

OWNER'S MANUAL

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***KASPAROV***<sup>™</sup>  
**BRUTE FORCE MODULE**



Dear Chess Player,

Congratulations on purchasing this latest Brute Force Module!

This new stronger program with powerful tactics pays considerable attention to pawn structures and advanced pawns. It is more knowledgeable about the King's safety and when to march the King out. The openings library is broader and contains some interesting new sharp lines.

It is also more skilful at positioning the Queen and Bishop for maximum effect as well as coordinating Kingside attacks.

Enjoy the challenge of playing with this Brute Force module.

A handwritten signature in black ink that reads "Kasparov". The signature is fluid and cursive, with a long horizontal stroke at the end.

Garry Kasparov

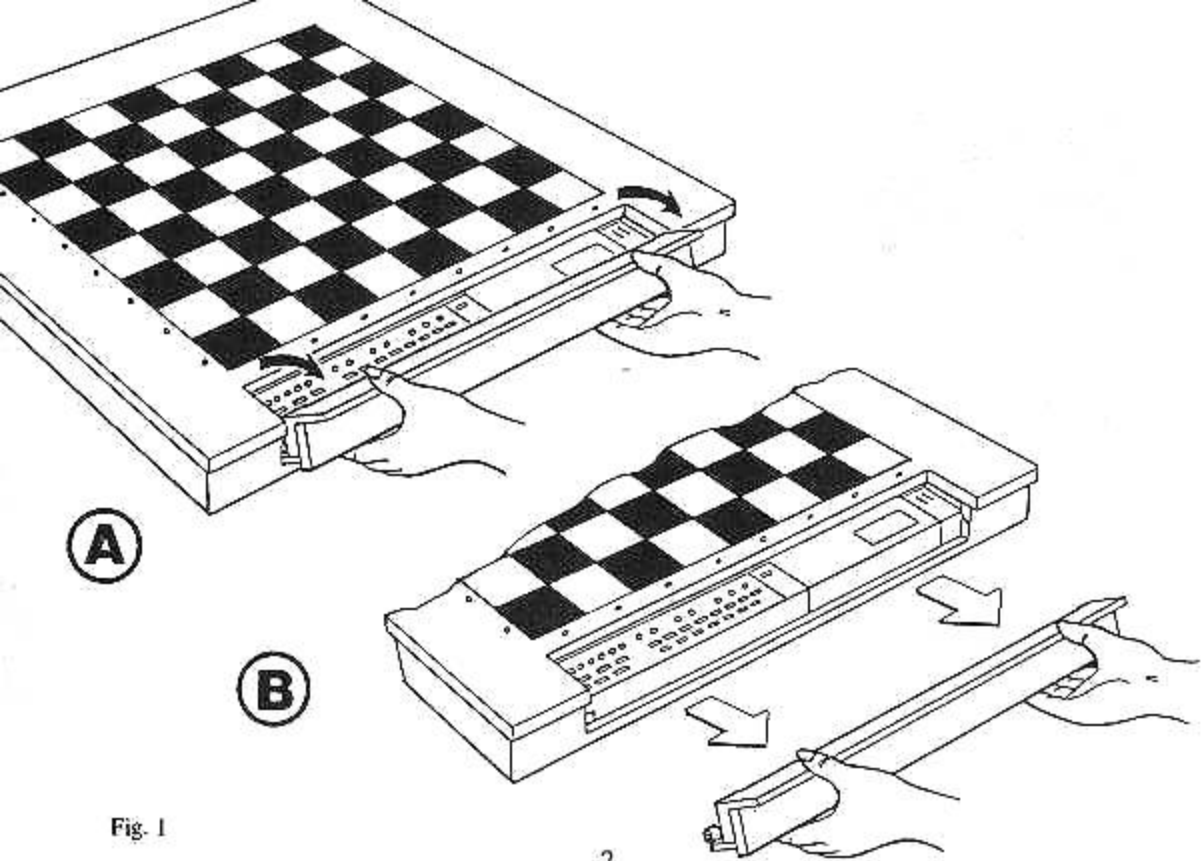


Fig. 1

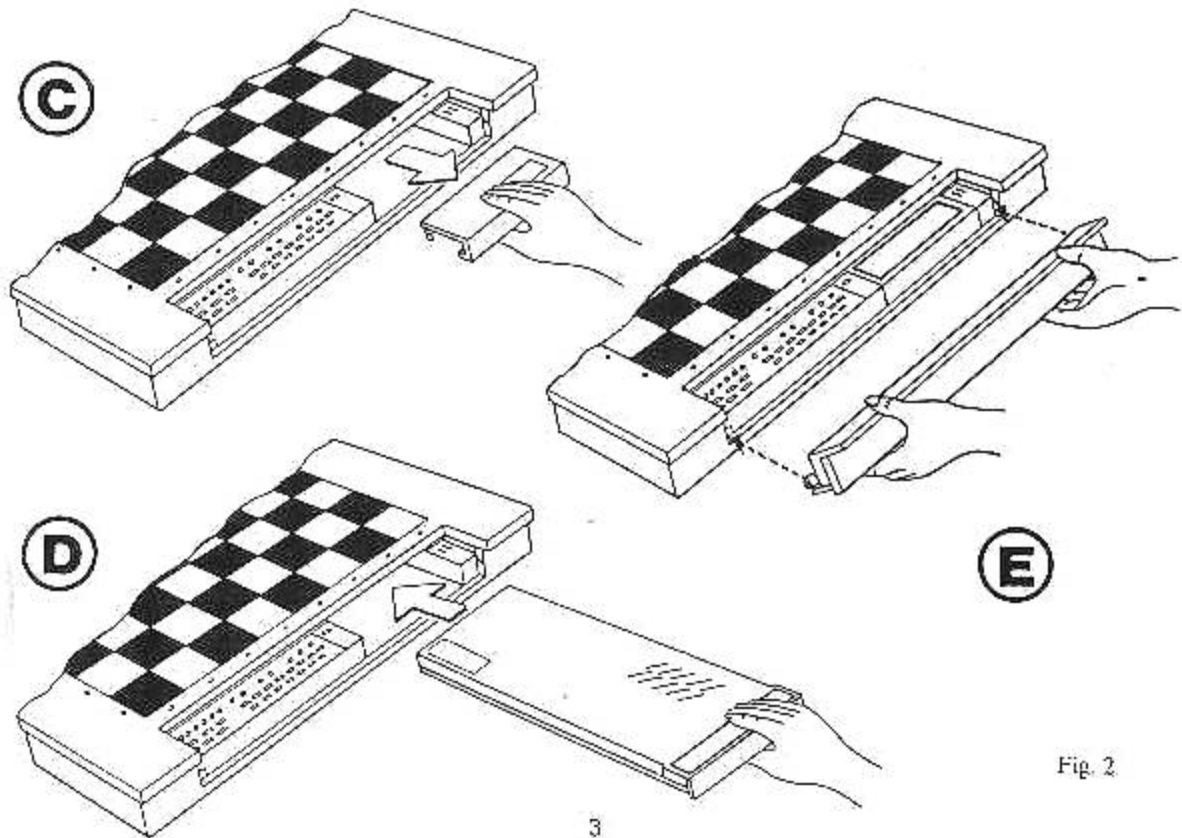


Fig. 2

## INTRODUCTION

The Brute Force Module increases the playing strength of Galileo, Renaissance or Leonardo to around 2250 Elo points. The program includes the famous Kasparov Selected Openings Library of some 100,000 sequences, controlled by the Automatic Transposition Manager (ATM). Its playing style is very different from the basic playing style of the Galileo, Renaissance and Leonardo with deep positional knowledge and a powerful endgame. The program searches in a different way, combining a brute force and a selective search mechanism in what is called a mixed type A/B search. The brute force part of the program saves it from small oversights, while the selective part is capable of searching much deeper, thus finding combinations that its brute force counterpart would have missed.

It provides another 32 playing levels, in addition to the 32 levels in the basic set into which it is inserted. This allows you to vary the style of play, and even allows two programs to play against each other, e.g. playing levels **A5** against level **E4**. The User Programmable Library (UPL) of the Galileo, Renaissance and Leonardo is fully available to the Brute Force Module, with its own ATM, yielding a truly formidable combination of openings.

Brute Force Module is available with 10 MHz (MegaHertz) processor. It is one of the first chess computers with Hash-table technology - the result of every position evaluation stored in a separate part of memory. When the program encounters the same position through a transposition of moves, the result is immediately available, thus saving computation time. This results in speed-up's ranging from 40% in the midgame to more than one thousand times in the far endgame. The Brute Force module has a transposition memory (Hash-table) of 256 Kbyte.

You are now the owner of a two-processor chess system. Brute Force Module communicates with the processor of the Galileo, Renaissance or Leonardo via the parallel OSA interface (the serial one is used to connect to printers and personal computers). The OSA of each chess computer opens the way to personal computers and opportunities for expansion using disk storage.

## INSTALLATION

The Brute Force Module will not operate with batteries alone; the mains adapter must be connected. It is recommended that the batteries are left installed in your computer even when using the adapter. This

will prevent loss of stored games in the case of a power supply interruption.

Read the section entitled "The Mains Adapter" in the respective Owner's Manual, (section 8.2 in the Galileo and Leonardo manual, section 10.3 in the Renaissance manual), to learn how to connect it.

**Only insert or remove the module when the chess computer is off, or you may damage the circuit.**

To install the Module, follow the sequence in figures A to E. Take particular care to slide the module into the slots provided. Ensure that it is pushed home firmly (figure D).

Turn your chess computer on by pressing **GO**. If installed correctly, the "Module" light will turn on.

## REMARKS

1. The Brute Force Module can only be used with the relevant Galileo, Renaissance or Leonardo adapter, as it draws power from it. If batteries only are used to power your set with the module

inserted, then the chess computer will operate without recognising the presence of the module. However this is not recommended as it shortens battery life by about 50%.

2. Once you press **STOP** (with module in), you should wait for at least 15 seconds before pressing **GO**.
3. The adapter should only be plugged in or removed when the chess computer is on **STOP**. If the adapter is accidentally disconnected when playing on one of the module's levels, the computer will change to level **A1** on its next move. The "Module" light will turn off. If the computer is on **STOP** and the adapter is replugged in, the computer will revert to the module's previous levels.

## SETTING LEVELS OF SKILL

The installation of the Brute Force Module does not prevent you from playing any of the levels available in the original programs of the Galileo, Renaissance and Leonardo program. It does however offer you additional levels. These levels are **E1** to **H8**.

Levels	Search Algorithm	Type	Average response time
E1	Pure Brute Force	Casual	5 secs/move
E2	Pure Brute Force	Casual	15 secs/move
E3	Pure Brute Force	Casual	30 secs/move
E4	Pure Brute Force	Casual	1 min/move
E5	Pure Brute Force	Casual	2 mins/move
E6	Pure Brute Force	Casual	3 mins/move
E7	Pure Brute Force	Casual	6 mins/move
E8	Pure Brute Force	Infinite	For correspondence chess and analysis, computer only makes a move when interrupted (by pressing <b>PLAY</b> )

Levels	Search Algorithm	Type	Average response time
F1	Selective Brute	Casual	5 secs/move
F2	Selective Brute	Casual	15 secs/move
F3	Selective Brute	Casual	30 secs/move
F4	Selective Brute	Casual	1 min/move
F5	Selective Brute	Casual	2 mins/move
F6	Selective Brute	Casual	3 mins/move
F7	Selective Brute	Casual	6 mins/move
F8	Selective Brute	Infinite	For correspondence chess and analysis, computer only makes a move when interrupted (by pressing <b>PLAY</b> )

<b>Levels</b>	<b>Search Algorithm</b>	<b>Type</b>	<b>Average response time</b>
G1	Selective Brute	Club Tournament	30 moves in 30 mins, then 30 moves per 30 mins
G2	Selective Brute	European Club Tournament	35 moves in 90 mins, then rest of moves in 15 mins.
G3	Selective Brute	Int. Tournament Standard	40 moves in 2 hrs, then 20 moves per hr.
G4	Selective Brute	Slow Tournament	45 moves in 2 hrs, then 23 moves per hr.
G5	Selective Brute	U.S Open Tournament	50 moves in 2½ hrs, then 20 moves moves per hr.
G6	Selective Brute	Fast Tournament	60 moves in 1 hr, then 30 moves in 30 min.
G7	Selective Brute	Grand Master	40 moves in 2½ hrs, then 16 moves moves in 1 hr.
G8	Selective Brute	Mate Finder	

<b>Levels</b>	<b>Search Algorithm</b>	<b>Type</b>	<b>Average response time</b>
H1	Selective Brute	Sudden Death	5 minutes for the entire game.
H2	Selective Brute	Sudden Death	7 minutes for the entire game.
H3	Selective Brute	Sudden Death	10 minutes for the entire game.
H4	Selective Brute	Sudden Death	15 minutes for the entire game.
H5	Selective Brute	Sudden Death	30 minutes for the entire game.
H6	Selective Brute	Sudden Death	45 minutes for the entire game.
H7	Selective Brute	Sudden Death	60 minutes for the entire game.
H8	Selective Brute	Sudden Death	90 minutes for the entire game.



## TECHNICAL SPECIFICATIONS

Processor frequency	10 MHz
Total memory space	289kb
Installed RAM	257kb
Installed ROM	32kb
Current	100 mA/9V max.
Power	0.9 max.
Weight	0.5 Kg

*Saitek reserves the right to make technical changes without notice in the interest of progress.*