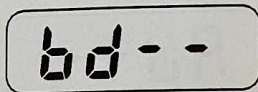
Now you have a choice of two alternatives: you can either press CL, which erases the last move you made from the computer's memory and allows you to continue with some other move; or else, you can press the ENT key, which means that you insist on playing your move in spite of the computer's warning.

#### 5.5.4 Enable Invert Board

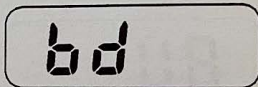
With this option you can inform the computer that you want to play against it with the black pieces from the bottom of the board. When using this option, please bear in mind that the numbers and letters printed along the edges of the board and designating the ranks and files are no longer valid.

If you want to play Black against the computer, proceed as follows:

Press the LEV key 7 times.



You can now enable this special option by pressing ENT. The display will change to this:



You can now leave Level Mode by pressing CL. The display will switch back to "PLAY". Set the chessmen up so that the black pieces are on the two bottom ranks, and press ENT to make the computer start the game for White from the other side of the board.

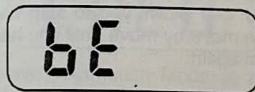
#### 5.5.5 Enable Move Randomizer

Normally, MEPHISTO will always play the best move it has found in the course of its calculations. By enabling the Move Randomizing option, you can cause the program to choose one of several moves of approximately equal strength at random.

If you want to have more variety in your game, you

can enable the Randomizer option by proceeding as follows:

Press the LEV key 8 times.



(The best move (be) will always be chosen.) Press ENT to change this setting, and the display will switch to this:



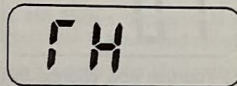
You can now leave Level Mode by pressing CL. The display will switch back to "PLAY". From now on, MEPHISTO will not always play the move it considers best but rather one of the good moves it has found.

### 5.5.6 Disable Opening Book

With this option you can turn off your MEPHISTO's extensive opening library (or "book"). The chess program then has no access to the opening theory stored in its memory and will start calculating moves on its own from move 1. If you want to disable your computer's opening book, proceed as

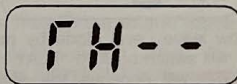
follows:

Press the LEV key 9 times.



(Theory is on.)

You can now change this setting by pressing ENT. The display will change to this:



You can now leave Level Mode by pressing CL.

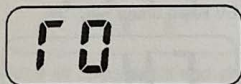
The display will switch back to "PLAY". From now on, MEPHISTO will calculate all its moves, including the opening moves, independently of its opening library.

### 5.5.7 Disable Tone Signal

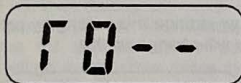
With this option you can turn off the tone signal of your computer, with which it normally announces that it has found a move or that you have made some operating mistake. If you want to play without a tone signal, proceed as follows:



Press the LEV key 10 times.



(Tone is on.) You can now change this setting by pressing ENT. The display will change to this:



You can now leave Level Mode by pressing CL. The display will switch back to "PLAY". From now on, MEPHISTO will continue the game without sounding any signals.

## 6. Information Mode

By entering Information Mode you can make information about the computer's calculating process appear in the display window.

In contrast to all other modes, Information Mode can be entered even while the computer is analyzing. All other modes can only be entered while it is your turn to move.

Pressing the INFO key while the computer is calculating will cause the best answering move

found so far to be displayed. By repeatedly pressing the key labelled  $\rightarrow 0$ , you can now step through the following moves of the main line of play as expected by the computer. Pressing the key labelled  $\leftarrow 9$  allows you to step back through the variation move by move until you have reached the first item again.

### 6.1 Info 1: Position evaluation

If you want to know how MEPHISTO evaluates its current position, first press the INFO key to enter Information Mode and then the number 1 input key.

The position evaluation is given in pawn units. A minus sign (-) in front of it means that MEPHISTO thinks it is at a disadvantage.

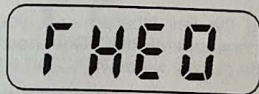
For example, if after pressing INFO and the 1 key you see the number  $-1.50$  in the display window, this means that MEPHISTO thinks it is about one and a half pawn units behind.

If the evaluation drops as low as  $-9.99$ , this means that the computer is ready to resign. You can stop playing and consider yourself the winner.

On the other hand, an evaluation of  $9.99$  means that you should acknowledge MEPHISTO's superiority and resign in your turn.

During the early phase of a game, while the computer is still playing its moves from its store of

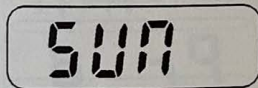
opening theory or "book", the following message will be displayed instead of an evaluation:



You can leave Information Mode at any time by pressing CL.

## 6.2 Info 2: Chess clock

While the computer is analyzing, the display normally shows only the time taken for the current move. If you want to obtain more information about the chess clocks, you first have to enter Info Mode (by means of the INFO key) and then press input key number 2. Pressing the key labelled →0 will now switch the display to the time you took for your last move. Pressing the →0 key again will produce the following display:



This means that the computer is now ready to display the "sum" or total time taken so far by either side. Pressing →0 again will display the total time for the computer. Pressing the same key once more will bring the player's total time to the display window:

By means of the <-9 key, you can step back through the times displayed until you have reached the first item again.

Move times are always displayed in minutes and seconds, total times in hours and minutes.

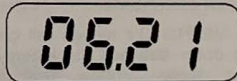
You can leave Information Mode at any time by pressing CL.

Whenever you change playing levels, the internal clock is reset to zero.

## 6.3 Info 3: Search depth and move counter

This item of information allows you to monitor which moves MEPHISTO is currently considering and to which depth it has already progressed in its calculations.

Again, you first have to enter Information Mode by pressing INFO, then press the number 3 input key. In the display window you will see a number with a decimal point, for example:

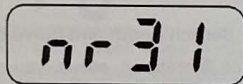


The digits to the left of the decimal point indicate the current search depth, at the moment six "ply" or half moves. The digits to the right of the decimal point indicate the number of the move the

computer is currently considering, in our example it is the 21st move of all possible moves from the current position.

If you want to know which move that number corresponds to, press →0 and MEPHISTO will display the move currently under consideration.

Pressing the →0 key again will bring the move counter to the display window. For example, if the game has reached move 31, the display will look like this:



Again, the <-9 key allows you to step back through the display items one by one.

You can leave Information Mode at any time by pressing CL.

#### 6.4 Display of comments

Sometimes MEPHISTO's moves will be displayed with <three dots> between the letters and numbers in the display window. This means that MEPHISTO wishes to make some comment on the current move.

To find out what it is, press the INFO key and then input key number 1. In the display you will see the

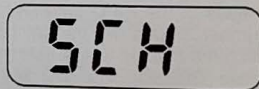
position evaluation or, if only a few opening moves have been made so far, the "theo" message.

By pressing the key labelled →0, you can now cause the comment MEPHISTO wishes to make to appear in the display window.

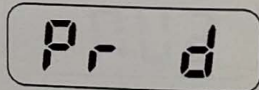
In some positions it may be that MEPHISTO has more than one comment for you. Therefore you should always press the →0 key for a second or even third time until the display contains only four dashes, which indicates that there are no more comments.

After that, you can continue the game by simply making your next move on the board.

The following comments are possible:



CHECK ("Schach" in German)



PAWN PROMOTION (the pawn is to be promoted to a queen)

EP

CAPTURE EN PASSANT

n - 2

MATE ANNOUNCEMENT (MEPHISTO anticipates mate in 2)

rE50

MEPHISTO RESIGNS

nAr

CHECKMATE

pAr

STALEMATE ("Patt" in German)

rEun

DRAW by insufficient material ("Remis" in German)

rE 3

DRAW by threefold repetition

rE50

DRAW by the 50-move rule

no

NO MATE, NO ALTERNATIVE SOLUTION

## 7. Memory Mode

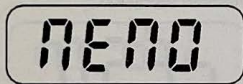
After switching to Memory Mode (press the MEM key, the corresponding LED will light up), you can enter individual moves or series of moves into the computer's internal memory or else retrieve them



from storage. Memory Mode can be entered only when it is your turn to move.

### 7.1 Entering Move Sequences, Referee Option

If you want to enter individual moves or a sequence of moves from the initial position or any other position currently on the board, press the MEM key once.



Now execute the desired moves for White and Black on the chessboard. The computer won't start calculating a reply to any of these moves. Once you have reached the desired position, you can leave Memory Mode by pressing CL and resume playing against the computer from the current position with the colour that is to move.

In Memory Mode you can also play a complete game against a human opponent. In this case, the computer only acts as referee and checks whether the moves input by either side conform to the rules of chess.

Illegal moves will be rejected by means of the display "Err1" and a tone signal. Return the piece you have just moved to its original square and then make a legal move.

### 7.2 Taking back move

MEPHISTO's internal memory allows you to play the current game backwards, either in its entirety or for a few moves only. Press the MEM key to enter Memory Mode while it is your turn to move. In the display window you will see the message "memo".

By repeatedly pressing the input key labelled <-9, you can now take back as many moves as you like. Every time you press the key, there will be a tone signal, the corresponding LEDs will start flashing and the move to be taken back will be shown in the display window with three dots between the characters.

Execute each backward move by replacing the respective piece on the square it originally came from. If after doing so you observe that one of the LEDs is still flashing, this means that the move you have just taken back was a capture and that you need to restore the captured piece to its original square.

Moves that have been taken back in the fashion described above may be played forward again by repeatedly pressing the key labelled ->0. Again, the moves will be shown both in the display window and on the board by means of the corresponding square LEDs, but there will be no tone signal.

As soon as you have reached a position from which you would like to continue the game, leave

Memory Mode by pressing CL. You can now resume playing against the computer from the position currently on the board and with the colour that is to move.

### 7.3 Automatic take-back option

Let's assume that you have just made a very bad move and realized your mistake immediately after executing it on the board. Naturally, you now feel the desire to retract that move.

After the computer has announced its answering move and you have executed it on the board, there are two alternatives:

- 1) You can enter Memory Mode as described in section 7.2 and take back the last two half moves of the game.
- 2) You can take back first the computer's last move and then your own move **directly on the chessboard**, without entering Memory Mode, by simply carrying them out in reverse. MEPHISTO's automatic take-back facility will recognize your wish to retract these moves and pass it on to the program.

However, when taking back a longer sequence of moves, your memory may fail you, so it is better to use the method described in section 7.2 in order to avoid any mistakes.


On the other hand, when taking back only a few

moves, the automatic take-back option is to be preferred, since it allows you to retract moves without pressing any keys.

### 7.4 Replaying a game


MEPHISTO's internal memory allows you to go back to the beginning either during or after a game.

Press the MEM key to enter Memory Mode and then ENT to go to the starting point of the game. The display will change to this:



SfA

Now you can replay the game move by move from the initial position by repeatedly pressing the →0 key. As soon as the end of the game has been reached, the following message will be displayed:



End

You can leave Memory Mode at any time by pressing CL. You may then resume playing against the computer from the position currently on the board and with the colour that is to move.

## 8. Position Mode

By entering Position Mode (press the POS key, the corresponding LED will light up), you can verify or alter the position stored in the computer's memory, e.g. for the purpose of entering chess problems.

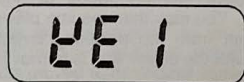
Position Mode can be entered only while it is your turn to move.

### 8.1 Position verification

If you want to check which pieces are located on which squares (e.g. after setting up a problem position or if some pieces have been dislodged and you are no longer sure of their correct placing), first enter Position Mode by pressing the POS key (the LED above the key will light up).









From now on, every time you press the POS key the display will show the type and location of another chess piece. For example, if there is a white king on the E1 square, the display will look like this:



At the same time, the corresponding square LED on the board will start flashing. As soon as you have stepped through all the pieces on the board by repeatedly pressing POS, the display will switch back to "POS". At this point, you can leave Position Mode by pressing CL and resume playing against the computer from the position currently on the board and with the colour that is to move.

The different pieces are represented by the following symbols in the seven-segment display:

 = KING     = QUEEN     = ROOK  
 = BISHOP     = KNIGHT     = PAWN

Black pieces are characterized by an additional minus sign (-) in front of the symbol.

You can interrupt the position verification process at any time by pressing the CL key twice.

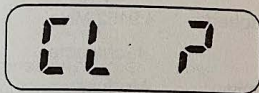
### 8.2 Entering a position

If you want to enter a completely new position, e.g. for the purpose of exhaustive analysis or for solving a chess problem, first enter Position Mode



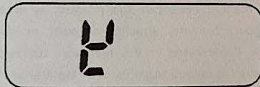
by pressing the POS key. Then set the desired position up on the chessboard.

As soon as you are satisfied that all the pieces are on the correct squares, press the ENT key. The display will change to this:



This means: Do you really want to clear the computer's internal board?

Confirm your intention by pressing ENT once more, and the display will switch to the symbol for the white king:



Briefly lift the white king from its square. The corresponding square LED will start flashing and the coordinates of the white king's location will be shown in the display window until you put the king down again.

As soon as you have replaced the king on its square, the display will switch automatically to the symbol for a white queen. Briefly lift the white queen from the board. The corresponding square LED will light up and the coordinates of the

queen's location will be shown in the display until you have replaced the queen on its square.

Now press ENT to change the display to the symbol for the next piece type, the white rook. Briefly lift a white rook from the board. The corresponding square LED will light up and the coordinates of the rook's location will be shown in the display until you have replaced the piece on its square. If there is a second or perhaps even a third white rook on the board, briefly lift these from their respective squares as well.

Pressing the ENT key will switch to the symbol for the next piece type, the white bishop, and so on.

After you have gone through all the white pieces, the locations of the black pieces will be asked for, again in the order of king, queen, rooks, bishops, knights and pawns. Finally, pressing ENT again will switch the display back to the "POS" message.

After leaving Position Mode by pressing CL, you can start playing against the computer **with the white pieces** from the newly entered position, or, depending on the playing level, start it looking for a mate or analyzing a position.

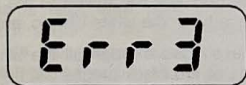
In some positions, however, it is required that it should be Black's turn to move. In that case, **before** leaving Position Mode by means of the CL key, you must press the key labelled <-9 and then ENT. After leaving Position Mode by pressing CL, you can now start playing against the computer



**with the black pieces** from the newly entered position.

To find out whose turn it is to move, check which of the two colour LEDs is currently lit.

When entering a new position, you will not be allowed to violate the Laws of Chess. For example, MEPHISTO will not permit you to leave one of the kings in check so it could be captured on the next move, or to set up more than 8 pawns of one colour etc. In such cases it will display the following message:



and refuse service until the error has been corrected.

## 9. Extensions

At this point we would like to remind you that as from August 1990, the Opening Module HG 550 will be available for the MM V program. This modular cartridge will extend your MEPHISTO's opening library to well over 20.000 positions.

The MM V module can also be used with the MOBIL LCD unit as a travelling chess computer.

Finally we, the MEPHISTO team, wish you lots of fun with your new electronic chess partner.

## Technical Data:

Microprocessor:	65C02
	ROM: 32 KByte
	8 KByte
RAM:	4.9152 MHz
Processor speed:	4-character
Display:	Modular
Fits these units:	Exclusive
	Munich
	Mobil LCD



This instruction manual describes the product as exactly as possible but does not guarantee any specific property or suitability for any specific purpose. It conforms to the technical standards prevailing at the time the product is issued together with the manual. We reserve the right to make any alterations due to technical innovations.

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To be kept away from children under three years of age, who may accidentally swallow the chess pieces.