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# 1 Important information

Before using this device, please read the following safety notes and operating instructions completely, and pay careful attention to them. Please store this user manual with the device, so that you can refer to it later if needed. If you later give this device to another user, please also give them this manual.

## 1.1 Safety instructions

Please note that this product is not a child's toy within the meaning of Directive 2009/48/EC. If you let your children use the device, instruct them accordingly and ensure that the device is used only as intended.

- Keep the packaging bags and film away from babies and small children, as there is a danger of suffocation!
- In order to avoid damage, do not expose the device to heat, e.g. from radiators or from direct sunlight, and do not expose it to any kind of moisture.
- In order to avoid malfunctions, do not operate the device on or near devices that create magnetic fields or electromagnetic radiation, such as for example televisions, loudspeakers, mobile and cordless telephones, WiFi devices etc.
- Do not open the device under any circumstances. It does not contain any serviceable parts. In the event of malfunction, contact the service address or your local shop.

## 1.2 Notes on storage and cleaning

- Please note that real wood needs extra care. Handle the wood carefully, always store the device where it is dry and do not expose it to strong sunlight.
- When required, only clean the device's surface with a slightly damp cloth, and ensure that no moisture can penetrate into the device.
- Do not use solvents or other aggressive or abrasive cleaning agents, as these can damage the device's surfaces.

## 1.3 Notes on the power supply

Only operate this product with the AC adaptor supplied.

Input 100–240 V 50/60 Hz, 0.45A max; Output 9V DC 1A

When using the AC adaptor, please observe the following:

- The power socket should be located close to the device and should be easily accessible.
- The device should not be connected to more power sources than recommended.
- The electrical contacts must not be short-circuited.
- Before cleaning the device, ensure you disconnect the adaptor from the mains.
- Regularly check the product and the AC adaptor for damage, and do not use either of them if they are damaged. Never open them up.
- Please observe any safety information printed on the AC adaptor.

## 1.4 Package contents

The package contains the following components:

- 1 King Performance computer unit M830 with liquid crystal display (LCD)
- 17 white chess pieces (including additional queen)
- 17 black chess pieces (including additional queen)
- 1 AC adaptor
- 1 cable with two identical connectors (to connect the computer with the ChessLink)
- 1 user guide

## 2 Getting started

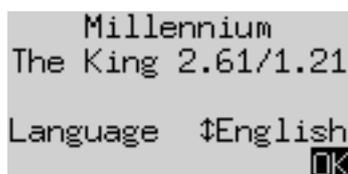
### 2.1 Connecting the adaptor

At the rear of the computer unit there are three sockets.

1. Take the AC adaptor (supplied in the package) and insert the small connector on the end of the cable into the right-hand socket on the rear of the computer unit.
2. Connect the AC adaptor to a power socket. A sound is emitted.

### 2.2 Selecting the language

The chess computer's LCD display can show its text in any of 7 languages. After you connect the power, the display shows the word "English" together with the version number of the chess program:



```
Millennium
The King 2.61/1.21
Language ↕English
OK
```

To select the English language: Confirm by pressing the GREEN button.

To choose a different language:

1. Press the down arrow button ↓ as many times as needed to display the desired language.
2. Then confirm with GREEN.

### 2.3 Adjusting the backlight

The LCD display has a backlight that you can adjust by pressing the BACKLIGHT button  as many times as necessary.

### 2.4 Preparing for a new game

After you have selected the language, the display shows the 'Large clock' info screen:

German:



```
□ 0:00:00
■ 0:00:00
1. Ⓞ Menü
```

English:



```
□ 0:00:00
■ 0:00:00
1. Ⓞ Menu
```

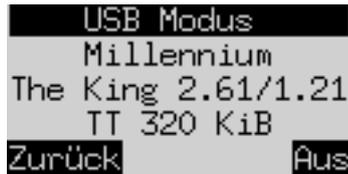
You can now prepare for a game:

1. Place the chess pieces on their starting squares. Initially the computer assumes that White is playing 'up the board', i.e. the white pieces start from the 2 rows next to the control panel. If you want Black to play 'up', give the 'Invert board' command as described in Sections 5.11 and 5.11.1.
2. You can now start play against the computer on its 'Easy' level 4. (If you want to select a different level of play, see Section 5.4.)
3. If you want the computer to play White, give the 'Move' command as described in Section 5.2.

### 2.5 Switching on and off

If the computer is running and you press the On/Off button, the following display appears:

German:



English:



If the computer unit is connected to a PC or laptop via a USB cable, you can now perform operations such as loading or saving games – see Section 6.

If instead you press the GREEN button, the device switches off.

Or if you press the RED button, it reverts to an info screen or the main menu.

If switched off in the correct manner (as above), the computer will still retain the current game in its memory, with the parameters (level, etc.) that you have specified, even if you afterwards disconnect the power. When the power is reconnected, the computer automatically switches on. To switch on when the power has not been disconnected, press the ON/Off button.

After switching on, you can resume from where you left off.

## 2.6 Reset

If you wish to delete all previous data:

- Disconnect the device from the power supply.
- Hold down the RED button and reconnect the power.
- Keep the RED button held down until the start screen appears (as in Section 2.2). The computer is now in the same state as when you first acquired it. This operation may occasionally be useful in case of a problem you don't understand.

## 2.7 The buttons and their functions (summary)

RED button                      Cancels a command.

GREEN button                    Confirms a command.

*Note:* The RED and GREEN buttons have various uses depending on the situation. Their functions at any particular moment are indicated by the 'inverted' wording (i.e. text on a dark background) in the bottom line of the display: RED in the left corner, GREEN in the right corner. If nothing is indicated, the respective button is not currently enabled.

ON/OFF          Switches the device on or off.

NEW                                      Starts a new game.

BACKLIGHT          Adjusts the display's backlighting.



Retracts moves.



Replays moves.



Returns to the previous screen. Moves the cursor left.



Proceeds to the next screen. Moves the cursor right.



Moves the cursor up.



Moves the cursor down.

## 3 Playing against the computer

### 3.1 Your move

#### 3.1.1 Ordinary moves

Press on the departure square of the piece you want to move. There is a 'beep', and the red lights at the corners of the square come on. To complete your move, press the piece down on its destination square after taking away any piece that you may be capturing.

#### 3.1.2 Special moves

- Castling: Always move the king first. Then move the rook in the same way, i.e. pressing on the 'from' and 'to' squares.
- *En passant* capture: First move your own pawn, then press on the square of the captured pawn as you take it off the board.
- Pawn promotion: Move the pawn to the promotion square.  
The bottom line of the display will show (e.g.): **g7-g8**   
This invites you to promote to a queen. If you want, you can switch to a different piece by pressing ⇐ or ⇒. When the desired piece is shown, press GREEN and replace the pawn with the new piece.

### 3.2 The computer's move

The computer announces its move with a 'beep', and the red lights 'blink' to indicate the 'from' and 'to' squares alternately. Press down on these two squares as you move the piece.

It may then be necessary to complete a 'special' move. The red lights indicate the square or squares where a piece must be placed or removed. Note also the 'prompts' at the bottom left of the screen:

**f8 \_h8**

In this example, the square h8 must be vacated and the black rook must be placed on f8 (to complete a castling move). Press the squares as you carry out the operation.

**\_b4**

In this example, the square b4 must be vacated (by a pawn that has been captured *en passant*).

If the computer gives check, its move is accompanied by a high triple buzz.

### 3.3 Possible errors

If you press on a piece but then decide not to move it after all, press the square again. The lights go out, and you can restart your move.

An illegal move is rejected by a low triple buzz. Simply complete a legal move in the normal way.

If (e.g.) pieces get knocked over and you aren't sure where to put them back, you can use the 'Verify' (= verify) function – see Section 5.13.

### 3.4 Symbols displayed in the bottom line during play

-  (rotating hourglass): The computer is thinking about its move.
- : You are to move with White.
- : You are to move with Black.

### 3.5 Retracting and replaying moves

If you want to take back the last move played, you may press the clockwise arrow button ↻. The lights on the chessboard, and the prompts in the bottom line of the screen, direct you to move the piece back, e.g.:

```
h4 g5
```

The white bishop must be returned from h4 to g5.

After retracting one move, you may also retract the previous one or a longer sequence.

A move that you have retracted can be replayed by pressing the anticlockwise arrow button ↺ and moving the piece on the board as prompted by the lights and the screen.

At any time after retracting or replaying moves, you can resume the game from the current position on the board. Carry out a move in the normal way, or give the 'Move' command (see Section 5.2) to make the computer play next.

### 3.6 Result of the game

The final move is accompanied by three 'beeps', and the result is announced in the bottom line of the display:

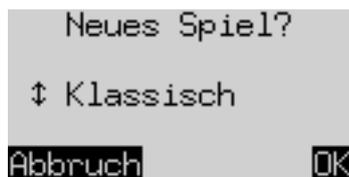
- Mate                    Checkmate
- Stale                    Stalemate
- Draw 3x                Draw by threefold repetition
- Draw 50                Draw by 50-move rule
- NoMat                  Draw due to insufficient material (neither side can mate the opponent)
- TooLong                The game cannot be continued, as it would exceed the available memory space (maximum: 256 moves for each side).

### 3.7 Starting a new game

You can start a new game any time, except in the middle of some special operations described in Section 5.

Press the NEW button. The display shows:

German:



English:



To begin a game of ordinary ('classical') chess, press GREEN.

If instead you press ↑ or ↓ and then GREEN, this enables you to start a game of *Chess960* (= 'Fischer Random Chess'). An explanation of this variant of the game is supplied on the MILLENNIUM website: [www.computerchess.com](http://www.computerchess.com).

A press on RED would cancel the 'NEW GAME' command and leave the position unaltered.

## 4 The info screens

The computer offers six different screens or 'pages' of information. You can switch between them by using the ⇐ and ⇒ buttons.

Repeated presses on the right arrow button ⇒ will display the screens in the following order: –

#### 4.1 Info screen: Large clock

This is displayed when you first connect the power and select the language – see illustration in Section 2.4.

On a 'Normal' level, this screen shows the total times taken so far by White and Black. On some other levels ('Blitz', 'Tournament' and 'User' – see Section 5.4), the clock display 'counts down' and shows the amount of time remaining until the next time control.

#### 4.2 Info screen: Game score

This screen shows the most recent moves, for example:

German:

```
7  ♖g1-f3  ♜f8-e7
8   0-0    0-0
9   d2-d3  ♞a8-b8
10  -----
      ©     Menü
```

English:

```
7  ♖g1-f3  ♜f8-e7
8   0-0    0-0
9   d2-d3  ♞a8-b8
10  -----
      ©     Menü
```

#### 4.3 Info screen: Analysis

This screen supplies insights into the computer's thought process – including the continuation that it considers best for both sides, and a number expressing its evaluation of the current position.

```
07/33 f2-f4 01109
+0.39 00:26 808254
♞b5 ♞xb5 cxb5 ♞d8
♞b1 ♞c1 ©     Menü
```

#### 4.4 Info screen: Permanent brain

When the computer's 'Permanent Brain' is active, it continues to think about the position when it is your turn. Its findings are displayed on the 'PB' screen, including: your expected next move, the continuation that is rated as strongest, and a numerical evaluation (similar to the 'Analysis' screen).

#### 4.5 Info screen: Opening name and code

This displays the opening of the current game, together with the "code" assigned to it in the *Encyclopedia of Chess Openings (ECO)*.

#### 4.6 Info screen: Small clock

This gives more detailed information on the time situation than on the 'Large clock' screen.

## 5 Special functions

### 5.1 The main menu

If you press GREEN when any of the of the 'Info' screens is shown (see Section 4), a menu of 12 special functions appears:

German:

```
Zug   Tipp  Stufe
Alter Start Ende
Analy 2Spie CLink
Funkt Stell Kontr
Info  ↑≠ Eingabe
```

English:

```
Move  Hint  Level
NextB Start End
Analy 2Play CLink
Opts  SetUp Verfy
Info  ↑≠ Enter
```

One character on the display is highlighted by a 'blinking' sign: █ . This is the *cursor*.

By using the arrow buttons (⇐⇒⇑⇓), you can move the cursor around.

In order to select a function, move the cursor to it and press GREEN.

If instead you press RED, this returns you from the menu to the 'info' screen.

*Note:* When operating the special functions, remember that the uses of the RED and GREEN buttons are always indicated by the 'inverted' wording at the left and right of the bottom line.

Also notice the signs in the middle of the line. Here, the ⇑⇓ signs tell you that all four 'direction' buttons are currently enabled for performing menu operations.

## 5.2 Menu: Move

If you select this item when it is your turn to move, the computer will compute and play the next move itself, and you can then take over the other colour.

If you want the computer to play White, select 'Move' to begin the game.

If you select 'Move' when it is the computer's turn, it will cut short its calculations and play immediately.

## 5.3 Menu: Hint

The computer suggests a move for you.

## 5.4 Menu: Level

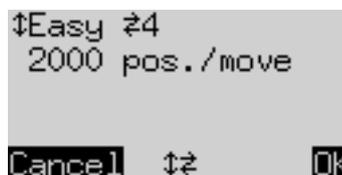
The computer's levels of playing strength fall into 8 categories: 'Normal', 'Easy', 'Fun', 'Blitz', 'Tournament', 'User', 'Fixed depth' and 'Find mate'.

When you select 'Level' from the menu, the current level is displayed. Initially the computer is set to play on 'Easy' level 4. On this level it will cut short its calculations after examining 2,000 positions.

German:



English:



- To alter the level category: Press ⇑ or ⇓ as many times as necessary until the desired category is shown.
- To alter the level number within the category: press ⇐ or ⇒ as many times as necessary. (*The 'User' category is a special case, in which you have to specify a range of parameters.*)
- When the desired level is displayed, press GREEN to select it and return to the 'info' screen. (Instead, a press on RED would return to the menu while leaving the level unchanged.)

Example (1): For a game in which the computer takes an average of 15 seconds per move, select 'Normal' level 5.

Example (2): To simulate a game of '5 minute chess', select 'Blitz' level 2. Each player is given five minutes for all the moves.

Example (3): To simulate a tournament game with 'Fischer' timings, you can select 'Tournament' level 2. At the start, each player is given 1 hour. After each move, the available time increases by 30 seconds.

## 5.5 Menu: Nextb (Next best)

The computer retracts its move and plays the next best one.

## 5.6 Menu: Start

All the moves played are 'retracted'.

## 5.7 Menu: End

After moves were retracted, the current position is restored.

## 5.8 Menu: Analy (Analysis)

The computer doesn't play, but gives its 'Analysis' of moves you make.

## 5.9 Menu: 2Play (2 Players)

The moves for both sides are made by the human player.

## 5.10 Menu: CLink (ChessLink)

Connecting the computer via the MILLENNIUM ChessLink module to a variety of mobile or stationary devices, playing against numerous chess programs or UCI engines, and competing against opponents from all over the world on the internet.

## 5.11 Menu: Opts (advanced options)

The 'options' are a set of 12 special features that you have the possibility to modify. To inspect them, select 'Opts' from the menu. This displays four options from the options list, e.g.:

German:

```
Brett drehen  ↯X
Lehrer        X
Buch1         Meister
Buch2         Aus
Info         ↯↯  Menü
```

English:

```
Invert board  ↯X
Tutor         X
Book1         Master
Book2         Off
Info         ↯↯  Menü
```

One line of the screen incorporates the cursor (the 'blinking' ■ ). By repeatedly pressing ↑ or ↓, you can move the cursor up and down and view all 14 options in rotation.

- To alter an option, bring the cursor to the relevant row and use the ⇐ / ⇒ buttons. (*The 'Style' option is a special case: to set a 'User' style, you have to specify a range of parameters.*)

'X' means a feature is currently switched off; '✓' means it is 'on'.

Having finished your alterations to the options, press GREEN to return to the menu or RED to return to the info page.

### 5.11.1 Opts: Invert board

If this option is set to 'X', White plays 'up the board', i.e. away from the controls. If you want Black to play 'up', use ⇐ or ⇒ to switch the X to ✓.

### 5.11.2 Opts: Tutor

The computer will warn you of your mistakes.

### 5.11.3 Opts: Book1

The computer is equipped with 9 'books' of opening moves. Two are 'comprehensive', 7 are 'specialized'. To select its move, the computer first consults the book that is designated as Book1.

#### 5.11.4 Opts: Book2

If 'Book1' supplies no move for the current position, the computer looks for a move in the book designated as 'Book2'.

#### 5.11.5 Opts: Permanent Brain

The computer continues 'thinking' when it's your move.

#### 5.11.6 Opts: Randomness

Random factor in the computer's choice of moves.

#### 5.11.7 Opts: Contempt

Adjusting the computer's aversion / readiness for a drawn result.

#### 5.11.8 Opts: CPU speed

Selectable values range from 10 to 300 MHz.

#### 5.11.9 Opts: Style

Choice of 5 predefined and 3 user-defined settings.

#### 5.11.10 Opts: Sound

Choice of loud, medium, quiet or mute.

#### 5.11.11 Opts: Contrast

Choice of 10 different settings for the LCD display.

#### 5.11.12 Opts: Language

Choice between English, German, French, Dutch, Italian, Spanish or Russian.

### 5.12 Menu: SetUp

Allows the user to construct a special position on the board.

### 5.13 Menu: Verfy

The 'Verify' function displays half the chessboard in diagrammatic form, with the pieces in the correct current positions. To switch between the two halves of the board, press  $\uparrow$  or  $\downarrow$ .

This function can help you adjust the pieces on the chessboard in case of confusion. To return to the 'info' screen, press RED.

## 6 USB mode – Communicating with a PC

To enable the chess computer to communicate with your PC or laptop:

1. Plug an A to B USB cable (the type used e.g. for printers) into the centre socket at the rear of the King Performance unit and into a suitable port on the PC/laptop.
2. Press the On/Off button  to display 'USB Mode' (see Section 2.5).

You can now:

- Export or import games in PGN format. For this, you will need the 'PGN Tool' application installed on the PC/laptop. The application can be obtained from the Millennium website.

- Acquire updated versions of the chess program. For this, the 'CGX\_Update' tool must be downloaded from the Millennium website and installed.

## 7 Connecting the ChessLink

The King Performance computer can also be connected (via the left-hand socket at the rear of the unit) to the **MILLENNIUM ChessLink** module. This enables you to use the King Performance to play online against human opponents or with chess engines on mobile devices.

To connect the ChessLink, use the Mini-DIN cable provided with the unit to connect to the board. Use the power adaptor of the Chess Computer and plug it into the ChessLink Module. The power is transferred from the ChessLink to the ChessComputer, you do not need a separate power supply.

## 8 Disposal



Dispose of packing materials in an environmentally friendly manner by using the relevant collection containers provided for the purpose.



Within the European Union, the device must be disposed of properly at the end of its service life, according to EC Directive 2012/19/EU. Suitable parts of the device will then be recycled, reducing environmental pollution. For more information, please contact your local waste disposal company or your municipal administration.

## 9 Warranty, servicing and manufacturers contact

For Germany/Austria/Switzerland:

Please contact our office in Germany, either by telephone +49 (0) 2773 7441 222 or at [support@millennium2000.de](mailto:support@millennium2000.de).

If you purchased the product in a country other than Germany, Austria or Switzerland, and need service, please contact the shop where you purchased the product.

For any questions or feedback, you can also email us at [quality@millennium2000.de](mailto:quality@millennium2000.de).

## 10 Technical specifications

PRODUCT:	Millennium King Performance
ITEM NO:	M830
HARDWARE:	ARM Cortex M7 CPU configurable from 10 – 300 MHz
SOFTWARE:	Chess Program © Johan de Koning (NL)
OPENING BOOKS:	'Master' book by M.Uniacke © Applied Computer Concepts Ltd (UK) – approx. 300,000 positions  'Aegon 1994' book © C. de Gorter (NL) – approx. 61,000 positions

NOTE: This product is not protected against the effects of electrostatic charges, strong electromagnetic radiation or other electrical interference, as malfunctioning as a result of these conditions is not critical.

Modification of specifications (especially in respect of technical advances) reserved and errors excepted.

This user manual was carefully compiled, and its contents carefully checked for accuracy. If, despite all expectation, these instructions nevertheless contain errors, this shall not constitute grounds for any claims. This user manual, including excerpts thereof, may not be reproduced without prior written permission.

This user guide is a short introduction to *The King Performance* chess computer. A more extensive instruction manual (in German and English) with details of all the features will be obtainable on:

[www.computerchess.com](http://www.computerchess.com).

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85609 Aschheim, Germany  
[www.computerchess.com](http://www.computerchess.com)

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