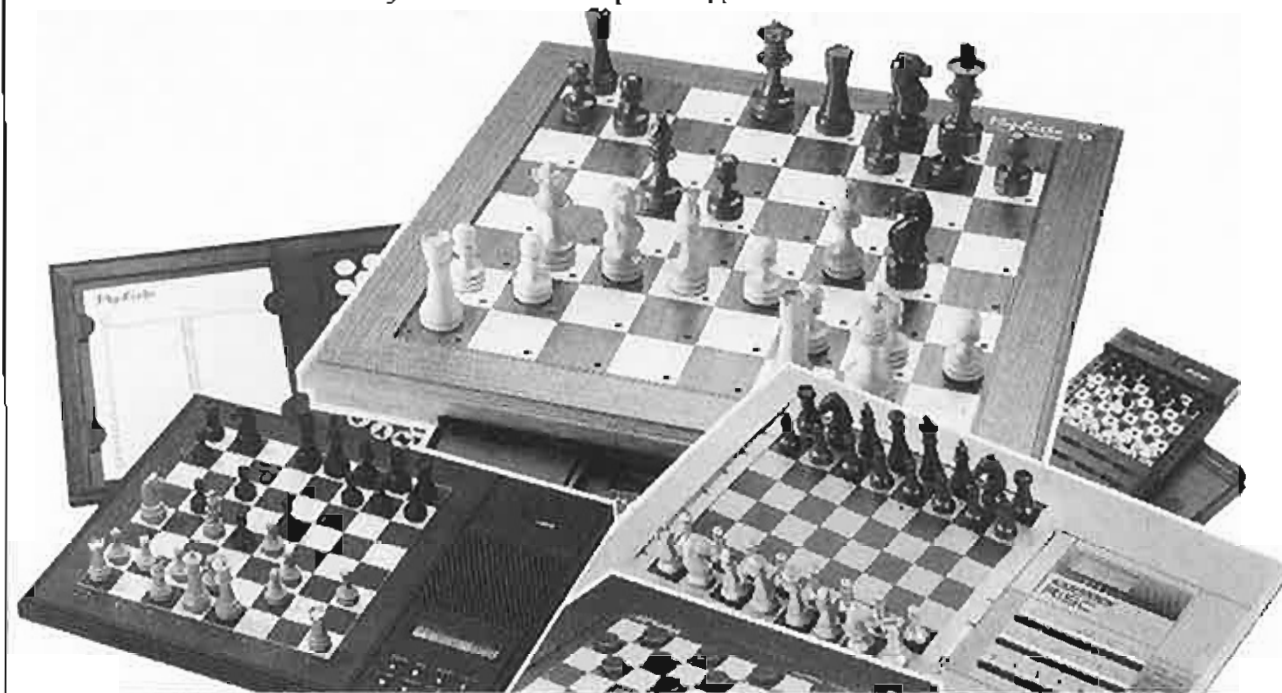


Computer Chess NEWS SHEET ANNUAL REVIEW and BUYERS' GUIDE for 1994

A full review of these and many other Chess Computers appears inside



- **EDITORIAL NOTE** from Eric Hallsworth: The purpose of the bi-monthly NEWS SHEET, established by me in 1985, and produced continuously by me since then, has always been to survey the CHESS COMPUTER scene, with special emphasis on reliable assessments of the PLAYING STRENGTHS of the many machines and programs now available. This **ANNUAL REVIEW** is an integral part of that work.
- **PUBLICATION DATES:** Early Feb, Apr, Jun, Aug, Oct, and Dec
- **SUBSCRIBE NOW:** Rates for 1994: £18 per year for 6 Issues by mail. Foreign readers £20. Australia/New Zealand £22 (Sorry 'Down Under' - postage costs!)

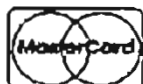
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FRONT AND BACK COVERS: Photos of the many Chess Computers reviewed.

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19. **COMPARATIVE CHARTS** by price and playing strength 20. **LEVELS**
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26. Who programmed what?! - meet the **PROGRAMMERS**

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All of the products mentioned in this Magazine are available from:
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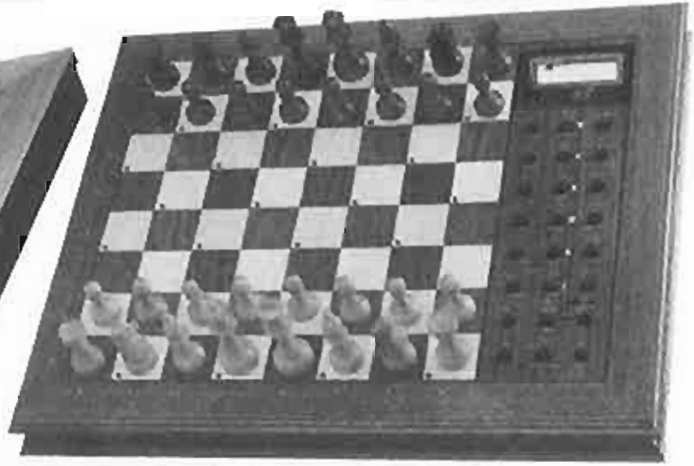


ACCESS/VISA welcome
28 DAY HOME TRIAL ON ALL COMPUTERS

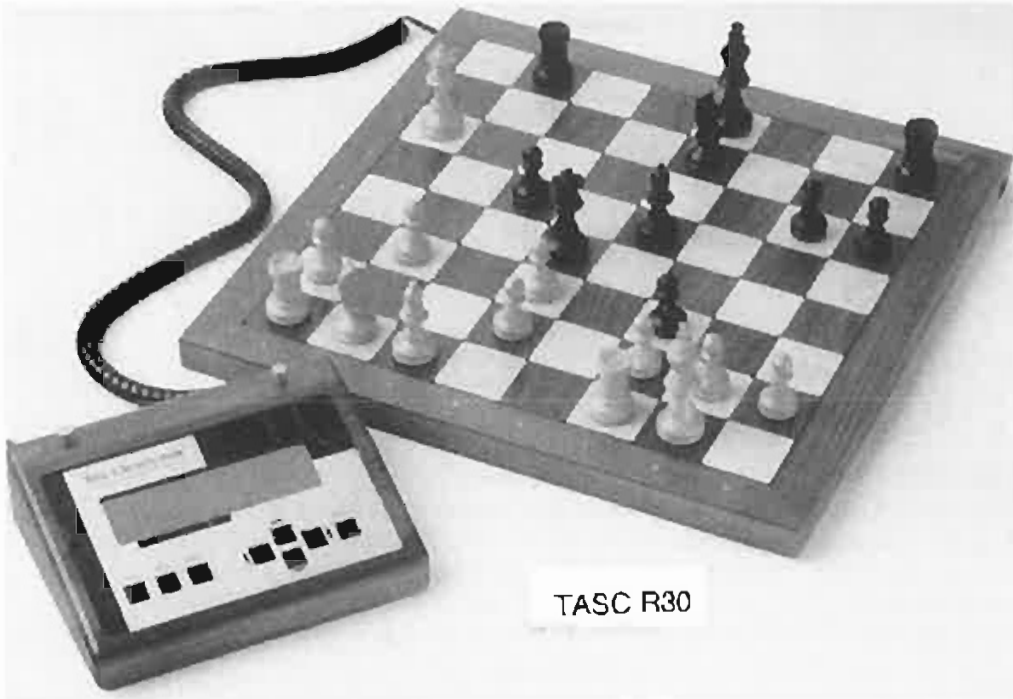




Kasparov RENAISSANCE board



Novag DIABLO



TASC R30



Mephisto MUNCHEN board



Mephisto MONTREAL 68000

Welcome to my **1994 ANNUAL REVIEW** of Chess Computers! I have put a lot of thought and effort into making it as clear and helpful as possible, whilst seeking to keep it interesting as a reference source for various facts and figures throughout the year. I hope you enjoy it!

HOW TO USE THIS REVIEW and BUYERS' GUIDE

I have looked at a wide range of available Chess Computers, of all shapes and sizes, prices and abilities, assessing them from FIVE DIFFERENT ASPECTS.

- 1 PRICE
- 2 Playing STRENGTH
- 3 BOARD Type
- 4 Range of FEATURES
- 5 VALUE for MONEY

- If the **PRICE** is your 'deciding factor' you will find the Computers carefully separated into various PRICE BANDS in pages 10-18; there is also a helpful CHART on page 20 listing the Computers with their prices and playing strengths.
- If **STRENGTH** is the criterion, then the CHART on page 19 is a RATING LIST for the Computers. The individual Gradings are also shown within the various CATEGORIES, 10-18.
- If **BOARD type** decides your choice (i.e PORTABLE, TABLE-TOP or WOOD), there is a discussion of these on page 4 to supplement the photographs and details within the Categories.
- **FEATURES** are rightly of great importance to many people: these are discussed and CLASSIFIED on pages 5-7, with additional details again being given for specific machines when they appear in their own CATEGORIES in pages 10-18.
- **VALUE for MONEY** is as much subjective as objective. I have given my own choice of THREE HIGHLY RECOMMENDED machines within each CATEGORY on pages 10-18, and these selections represent the 'value for money' in my opinion.
- I have devoted three separate pages for those wanting comparisons of **SOFTWARE for PC's**, and this will be found on pages 21-23. It seems silly to mention it, but I am still meeting folk who haven't realised... you need to buy an APPROPRIATE IBM-compatible PC (normally an 80386 or 80486) to run the PC SOFTWARE programs!

The bi-monthly Chess Computer NEWS SHEET

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- **ARTICLES, REVIEWS, GAMES** sent in by Readers, Distributors, Programmers etc. are always welcome, and will receive fair consideration for publication.

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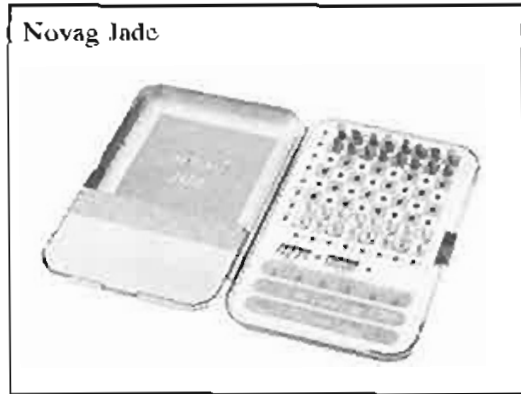
The Red House, 46 High Street, Wilburton, Cambs CB6 3FA
Tel: 0258 840 285 (Mon-Fri. 1-5 p.m.)

BOARD TYPES

1. Portable Peg Sensory

The pieces each have 'pegs' on the end which are gently pressed into the 'from' and 'to' holes in a plastic playing surface, to register the users moves. When the Computer signifies its reply - normally by LEDs along the co-ordinates, but in some cases by a display using algebraic notation - the user presses its piece into the 'from' and 'to' holes so that the Computer knows you have moved its piece correctly.

Novag Jade



2. Portable Calculator

The user enters the algebraic notation of his/her chosen move into the calculator-style keyboard, and moves the appropriate piece on whichever board he has chosen to use. This may be an integral or separate magnetic disc set provided with the unit, or the owners favourite wood board at home - or you might be playing 'blindfold', of course! The Computer will signify its reply using algebraic notation in the display window, and the player manually transfers the move onto the board he has in use.

Novag Emerald



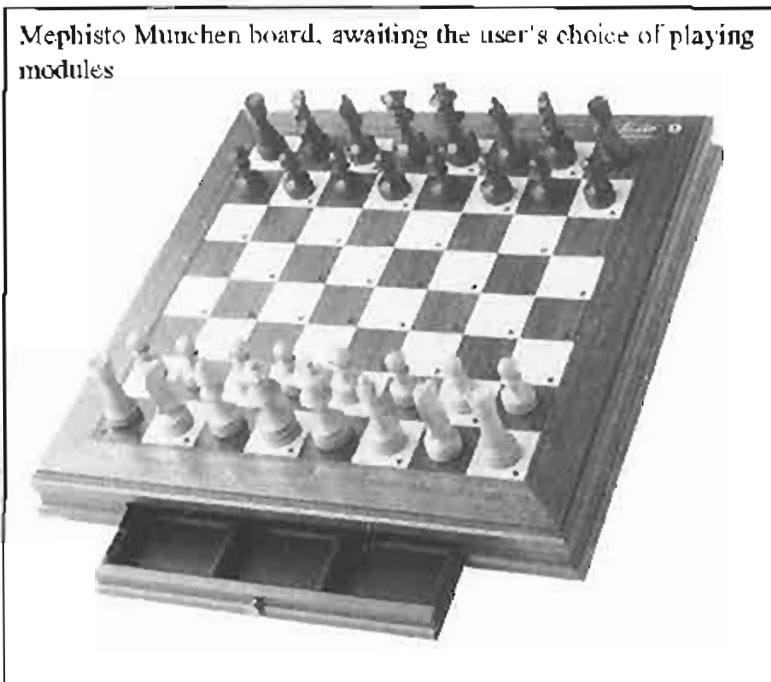
3. Table-top Press-Sensory

Normally has a plastic playing surface with plastic playing pieces. The user gently presses with his finger-tip, or using the appropriate piece, on the 'from' and 'to' squares on the board to register his/her move. When the Computer signifies its reply - normally via co-ordinate LEDs, but in some cases by a display using algebraic notation - the user also presses the appropriate piece on its 'from' and 'to' squares so that the Computer knows you have moved its piece correctly.

4. Table-top Auto-Sensory

These are normally wood boards, with wood felted pieces, but there are exceptions (noted in the appropriate Category Sections). The user simply lifts up the piece he wants to move and places it onto its new square! Most auto-sensory boards have a small LED on every square - when one lights up, the user just lifts up the piece... the Computer will immediately light the LED on the square the piece is destined for! The user puts the piece there... and it's his turn to move! It's as easy as that. Some auto-sensory Computers use co-ordinate LEDs rather than the LEDs on every square, and this is noted where applicable. Computers with a display almost invariably show the move in algebraic notation there in addition to the board lights.

Mephisto Munchen board, awaiting the user's choice of playing modules



FEATURES CLASSIFICATION

CLASSIFICATION A

THE COMPUTERS CLASSIFIED 'A' have all of the FOLLOWING FEATURES:

- Has a range of at least 8 LEVELS for different playing and analysis strengths from 5 secs a move upwards, to give an equal game to players of varying strengths from beginner upwards (please see under the Categories for highest playing standard of each model).
- Playing Levels can be changed during the game.
- The Computer's analysis can be interrupted to make it play the best move found so far.
- Contains a minimum of 1,000 opening 'book' moves for greater variety and response, and to help players learn the favourite early moves of the Grandmasters.
- Computer can play as either Black or White, and can change sides in the middle of a game if asked (every move if you wish!).
- Player who wants to be Black can still play from bottom of board.
- Knows chess rules, only plays legal moves, and will not accept illegal moves by opponent.
- Understands rules for castling and en passant.
- Can advise player of a worthwhile next move (i.e gives 'hints!').
- Can verify correct position of all the pieces on the board.
- Has an audible 'bleep' (which can normally be switched off if required).
- Any position can be set-up for starting play from (valuable for problem-solving and analysis of specific positions).
- Allows player to take-back at least 2 moves (helpful to beginners and hobby players especially, as part of a learning and improving process).

CLASSIFICATION B

ALL the FEATURES under Section A, PLUS MOST OF THE FOLLOWING IMPROVEMENTS and EXTRAS:

- Has a range of at least 16 LEVELS for different playing and analysis strengths from 5 secs a move upwards, to give an equal game to players of varying strengths from beginner upwards (please see under the Categories for highest playing standard of each model).
- Contains a minimum of 3,000 opening 'book' moves for even greater variety and response.
- Allows player to take-back at least 10 moves (helpful to beginners and hobby players especially as part of a learning and improving process).
- Saves time and improves performance by continuing its analysis even when it is the players turn to move.
- Can indicate while analysing the best move it has found so far, so user knows what to expect!
- Can show how deep its search has reached.
- Special mate-finding levels to speed problem solving.

Mephisto Manhattan - a good strength Class B machine for £89



- Time Control levels include a range of official Tournament settings; i.e Computer will complete a specific number of moves within the time allowed, but use that time 'wisely'.
- Two people can play against each other on the board with the Computer acting as referee (often called 'monitor' mode).
- User can select the first few opening moves and then ask the Computer to play from position reached.
- Can promote a Pawn to less than a Queen if appropriate.
- Understands specific chess rules affecting result of a game, such as stalemate, draw by 3-fold repetition etc.
- Can announce approaching checkmate, indicating the number of moves to mate.
- Has memory facility to store the game when switched off.

CLASSIFICATION C

ALL the FEATURES under Section A and B, PLUS MOST OF THE FOLLOWING IMPROVEMENTS and EXTRAS:

- Has a range of at least 32 LEVELS for different playing and analysis strengths from 5 secs a move upwards, including Blitz and Speed levels, to give an equal game to players of varying strengths from beginner upwards (please see under the Categories for highest playing standard of each model).
- Contains a minimum of 10,000 opening 'book' moves.
- Allows player to take-back at least 50 moves.
- Can replay game or part of a game after player has taken-back a series of moves.
- Can be made to play 'against itself' from any position. Called 'autoplay', this feature is designed to enable the Computer to analyse or adjudicate a specific position by playing forward from it.
- Has a Liquid Crystal Display (LCD) which gives a wide range of invaluable and informative detail during the progress of a game. The single line display, which also gives help in using the features, will show evaluations of the position during the game - who it thinks is winning and by how much! - the moves as they are played in algebraic notation, plus forward analysis of 3 or more plies. Other information such as depth of search as well as the clock times for both players will be available.

CLASSIFICATION D

ALL the FEATURES under Sections A, B and C, PLUS MOST OF THE FOLLOWING IMPROVEMENTS and EXTRAS:

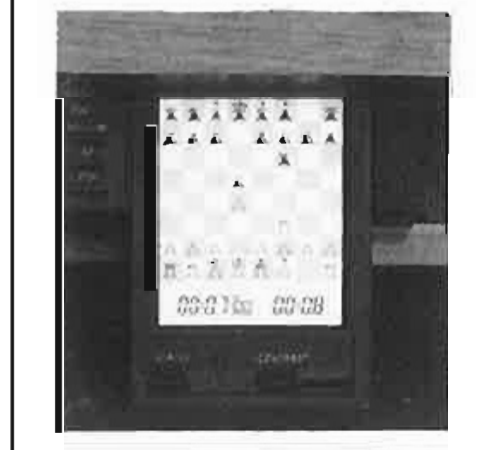
- Has a range of at least 64 LEVELS for different playing and analysis strengths from 5 secs a move upwards, including Blitz and Speed levels, to give an equal game to players of varying strengths from beginner upwards (please see under the Categories for highest playing standard of each model).
- Contains a minimum of 25,000 opening 'book' moves.
- Allows player to take-back at least 100 moves.
- The Display is 'graphic' - usually 2 lines of up to 16 characters per line. Thus it is able to show more information at all times than the single line display.

CLASSIFICATION E

ALL the FEATURES under Section A, B, C and D, PLUS MOST OF THE FOLLOWING IMPROVEMENTS and EXTRAS:

- Has an INFINITE range of LEVELS for different playing and analysis strengths from 5 secs a move upwards, including Blitz and Speed levels, to give an equal game to players of varying strengths from beginner upwards (please see under

Simultano and Renaissance display



the Categories for highest playing standard of each model). Some 'popular' levels are pre-set for easy selection, any others desired can be easily set by the player to suit his own preferences.

- Contains a minimum of 100,000 opening 'book' moves.

EXTRA CLASSIFICATIONS

+w = w[weak]. Shown under Category column for Levels.

- Has special Beginner/Hobby levels by which user can instruct the Computer NOT to play its best move, thus weakening its play to reduce its strength. Ideal for beginners, but also appreciated by experienced players at the end of a hard day at the office! Such levels reduce the strength of otherwise highly-rated Computers to correspond to the lower standards of cheaper models (i.e. around 75-125 BCF). This is valuable in a top Computer - it means that all players whether weak, intermediate, or strong can get equal pleasure from their games. Computers graded below 140 BCF do not show the 'w' Classification as their lower levels already provide play in the 75-125 BCF range.

+t = t[raining] + i = i[instruction]. Shown under Category column for Levels.

- Has special Instruction Helps (+ i) and/or Tutorial (+ t) for Chess Training features.
- The latter will usually include an extra booklet designed to help beginners and those new to the game to improve their skills quickly. In particular the book may well be geared for use alongside the Computer to help the user get the most from it and achieve maximum benefits.
- A main feature of a Computer showing '+ i' will be that it can be set to offer a warning if the user plays a particularly weak move, perhaps showing both how it intends to punish that move and recommending an alternative for them to try instead. This offers the player the chance to take the move back and try something else now that they have been shown their mistake - or be stubborn if they're sure they're right!
- It is worth pointing out that the quality of any Computer's 'help' features - Hints, Forward Analysis, Evaluations, or Training - is largely determined by that Computer's own maximum playing standard.

NOTE: In addition to the comprehensive listing above, some Computers still introduce something unique to themselves!

- E.g. the SIMULTANO can play 8 games at the same time - you can pretend you're a Grandmaster giving a Simultaneous display!
- The BERLIN can store 50 games in its internal memory - great for Correspondence players.
- The RISC 2500 has 5 different playing styles!
- CHESSTER has a voice, so can talk a player through the game either as a teacher for absolute beginners learning the rules, a coach offering move advice, or humourously for players who can take a bit of cheek! There is an additional immediately obvious benefit for blind players in this feature.
- All such 'extras' are shown where appropriate for machines in their Category Section under 'Other Comments'.

Kasparov Renaissance - a superb wood board



GRADING CHESS PLAYERS and CHESS COMPUTERS

What a Grading is!

The BCF Grading System measures a player's playing strength. A beginner has a grade of about 50 to 60, an International Grandmaster has a grade of 250 or more. An OFFICIAL Grading can only be obtained by playing a specified minimum number of games under proper TOURNAMENT conditions against opponents who already have official gradings!

The difference in grade between 2 players can also be used to indicate the likely result of a series of games between them. If there is less than 10 BCF points between them, then the likely result of a 10 game Match is 5-5. If the difference is between 10 and 20, then the expected score is 6-4; if the difference is between 20 and 30, the expected score is 7-3, etc.

In a Match such as this, if a player does better than expected, his Grading will go up. If he does worse, of course, his Grading will go down!

Computer Gradings

The GRADINGS shown for the COMPUTERS throughout this ANNUAL REVIEW are taken from our regular NEWS SHEET, and represent each program's results at accepted Tournament time control settings from 60 moves in 1 hour to 40 moves in 2 hours. The NEWS SHEET team not only do and organise much Computer testing themselves, they also collate results from all round the World so that accurate figures for all the leading Computers can be provided.

The equivalent gradings for Speed or Active Chess (where all moves must be played in a set time, perhaps 20 or 30 mins - one of the most popular form of chess in the 1990's!), are slightly higher. For Blitz Chess (all moves in 5 or 10 mins only!) they are usually better again. The reason is that Computers do get comparatively better results at faster speeds, probably because they are normally less prone to 'blunders' under such time pressure than their human opponents!

NEWS SHEET's editor, Eric Hallsworth, takes time off to test a machine personally



Tournament Chess	Use Normal Rating
Speed/Active Chess	+ 10 BCF (+ 80 Elo)
Blitz Chess	+ 15 BCF (+ 120 Elo)

How Grades are Calculated

There are other grading methods in use in other countries. The most common method is the ELO system, named after its inventor, Professor Arpad Elo.

However, although the method is widely used, the actual grades are often not strictly comparable, apart from the very top players, as differences in the calculation method have occurred in some countries in the past. Thus a player's ELO grade in France is not exactly the same as it would be in the USA, although they should be similar.

In the NEWS SHEET the equivalent ELO figures are being shown based on the following, now accepted, calculation method:-

- The BCF -> Elo conversion formula is: $(BCF \times 8) + 600 = \text{Elo}$. E.g BCF 175 is $(175 \times 8) + 600 = 2000$ Elo.
- To convert from Elo -> BCF the formula is: $(\text{Elo} - 600) \div 8 = \text{BCF}$. E.g Elo 2000 is $(2000 - 600) \div 8 = 175$ BCF!

The BCF publishes its National Grading List annually, but COMPUTER CHESS NEWS SHEET readers are more fortunate, as our RATING LIST is updated for each issue - i.e every 2 months. This is so that the Gradings for new Computer programs can be included for prospective purchasers as quickly as possible.

The following CHART gives a general guide to what the BCF (British Chess Federation) gradings are in relationship to various standards of chess player, from beginner right up to Grandmaster!

BCF	PLAYER CLASSIFICATION	Elo equivalent
50- 65.....	Beginner.....	1000
70- 90.....	Novice/Occasional player.....	1200
90-100.....	Good Hobby player.....	1300
105-115.....	Advanced player.....	1400
120-140.....	Club: regular player.....	1600
145-170.....	Club: team player.....	1800
175-200.....	County: team player.....	2000
190-200.....	Woman International Master.....	2100
200+	Woman Grandmaster.....	2200
210-220.....	Master.....	2300
225-240.....	International Master.....	2450
245+	Grandmaster.....	2550
260.....	Britain's No.1: Nigel Short.....	2680
275.....	World Champion: Gary Kasparov.....	2800

Readers may be interested to know that a unique feature of the Mephisto MILANO, NIGEL SHORT, and POLGAR programs is that the user can key-in a set of his results against another player who is already rated, and the Computer will calculate his ELO grading for him.

- For example the MILANO itself has a grade at the time of writing of 2040 Elo.
- Why not play a 10-game Match against it!?
- If the player is able to beat the MILANO by 6-4 in that Match, the MILANO will be able to calculate the player's likely Grading! Of course the Match would have to be played at an accepted Tournament time control, the same for both players. Possible settings for such a Match might be:
 - 60 moves in 1 hour
 - 40 moves in 1 hour
 - 40 moves in 2 hours.

Mephisto Milano



Category 1: PLUG-IN PORTABLES £35-£65

Name	Range of Moves	MaxBCF Strength	No. of Levels	Size	Power	Price
Kasparov Pocket Plus Trainer	A	105	16+it	6x4	b	£35
CXG Star Chess	A	100	16	7x5	b	£49
Novag Opal	A	105	16	7½x5	b	£49
Mephisto SuperMini	A	110	52	4x6	b	£54

Other Comments:

- All these Computers have separate clip-on lids.
- POCKET PLUS TRAINER comes with the Kasparov book "WINNING CHESS" and has easy 'fun' and coaching levels; it also has a simple position evaluator.
- SUPERMINI has a 2,000 position opening book; plus a display with clock and position evaluation feature - amazing for this price.

Highly Recommended:

1st. Mephisto SUPER MINI

- 2nd. Novag OPAL
3rd. CXG STAR Chess

■ The SUPER MINI got my vote because I am aware that even beginners and hobby players like to know 'who's winning' and will appreciate its display. Though suitable for absolute beginners, when set to it's own best levels it is able to give most players up to hobby standard a reasonably challenging game.

- The Novag OPAL and CXG STAR are good little Computers.
- The POCKET PLUS TRAINER would have earned a top three place because of its wide range of uses - practice, teaching, training etc - but it appears it is not currently available.

Mephisto Super Mini



Pocket Plus Trainer



Novag Opal



Category 2: PLUG-IN PORTABLES £65-£99

Name	Range of Features	MaxBCF Strength	No. of Levels	Size	Power	Price
Mephisto Marco Polo	B	143	50 + iw	7x6	b	£69
Kasparov Advanced Trainer	B	165	64 + iw	6½x5½	b	£79
Novag Jade	C	163	48 + w	6x4	b+a	£99
Kasparov Travel Champion	C	173	64 + iw	7½x4½	b	£99

Other Comments:

- The lids are hinged except as stated.
- MARCO POLO, clever slide-over/under lid design aids portability and comfortable use.
- JADE, well-featured machine with display; 12,500 position opening book; a smaller set than the others [perhaps requiring thinner fingers and good eyesight!].
- TRAVEL CHAMPION, can do mate in 8; opening book only 8,000 positions but choice and play style adjustable; take-back only 17 moves but all other features are excellent and the display qualify this for Class C; separate clip-on lid.
- CHAMPION ADVANCED TRAINER, excellent training features and "CHESS MASTERY" book by Gary Kasparov. 8,000 position opening book.
- The JADE, ADVANCED TRAINER and TRAVEL CHAMPION should prove suitable for many Club players.

Highly Recommended:

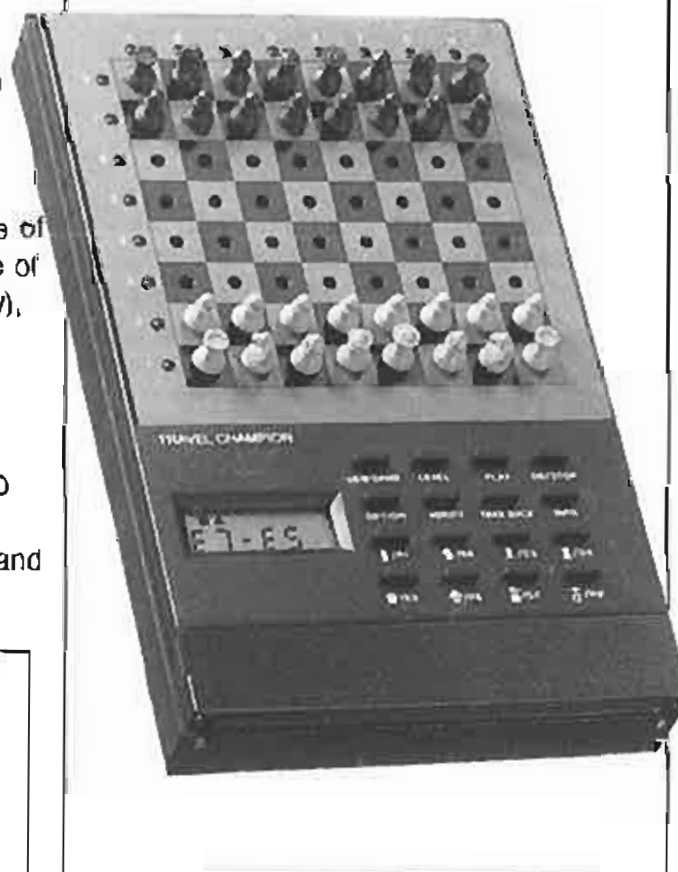
1st. Kasparov TRAVEL CHAMPION

2nd. Novag JADE

3rd. Kasparov ADVANCED TRAINER

- The TRAVEL CHAMPION was chosen because of its extra strength over the others, the wide range of playing time controls (which include for Blitz play), and the excellent display giving evaluations, analysis, clock times and other help.
- I put the JADE in 2nd. place because of the display; but the training features and excellent teaching book which comes with the ADVANCED TRAINER make it a very good 3rd. The MARCO POLO is unlucky to be in such a strong section and is also a very good-value Computer.

Travel Champion



Novag Jade



Category 3: CALCULATOR PORTABLES £20-150

Name	Range of Features	MaxRCF Strength	No. of Levels	Size	Power	Price
Novag Topaz	A	98	16	6x5	b	£29
Kasparov Shadow	A	125	16	8x4	b	£79
Novag Ruby	C	179	48+w	6x3	b+a	£139

Other Comments:

- The SHADOW has an integral LCD board display - player moves pieces by cursor-control, the Shadow displays new position (an obviously attractive idea, but it makes it slightly slower in operation); special easy and 'fun' levels.
- RUBY has a calculator keyboard style entry system; user reads moves off display and transfers them to a separate magnetic disc set; display also gives analysis, evaluations etc; opening book is > 12,500 positions.
- The RUBY should prove suitable for many Club players.

Highly Recommended:

- 1st. Novag RUBY
- 2nd. Kasparov SHADOW
- 3rd. Novag TOPAZ

▪ The RUBY was chosen because it really is the Rolls Royce of portables for users who prefer the calculator style to the plug-in variety. It has good, genuine strength with a nice playing style and features.

▪ The SHADOW is a very interesting portable, with obvious advantages in that the user does not need to worry about transferring any pieces on a board himself - Shadow does it all for him/her as the user keys-in the moves. If it had a little more strength I believe it would become a firm favourite.

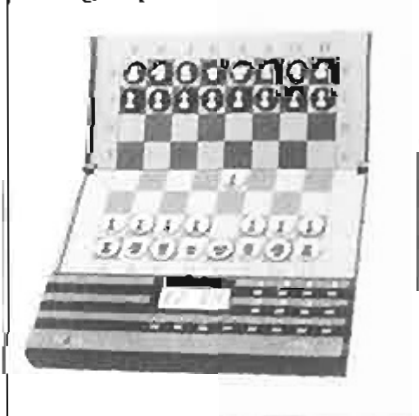
Novag Ruby



Kasparov Shadow



Novag Topaz



Category 4: TABLE-TOP, PRESS-SENSORY £35-£120

Name	Range of Features	MaxBCF/ Strength	No. of Levels	Size	Power	Price
Mephisto Alaska	A	110	8	9x7	b	£35
Mephisto Avanti	A	110	8	10x9	b	£39
Mephisto America	A	120	8	10x9½	b	£65
Meph MyFirst	A	95	8+t	11½x9	b+a	£69
Novag Pearl	A	105	16	11x12	b+a	£79
Mephisto Manhattan	B	143	50+iw	9x11½	b+a	£89
Kasparov Olympiad	A	115	32+i	12x9	b+a	£99
Kasparov GK-2000	C	176	64+iw	16x11	b+a	£99
Mephisto Chess School	B	143	50+itw	9x11½	b+a	£119

Other Comments:

- The ALASKA and AVANTI have no opening library of their own, but are otherwise good machines for all those fairly new to the game.
- FIRST MEPHISTO includes 6 special training games - one for each type of chess piece... ideal for absolute beginners.
- There price for the CHESS SCHOOL includes a quality leathurette case; this model also comes with a helpful training book.
- The GK2000 has an 8,000 position Opening Book, plus a display giving clock times, evaluations and analysis.
- The Olympiad has a display and evaluator; plus stand-up and disc pieces.

Highly Recommended:

1st. Mephisto CHESS SCHOOL

2nd. Kasparov GK2000

3rd. Mephisto MANHATTAN

Kasparov Olympiad with disc pieces



Mephisto Chess School



- The CHESS SCHOOL and MANHATTAN use the same playing program, but the SCHOOL was chosen because of its extra teaching features and available carry case. This is a real quality product for the price.
- For maximum strength at minimum cost, the GK2000 could easily be the choice, especially as it has a display.

Category 5: TABLE-TOP, PRESS-SENSORY £100-£250

Name	Range of Features	Max.BCF	No. of Levels	Size	Power	Price
Novag Zircon	C	163	48+w	11x11	b+a	£125
Novag Emerald	C	179	48+w	9x11	b+a	£149
Kasparov Simultano	D	160	64+w	16x11	b+a	£149
Mephisto Modena	C	172	40+w	13½x10	b+a	£159
Fidelity Chesster	B	158	24+i	12x12	b+a	£169
Mephisto Milano	D	180	Inf+itw	13½x10	b+a	£199

Other Comments:

- The Computers in this Section should be suitable for many Club players.
- The ZIRCON and EMERALD have 12,500 position opening books.
- SIMULTANO's box claims a massive 90,000 position book; the display includes a full graphic of the board position; internal memory can store up to 64 games; facility to play up to 8 games simultaneously... pretend YOU'RE a Grandmaster!
- CHESSTER has its own voice! - it will teach you the rules and moves... and comment on your mistakes if you'd like it to!
- MILANO has 25,000 opening book, which the display will show to user; special 'gradeable' levels for beginners-hobby players; laptop style lid with both standard and disc-style pieces supplied.

Highly Recommended:

1st. Mephisto MILANO

2nd. Novag EMERALD

3rd. Kasparov SIMULTANO

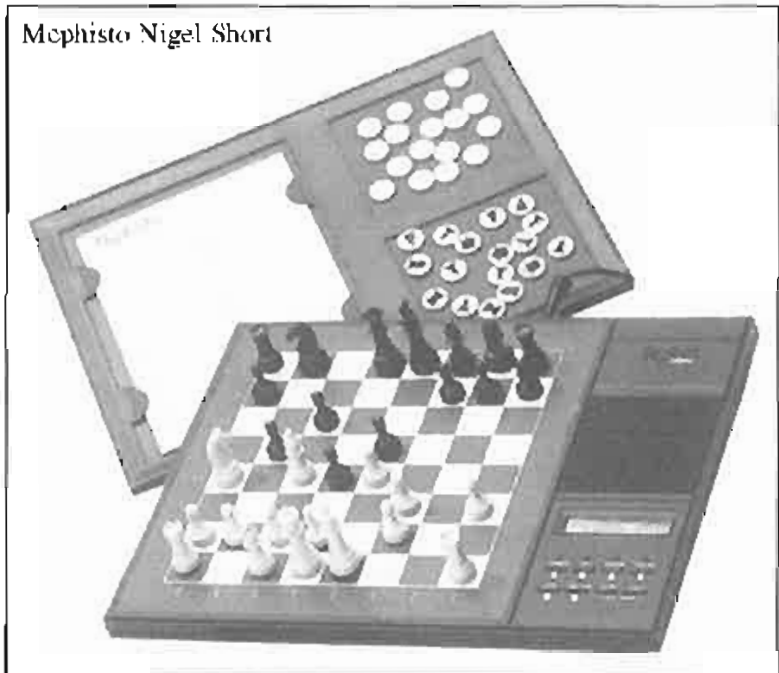
▪ The MILANO was chosen because of its high strength and superb range of training features - this is a machine which can help almost anyone with their preparation, practice and analysis. The laptop style has obvious value.

▪ The EMERALD is a very good machine, which I like a lot personally. The SIMULTANO's game storage feature and clever integral LCD board clearly earns it the 3rd. spot. Finally the MODENA can count itself unlucky to be in such a tough section - it is another quality Mephisto computer.

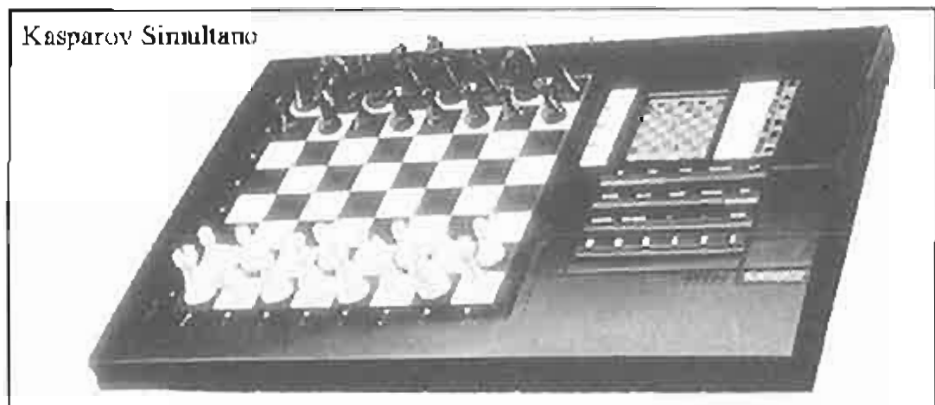
▪ The newly released Mephisto NIGEL SHORT

is, in effect, a Mephisto SUPER MILANO. At a cost of £269 it has all the features of the Milano plus extra playing strength (est. 8 BCF). Therefore it would obviously come into contention for a top placing.

Mephisto Nigel Short



Kasparov Simultano



Category 6: TABLE-TOP, PRESS-SENSORY £250-£600

Name	Range of Features	MaxBCF Strength	No. of Levels	Size	Power	Price
Novag Scorpio	D	186	64 + w	14x12	a	£299
Mephisto Berlin 68000	E	202	Inf + w	13½x10	a	£399
Kasparov RISC 2500-128K	D	214	Inf + w	16x11	a	£399
Kasparov RISC 2500-512K	D	221	Inf + w	16x11	a	£549

Other Comments:

- The Computers in this Section should prove suitable for Club and County players - Computers over 200 BCF, such as the RISC 2500's and BERLIN will even give many International Master's a tough game, especially at Speed chess! Fortunately they have specially 'reduced' levels so anyone can play them, but their strongest settings are of great value for game analysis by all users.
- The RISC 2500's have an 80,000 position opening book; there are special reduced beginner, novice, hobby and club levels; the 2500's also have 5 playing styles, from aggressive to defensive, with active, normal and solid in-between giving the greatest variety of play available.
- BERLIN has a 100,000+ opening book; it can store up to 50 games in memory; has programmer Richard Lang's uniquely helpful analysis features (analysing continuously on display whilst user plays through a game from a book, magazine etc); discreet LEDs on every square help speed accurate piece movement; smart laptop lid style with both standard and disc playing pieces.
- SCORPIO has 32,000 position book; can store 10 games in memory; the search method is user-adjustable to give play style variety.

Highly Recommended:

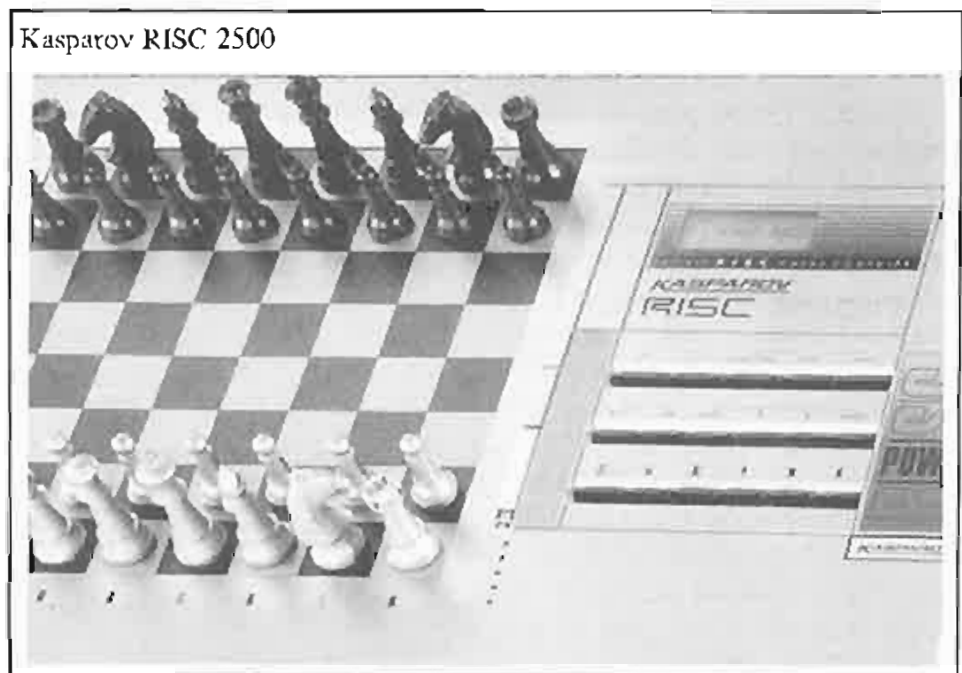
1st = Kasparov RISC 2500-128K

1st = Mephisto BERLIN

3rd. Novag SCORPIO

▪ I have placed RISC 2500-128 and BERLIN first equal because they are both 'No.1' in their own way. For the player concerned only with maximum strength, the RISC 2500-128 gives it. True, the 2500-512K version gives even more, but not many people really need that much! The BERLIN, not so far behind in strength, is of typical high-class Mephisto quality and reliability, and its outstanding analytical and game storage features will be of particular value to many users.

▪ The SCORPIO fully deserves a mention due to its 'tricky' playing style - it is a tough little opponent, especially at Speed chess.



Category 7: TABLE-TOP, AUTO-SENSORY £150-£399

Name	Range of Features	MaxBCIF Strength	Upgrade possible	No. of Levels	Size	Power	Price
Kasparov Blitz	C	151	no	64 + w	16x11	b + a	£179
Kasparov Galileo	B	125	yes	32	20x20	b + a	£299
Kasparov Renaissance	C	125	yes	32	20x20	b + a	£399
Mephisto Montreal 68000	C	182	no	Inf + iw	15x15	a	£399

Other Comments:

- The Kasparov BLITZ is a metallic, auto-sensory board; the others are all wood. BLITZ does have LEDs on every square; uses a unique menu-dial system. Note: take-back is only 50 moves.
- GALILEO has no display; also it uses LEDs on co-ordinates only, which leaves the board looking 'cleaner' but users will be slowed in identifying the Computer's moves. Those wanting a beautiful high-quality board at the best possible price will appreciate the Galileo.
- Purchasers with an eye on higher-strength via future upgrades may prefer the RENAISSANCE, as it has a built-in graphic display. This will interpret - from the resident program (Brute Force etc) - the analysis and evaluations etc, as well as show clock times and a graphic display of the board position. The LEDs in the Renaissance are quite unique - a nicely discreet one is set in the corner of each square; thus the LEDs at the 4 corners of the appropriate square all light to indicate which piece is to be moved. Lift the piece and the 4 corner LEDs of the new square light-up. Easy to follow, but extremely neat, leaving the board looking as attractive as possible.
- MONTREAL uses a Richard Lang program on a 68000 processor; it has a 35,000 position Opening Book; can do mate in 12. Note: no game memory retention at switch-off. The MONTREAL should be suitable for many Club and County players.

Highly Recommended:

1st. Mephisto MONTREAL 68000

2nd. Kasparov RENAISSANCE

3rd. Kasparov BLITZ

- The MONTREAL was an easy choice for me to make, because it is the power-house in this section, and offers the best all-wood price/strength combination possible. A quality machine with attractive wood, felted pieces.
- The RENAISSANCE is my choice over the GALILEO, because I like a display in my machine where possible. But the latter will suit many people for the £100 saving.
- The BLITZ, though not wood and a little light in strength, has much to commend it. An easy-to-use auto-sensory with LEDs on each square, which especially helps in Speed chess play. The lowest-priced auto-sensory, this is a boon to the hobby player who finds the co-ordinate LED system frustrating.

Mephisto Montreal 68000



Category 8: TABLE-TOP, WOOD AUTO-SENSORY £400-£599

Name	Range of Features	Max BCF Strength	Upgrade possible	No. of Levels	Size	Power	Price
Kasparov Galileo Brute Force	B	192	yes	64 + w	20x20	b + a	£479
Mephisto MM5	C	181	yes	26 + i	16x16	a	£535
Kasp Renaissance Brute Force	D	192	yes	64 + w	20x20	b + a	£579
Mephisto Polgar	D	181	yes	Inf + itw	16x16	a	£595
Novag Diablo	D	186	no	64 + w	19x16	a	£539

Other Comments:

- The Computers in this Section should prove suitable for Club and County players.
- The board and price details shown for Mephisto's MM5 and POLGAR are for those programs in the Exclusive board - the Modular (metallic, 14x12) costs £140 less, the Munchen (wood, 20x20) costs £160 more.
- MM5 Opening Book is 8,000; no game memory save at switch off.
- POLGAR Opening Book is 25,000 + ; Display will show opening library; selectable search method to give playing style variety; gradeable levels for beginners/hobby players.
- BRUTE FORCE adds 32 strong levels (using adaptor only) to the 32 in the basic Galileo or Renaissance board (for battery or adaptor use); RENAISSANCE Display includes full graphic of the board position, plus evaluations, analysis, clocks etc; memory storage of up to 64 games.
- DIABLO has a 32,000 position opening book; can store 10 games in memory; search method selectable to give playing style variety.

Highly Recommended:

1st. Mephisto POLGAR

2nd. Kasparov Renaissance BRUTE FORCE

3rd. Novag DIABLO

▪ This is a very competitive section at the top! It is not an easy choice, but I went for the POLGAR because of its exceptional features enabling even beginners and novices to benefit from the teaching and training program. Strong players will benefit just as much from the access to Polgar's opening book lines as they prepare and practice themselves. At its top levels the Polgar is a proven strong performer, so this Chess Computer is an all-round family machine!

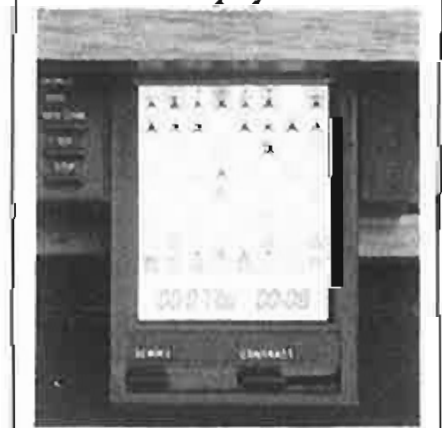
- The BRUTE FORCE is a little stronger than Polgar, and the RENAISSANCE board is a beauty, but it lacks one or two of the all-round 'family' features.

▪ DIABLO is also a lovely chess computer - it has a delightfully 'tricky' playing style which is at its best in Speed chess games.

Mephisto Munchen Polgar



Renaissance display



Novag Diablo



Category 9: TABLE-TOP, WOOD AUTO-SENSORY £600 +

Name	Range of Features	Max BCF/ Strength	Upgrade possible	No. of Levels	Size	Power	Price
Kasparov Galileo SPARC	B	213	yes	64 + w	20x20	b + a	£699
Mephisto Vancouver 68000	E	201	yes	Inf + iw	16x16	a	£795
Kasparov Renaissance SPARC	D	213	yes	64 + w	20x20	b + a	£799
Mephisto Vancouver 68020	E	207	yes	Inf + iw	16x16	a	£995
Mephisto RISC	D	217	yes	Inf + iw	16x16	a	£995
Mephisto Genius 68030	E	226	yes	Inf + iw	16x16	a	£1375
Tasc R30	E	224	poss	Inf + w	16x16	a	£1499

Other Comments:

- The Computers in this Section should prove suitable for Club and County players - indeed a Computer over 200 BCF should even give many International Master's a tough game, especially at Speed chess! Fortunately they all have specially 'reduced' levels so anyone can play them, but their strongest settings are of great value for game analysis by all players.
- The board and price details shown for Mephisto's RISC, VANCOUVER and GENIUS are for those programs in the Exclusive board - the Modular board (metallic, 14x12) will house Vancouver 68000 and costs £140 less, the Munchen (wood, 20x20) houses all the programs and costs £160 more.
- The RISC has an 80,000 opening book; display will show opening library; gradeable levels for beginner and hobby players.
- Both VANCOUVER versions have a 150,000 opening book (which user can add to and adjust!); can store up to 50 games in memory; has programmer Richard Lang's uniquely helpful analysis features (continuous analysis on display whilst user plays through a game from a book, magazine etc); 3 playing styles and user-selectable search method for great play variety.
- SPARC adds 32 strong levels (using adaptor only) to the 32 in the basic Galileo or Renaissance board (battery or adaptor); RENAISSANCE display includes full graphic of the board position, plus evaluations, analysis, clocks etc; memory storage of up to 64 games.
- The R30, with a 200,000 opening library, uniquely uses full piece-recognition - marvellous for real 'Blitz' play and helpful for quickly setting-up special positions; the display and feature-buttons are housed in a separate unit which can be placed either close to the board for the user's benefit, or to one side discreetly out-of-the-way.

Highly Recommended:

1st. Mephisto GENIUS 68030

2nd. Tasc R30

3rd. Kasparov Renaissance SPARC

- These three represent 1993/4's ultimate Chess Computers. Each of them is newly released and testing of their relative strengths has barely begun. Thus my 'selections' are, in a sense, 'forecasts' as well! I believe the GENIUS 68030 will just top the Computer Rating Lists and, with it's brilliant range of features which every chess player values, earns the No.1 spot.
- 2nd The R30 has a wonderful opening book, tremendous, aggressive strength (but with full facilities for beginners etc)... plus piece recognition! I could almost have put the top two in a hat and accepted whatever order they came out in, but I'll have to stand by my final choice for now!
- The SPARC costs rather less so, whilst lacking some of the features and ultimate strength of the other two, must represent real value in the beautiful Renaissance board. A fan running inside the SPARC module might slightly disturb some people.
 - Photographs of these machines will be found on the Inside Front Cover

COMPARATIVE TABLES

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[1] RATINGS listed in order. [2] PRICES listed in order

BCF	MODEL	ELO
226	Mephisto GENIUS 68030	2410
224	TASC R30	2400
221	Kasparov RISC 2500-512	2370
217	Mephisto RISC 1MB	2340
214	Kasparov RISC 2500-128	2320
213	Kasparov SPARC	2310
207	Mephisto VANCOUVER 68020	2270
202	Mephisto BERLIN	2220
201	Mephisto VANCOUVER 68000	2210
192	Kasparov BRUTE FORCE	2140
188	Mephisto NIGEL SHORT	2100
186	Novag DIABLO	2095
186	Novag SCORPIO	2095
182	Mephisto MONTREAL	2065
181	Mephisto POLGAR	2055
181	Mephisto MM5	2055
180	Mephisto MILANO	2044
179	Novag EMERALD	2040
179	Novag RUBY	2040
176	Kasparov GK2000	2015
173	Kasparov TRAVEL CHAMPION	1990
172	Mephisto MODENA	1974
165	Kasparov ADVANCED TRAINER	1920
163	Novag ZIRCON	1910
163	Novag JADE	1910
160	Kasparov SIMULTANO	1880
158	Fidelity CHESSTER	1865
151	Kasparov BLITZ	1810
143	Mephisto CHESS SCHOOL	1760
143	Mephisto MANHATTAN	1760
143	Mephisto MARCO POLO	1760
125	Kasparov RENAISSANCE	1600
125	Kasparov GALILEO	1600
125	Kasparov SHADOW	1600
120	Mephisto AMERICA	1560
115	Kasparov OLYMPIAD	1560
110	Mephisto ALASKA	1480
110	Mephisto AVANTI	1480
110	Mephisto SUPER MINI	1480
105	Novag PEARL	1440
105	Novag OPAL	1440
105	Kasparov POCKET PLUS TRAINER	1440
100	CXG STAR CHESS	1400
98	Novag TOPAZ	1380
95	Mephisto MY FIRST	1360

£££	MODEL	BCF
1499	TASC R30	224
1375	Mephisto GENIUS 68030	226
995	Mephisto Exc RISC 1MB	217
995	Mephisto Exc VANCOUVER 68020	207
799	Kasparov Ren SPARC	213
795	Mephisto Exc VANCOUVER 68000	201
599	Mephisto Exc POLGAR	181
579	Kasparov Ren BRUTE FORCE	192
549	Kasparov RISC 2500-512	221
539	Novag DIABLO	186
535	Mephisto Exc MM5	181
399	Kasparov RISC 2500-128	214
399	Mephisto BERLIN	202
399	Mephisto MONTREAL	182
399	Kasparov RENAISSANCE	125
299	Novag SCORPIO	186
299	Kasparov GALILEO	125
269	Mephisto NIGEL SHORT	188
199	Mephisto MILANO	180
179	Kasparov BLITZ	151
169	Fidelity CHESSTER	158
159	Mephisto MODENA	172
149	Novag EMERALD	179
149	Kasparov SIMULTANO	160
139	Novag RUBY	179
125	Novag ZIRCON	163
119	Mephisto CHESS SCHOOL	143
99	Kasparov GK2000	178
99	Kasparov TRAVEL CHAMPION	173
99	Novag JADE	163
99	Kasparov OLYMPIAD	115
89	Mephisto MANHATTAN	143
79	Kasparov ADVANCED TRAINER	165
79	Kasparov SHADOW	125
69	Mephisto MARCO POLO	143
69	Novag PEARL	105
69	Mephisto MY FIRST	95
65	Mephisto AMERICA	120
54	Mephisto SUPER MINI	110
49	Novag OPAL	105
49	CXG STAR CHESS	100
39	Mephisto AVANTI	110
35	Mephisto ALASKA	110
35	Kasparov POCKET PLUS TRAINER	105
29	Novag TOPAZ	98

TIME CONTROLS and LEVELS IN CHESS COMPUTERS

What Difference do they make?

When we change a Computer's 'level' or 'time control', it is soon obvious that we have also changed the quality of its play. Many owners wonder how much more chance of winning they might have if they are able to take advantage of the Computer's reduced 'thinking time'!

HOW TO USE THE CHART

- Find your Chess Computer's rating from the RATING LIST in the ANNUAL REVIEW, and locate the nearest figure to it under Column 1 [ELO RATING]. This represents the Computer's maximum rating when playing Tournament chess at 40 moves in 2 hours (an average of 3 mins per move).
- Follow across the ROW to find my rating assessment for the quality of moves played by your Chess Computer at FASTER time controls. At the end of each Row we have two Columns which estimates the improved move quality when the Computer is allowed to think for [a] 30 minutes per move, and [b] 24 hours per move!

ELO RATING	2 min pm	1 min pm	30 sec pm	15 sec pm	10 sec pm	5 sec pm	30 min pm	24 hr pm
2600	2585	2559	2531	2501	2483	2451	2676	2776 }
2550	2534	2504	2473	2440	2420	2384	2634	2745 }
2500	2482	2449	2415	2379	2357	2318	2593	2715 }
2450	2430	2395	2358	2318	2294	2251	2551	2684 }
2400	2379	2340	2300	2257	2231	2185	2509	2654 }
2350	2327	2286	2242	2196	2168	2118	2468	2623 }
2300	2275	2231	2185	2136	2105	2052	2426	2592 }
2250	2224	2177	2127	2075	2043	1985	2384	2562 }
2200	2172	2122	2069	2014	1980	1919	2343	2531 }
2150	2120	2068	2012	1953	1917	1853	2301	2500 }
2100	2069	2013	1954	1892	1854	1786	2259	2470 }
2050	2017	1959	1897	1831	1791	1720	2218	2439 }
2000	1966	1904	1839	1770	1728	1653	2176	2408 }
1950	1914	1849	1781	1709	1665	1587	2134	2378 }
1900	1862	1795	1724	1648	1602	1520	2093	2347 }
1850	1811	1740	1666	1587	1539	1454	2051	2317 }
1800	1759	1686	1608	1527	1477	1387	2009	2286 }
1750	1707	1631	1551	1466	1414	1321	1968	2255 }
1700	1656	1577	1493	1405	1351	1255	1926	2225 }
1650	1604	1522	1435	1344	1288	1188	1885	2194 }
1600	1552	1468	1378	1283	1225	1122	1843	2163 }
1550	1501	1413	1320	1222	1162	1055	1801	2133 }
1500	1449	1358	1263	1161	1099	989	1760	2102 }
1450	1398	1304	1205	1100	1036	922	1718	2071 }
1400	1346	1249	1147	1039	973	856	1676	2041 }

Remember:

- The Grades represent the Computer's ability when set to play its BEST MOVE within the time allowed.
- A Computer with special BEGINNER, EASY or TRAINING levels etc. will always play at a lower standard still than these figures.
- Some machines, such as the Kasparov RISC 2500 [normally a particularly strong opponent] can actually be set to play worse chess than my wife through special Novice levels!

SOFTWARE SECTION: PROGRAMS for your PC

This article reviews Chess PC SOFTWARE programs, and is prepared specifically to help prospective purchasers make the right choice... something that will vary from person to person according to individual requirement/s!

[1] **What PC do you have?** I.e. an 80286/386/486, or one of the older ones? Some programs will NOT work on the older Processors, or even on the 16-bit 80286! (386/486 are 32-bit).

[2] **What HARDWARE do you have?**

[a] If your Computer is a 386 or 486 the Program MAY be able to make use of Extended or Expanded RAM for hash tables, to speed it up! Some programs DON'T use this at all, whilst OTHER programs DO use it, but some rather better than others!

[b] What sort of Monitor/Display do you have? Colour or Black/White. CGA, EGA, VGA or SVGA Graphics.

[3] **What will you be using your CHESS PROGRAM to do**, in the main?...

[a] Mostly to PLAY against it yourself.

[b] To ANALYSE games or positions.

For these purchasers, maximum PLAYING STRENGTH will be the first requirement. If you want to play over games in a Magazine or Book, and refer to the Computer's Analysis, it needs to be able to provide this information whilst in 2-Player/Monitor mode. So it shows you what it 'thinks' even though not playing! Or perhaps you would like to leave it to analyse a game overnight, then give you a printout of the results next day? Not all can do both of these.

[4] **To STORE games** for long-term use: perhaps your Correspondence ones, or for Openings study, or simply a growing record of Computer or Human tournament games safely held on disk. Then the quality and ease of use of your Programs DATABASE will be vital.

[5] **To practice or prepare OPENINGS.** You may wish to categorise for study and practice the openings and variations you, or a particular opponent, like to use. For this the size of the program's Opening Book will be a key point. If you wish to seek and try out new ideas ("novelties" not in the written Books!), then two areas of playing strength will be important:-

[a] Good chess knowledge for responsible positional play out-of-book, and

[b] Strong tactical ability, to find any material weakness in your "new" move.

Some of the programs are willing to show you all of their Opening Lines on screen - a valuable study aid, and easier to use than BCO/MCO! Others will allow you to over-ride their own Book, to give them a chance to find new opening ideas of their own... for you to use, perhaps!?

[6] **To prepare PRINTED records of games.** This could include, if you buy the right program (!) some or all of the following additional possibilities:

[a] Addition of your OWN notes, comments or analysis, for future reference.

[b] Analysis by the Computer either added by yourself at the keyboard, or inserted for printout by the program itself during the game or under 'overnight game analysis' mode..

[c] A Diagram printout at a critical point.

All of the programs will print out a game in one form or another - from bare moves to much more sophisticated stuff. Some give you useful info in the printout automatically, and some don't! Some give you a choice, as in [a]-[c] above, so you create the type of documentation you prefer.

My CHART will give you a good all-round indication of what each Program can, and cannot do! However first, let's examine each program in outline.

M CHESS PRO. £99.95. A very strong program by American Marty Hirsch. Though not as strong as Mephisto Genius2, it has a massive opening book (which users can add to and/or adjust), followed by an enjoyable, active and resourceful playing style; a good tactician, and a fairly strong endgame. It also has the overnight analysis/next day printout feature. The graphics are fine, and some features are very good - others (such as diagram print) are missing altogether. Makes use of

your PC's RAM, and 4MB or upwards will give a big-looking hash table size. However the increase in analysis speed is only around 6-7%, even with 2560K available to MCP from the 4MB in my PC, a figure both surprising and disappointing. In fairness 486 owners seem to get more advantage from the RAM than 386 users.

MEPHISTO GENIUS2. £89.95. By Britain's Richard Lang, the commercial World Champion programmer on Mephisto hardware from 1985-1991. GENIUS2, the upgrade for Chess GENIUS1, is the strongest software program. The opening book is big, and the playing program Improves on its well known Mephisto LYON and VANCOUVER predecessors. So GENIUS2 has plenty of sound chess knowledge and often exhibits good positional understanding and apparent long-term planning. The tactical speed is always impressive, but the program's uniqueness is in its ability to create and nurture small advantages, which the very strong endgame maximises to earn the potential points. The limited range of printing facilities is slightly disappointing, but otherwise there are no complaints. New in GENIUS2 is the overnight game-analysis feature, and it now uses a PC's Extended RAM - my 4MB passed 3MB to GENIUS2 getting a 15% speed increase. Of course using hash etc. is like the actual chess programming itself - simply a part of the method aiming to maximise the finished strength. In GENIUS2's case, the strength will speak for itself!

FRITZ2. £79.95. By Franz Morsch. Though not the strongest, it works on all PC's and provides an EXCELLENT Chess database system which isn't far short of a full ChessBase! Thus a listing of all games stored, with opponents, results, openings classification etc. is quickly available at the press of a couple of keys or mouse buttons! You can add your own notes, show alternative lines of play, and include exclamation symbols (!? etc) - these will all appear on screen during game replay - and then printout when required! FRITZ2 can also be left to analyse a game overnight, adding it's own analysis to the file for future use. The screen display is comfortably no.1, with a superb, clear board. It is also top for printing out diagrams (of professional quality with a good printer!). The play? Very fast at tactics (sometimes equalling or beating ALL the others), but it is noticeably weaker positionally and occasionally disappoints in endgames. However FRITZ2 makes good use of spare PC RAM: my 4MB obtains 2560K for a 20%+ speed-up. There seems so far to be quite a difference between 386 and 486 performances - sometimes the really fast speeds enable the FRITZ2 tactics to make up for its positional shortcomings. Remember that even a user with an old Amstrad 1512 will get the excellent graphics, database and printing facilities!

HIARCS2. £69.95. By a British programming team, led by Mark Uniacke, this is a big upgrade for HIARCS1 MASTER. The progress Mark Uniacke has made since winning various amateur "computer chess" awards, and 1992's initial commercial release, is almost startling. It also works fine on 286/386/486 machines and HIARCS2 is certainly the program giving the best strength for the 286 owner. Do NOT be misled by this comment and the low price - HIARCS2 is good value on any PC, incl. 386/486, and may just be 2nd. strongest behind Genius2! Above all it has a most attractive playing style, which definitely "feels" human-like in many positions, even in quieter moments with instructive manoeuvres and probings. It also has good endgame knowledge where its evaluation is often quicker to spot the "truth" of a position than other programs. However, it has no special "mate solve" levels, and limited printout facilities (nothing for diagrams). Nor does it benefit from extra RAM, using just conventional memory for hash tables - which makes the high playing strength achievement all the more remarkable. Also on the plus side it shows on-screen analysis in 2-player mode, and has a choice of 3 playing styles. It also incorporates a 'Fischer clock' time control, which I greatly enjoy in play!

Some of the ALTERNATIVES and older PC PROGRAMS

The competition in the High St. shops:-

CHESSMASTER 3000 and **4000** £39.95. The 3000 is 190 BCF/2123 on a 486, with good features and graphics. The brand new 4000 by de Koning is not yet tested. Requires 3/486, Windows and 12MB hard disc space, but super features and may be 210 BCF/2280 on a 486.

KASPAROV GAMBIT £44.95. Came out in October 1993, this is the Electronic Arts version of the SOCRATES2 program by USA's Dailey & Kaufman, for 386/486 machines only. "Not as strong as Fritz2" (Malcolm Pein, I.M), "Lost to ChessMaster 3000" (Steve Maughan). "It uses 11MB on your hard disc, ignores time controls, and I'm not greatly impressed" (Eric Hallsworth). 486 grade may be 196 BCF/2175, if they can stop it cheating the time settings.

Programs designed specifically for chess players:-

SOCRATES3 is an updated SOCRATES2 for the chess player's, and costs £79.95. There's a little extra strength, with less bells & whistles. Requires 386/486, EGA/VGA/SVGA. There is a 'Save Game' bug on my copy. 486 grade may be 205 BCF/2240 Elo.

M CHESS (original version) £79.95: for all PC's - smaller opening book, fewer features and only moderate graphics - but not much behind the new PRO version for playing strength except on a 486. Still reasonable value. 486 grade 209 BCF/2278 Elo.

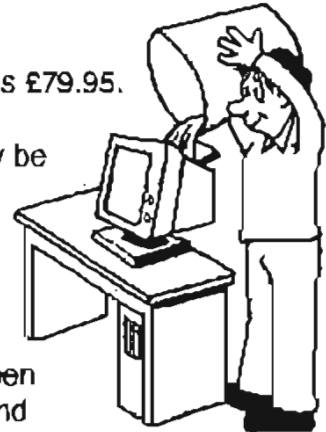
ZARKOV 2.6 £69.95: for all PC's - quite nice program, though poor screen display. Weaker than most, but packed with features incl. 2-player mode and overnight analysis. Plus add your

own notes for printing, and diagram save for use with desktop

publisher systems, so worth thinking about for some folk. 486 grade 201 BCF/2208 Elo.

SARGON 5 £39.95. A Dan and Kathe Spracklen program - quite strong, but poor graphics and features. 486 grade 199 BCF/2196 Elo.

FRITZ1 £49.95 - the predecessor to FRITZ2, of course, with most of its features - but was much weaker at 195 BCF/2164 on a 486.



"All the programs install quite easily onto your Hard Disk!"

PC PROGRAMS.....	MCP	MG2	F2	H2
Price	£99.95	£89.95	£79.95	£69.95
Elo Grade on a 286/16	no	no	2083	2188
Elo Grade on a 386/25-33	2204	2365	2143	2264
Elo Grade on a 486/40-50	2366	2435	2270	2385
CGA/EGA/VGA	all	VGA	all	all
Hash Table maximum	10MB	15MB	32MB	160K
Mouse usage	✓	✓	✓	✓
Ease of Use overall	3	4	5	3
Installations allowed	1	2	infinite	2
Display quality	3	4	5	3
Analysis shown during normal play	✓	✓	✓	✓
Evaluations shown in normal play	✓	✓	✓	✓
Depth of Search info shown	✓	✓	✓	✓
Above Info shown in 2 play mode	no	✓	✓	✓
Playing Styles	1	3	1	3
Next Best move	no	✓	no	no
Clocks on view	✓	✓	✓	✓
Range of Time Controls	4	4	4	5
Mate solve	✓	✓	✓	no
Diagram print	no	1	5	no
Game print with evals/analysis/notes	2	4	4	3
Add own Notes to games	no	no	✓	no
Overnight game analysis by Computer	✓	✓	✓	no
Set-up Positions	✓	✓	✓	✓
Save/Load games	✓	✓	✓	✓
DataBase, ease of use	3	3	5	2
O/Book size	200K	100K	25Ke	10K
Openings named	✓	no	✓	✓
Opening Book displayed move by move	✓	✓	no	no
Add own Openings	✓	✓	CBase	no

Scores 0-5 are my opinion! Gradings are from the NEWS SHEET Rating List

The PROCESSOR CHIPS and analysis SPEEDS

The CHART which follows is to enable readers to compare the CHESS-EFFECTIVE speeds of the various PROCESSOR CHIPS, of which there are so many different types - with more being added all the time. How many people know HOW to compare a Chess Computer using a 6502 processor at 10MHz with a 68000 processor at 12MHz, or an 80386 at 20MHz?

The Chess MegaHerz

What we need is a COMMON DENOMINATOR, so that each different Processor and MHz speed can be converted to a SINGLE measuring system! That common denominator (invented by yours truly some years ago) is the CHESS MHZ - or CMHz for short.

It is actually quite simple! Talking in **MHz** only is like talking about car 'revs' but not knowing which gear you're in - when you're talking in **CMHz** you're discussing the speed the car is travelling at - i.e **mph!**

One CMHz represents the late-1980's most popular processor for chess, the **6502** running at 1MHz. Thus a 6502 running at 5MHz (e.g Fidelity PAR EXCELLENCE, Novag FORTE) equals 5CMHz.

How does this work out with some of the other Processors?

A **6301** processor (very popular in many of the lower-priced machines) is cheap - but less chess-effective. Indeed a 6301 at 5MHz only achieves 1CMHz. Thus we find the CMHz of a 6301 based chess computer by multiplying its speed by 0.2 (0.21 to be really exact).

Progress has recently given us the **H8** chip for the lower-priced machines. It is MUCH more chess-effective than the 6301, and we find its multiplier is 0.65. It can also cope with Hash Tables for an extra 10% of speed - but read the advert for your chosen Computer first... at present only the Kasparov BRUTE FORCE is on an H8 actually using Hash as far as I know.

Another example for the maths lesson. A **68000** is, in some ways, not as chess effective as a 6502! Not a lot of people know that! But you can get 68000 processors running at faster speeds than you can the 6502's, which more than compensates! You will normally find the 6502 in a commercial Chess Computer is at 5 or 6MHz, 10 at most. However a 68000 will be anywhere from 12 to 16MHz. You find the CMHz for a 68000 from multiplying the MHz by 0.60. Thus a 68000 at 12MHz = 7.2CMHz. Additionally running alongside all 68000's are memory chips, which maintain a Hash Table system, speeding the analysis up. I have taken this into account in my x0.60 multiplication factor. However less than 128K may reduce this multiplier slightly, and more than 256K may increase it a little - neither by more than 10%.

Most people know that a 68000 is 16 bit. The 6502's are 8 bit. The 68000's 'big brothers' the **68020** and **68030** are, like **RISCs** and **SPARCs**, and **80386** and **80486** on PC's, all 32 bit. These are not only more chess-effective, they can also run faster (oh, yes, and they cost more!... but you probably guessed that!). Thus the multiplication factors are greater than for the 68000 - the TABLE gives a comprehensive listing.

The new Cyrix 486 processor



Program and memory chips
- not to be eaten with fish!



PROCESSOR SPEEDS for CHESS COMPARATIVE TABLE

<u>Processor</u>	<u>CMHz factor</u>
6301	x 0.21
6502	x 1
H8	x 0.85
68000	x 0.60
68020	x 1.00
68030	x 1.25
68040	x 2.40
RISC	x 2.25
SPARC	x 3.00
<u>PC Processors for PC Programs</u>	
XT 8086/88	x 0.22
AT 8088	x 0.44
80286 (1 wait)	x 0.44
80286 (0 wait)	x 0.55
80386	x 0.65
80486 SLC	x 1.00
80486 SX	x 1.25
80486 DX2	x 1.40
80486 DX	x 1.50
80586 Pentium	x 2.40

Two things to remember:

[1] When you have a FASTER processor, it does NOT mean that your Computer PLAYS faster! All the Computers reviewed will play at the speed YOU ask them to... fast or slow! What it DOES mean is that, the more powerful they are (i.e the higher the CMHz), the quicker they can 'think' or analyse - and therefore they get more work done in the same time and, hopefully, have more chance of coming up with the very best moves.

[2] It is the END RESULT which COUNTS as far as the user is concerned. The MAIN question is "What actual CHESS STRENGTH is ACHIEVED?"

The all-important final GRADING results from a combination of PROCESSOR SPEED and PROGRAM INGENUITY! In other words, don't get TOO carried away by wonderful Processor Speeds and their resulting CMHz figures! Check the RATING LIST to see what the end result is. SOME programs can think about a position ALL WEEK and still not find a decent move! Another with, say, specialised endgame knowledge, may know within seconds what it should do, even if its processor is a cart-horse! The foundation for chess computer greatness is better chess knowledge - a fast CMHz can then harness this to maximise the benefits!

Processors used by Computers reviewed:

The **6502** is used by Mephisto MODENA, MM5, POLGAR, MILANO, NIGEL SHORT; Fidelity CHESSTER; Kasparov SIMULTANO.

The **H8** is used by Novag JADE, ZIRCON, RUBY, EMERALD; Kasparov CHAMPION ADV TRAINER, TRAVEL CHAMPION, BLITZ, GK2000, TURBO ADV TRAINER, BRUTE FORCE.

The **68000/68020/68030** are used by Novag SCORPIO, DIABLO; Mephisto MONTREAL, BERLIN, all VANCOUVERS, GENIUS 68030.

The **RISC** chip is used by Mephisto RISC, Kasparov RISC 2500, TASC R30

The **SPARC** is used by Kasparov SPARC.

Who programs what?! - Meet some of the PROGRAMMERS

Don Dailey/Larry Kaufman (USA). 1st. ACM Tourney 1993. PC programs REX and SOCRATES.

Chrilly Donniger (Austria). PC program NIMZO.

Marty Hirsch (USA). PC programs M CHESS and M CHESS PRO.

Julio Kaplan. Kasparov SIMULTANO, GALILEO/RENAISSANCE, and D/10 (replaced by Brute Force/Morsch). Co-author PC program Kasparov GAMBIT.

Dave Kittinger. Novag JADE, ZIRCON, RUBY, EMERALD, SCORPIO, and DIABLO.

Johan de Koning (Holland). 1st. Welsler 1993, 1st. Aegon 1993. RISC programs - Kasparov RISC 2500, Tasc R30. PC programs ChessMachine KING, ChessMaster 4000.

Richard Lang (England). World Champion 1985-93. Mephisto MONTREAL, BERLIN, VANCOUVER, GENIUS. PC programs PSION and GENIUS.

Franz Morsch (Holland). 2nd. Welsler 1993. Kasparov ADVANCED TRAINER, TRAVEL CHAMPION, GK2000 etc. and BRUTE FORCE. PC program FRITZ.

Ed Schroder (Holland). Joint World Champion 1991-2, 1st. Madrid 1992. Mephisto MM5, POLGAR, MILANO, NIGEL SHORT and RISC 1MB. PC program ChessMachine GIDEON.

Dan & Kathe Spracklen (USA). World Champions 1980-4, 2nd. Aegon 1993. Fidelity programs to 1988; Kasparov SPARC. PC program SARGON5.

John Stanback. PC program ZARKOV.

Mark Uniacke (England). World Amateur Champion 1992, World Software Champion 1993. PC program HIARCS

Richard Lang



THE OFFICIAL MICRO-COMPUTER WORLD CHAMPIONS, 1980-1993

Year	Venue	Manufacturer Group	Programmer	Software Group	Programmer
1980	London			Fidelity	Spracklens
1981	Travemunde	Mark V	Spracklens	Fidelity	Spracklens
1982					
1983	Budapest			Fidelity	Spracklens
1984	Glasgow			Fidelity	Spracklens
1985	Amsterdam	Mephisto	Lang	Mephisto	Lang
1986	Dallas	Mephisto	Lang	Mephisto	Lang
1987	Rome	Mephisto	Lang	Psion	Lang
1988	Almeria	Mephisto	Lang	Mephisto	Lang
1989	Portoroz	Mephisto	Lang	Mephisto	Lang
1990	Lyon	Mephisto	Lang	Mephisto	Lang
1991	Vancouver	Mephisto	Lang	Mephisto	Schroder
1992					
1993	Munich	Mephisto	Lang	Hiarcs	Uniacke

PLAY-OFFS FOR ABSOLUTE CHAMPION

Year	Venue	Players.....	Players	Result	Champion
1991	Vancouver	Mephisto/Lang	Mephisto/Schroder	2-2	Joint Champions
1993	Munich	Mephisto/Lang	Hiarcs/Uniacke	1 1/2-1/2	Mephisto Lang



Novag TOPAZ



Kasparov Champion ADVANCED TRAINER



Novag RUBY



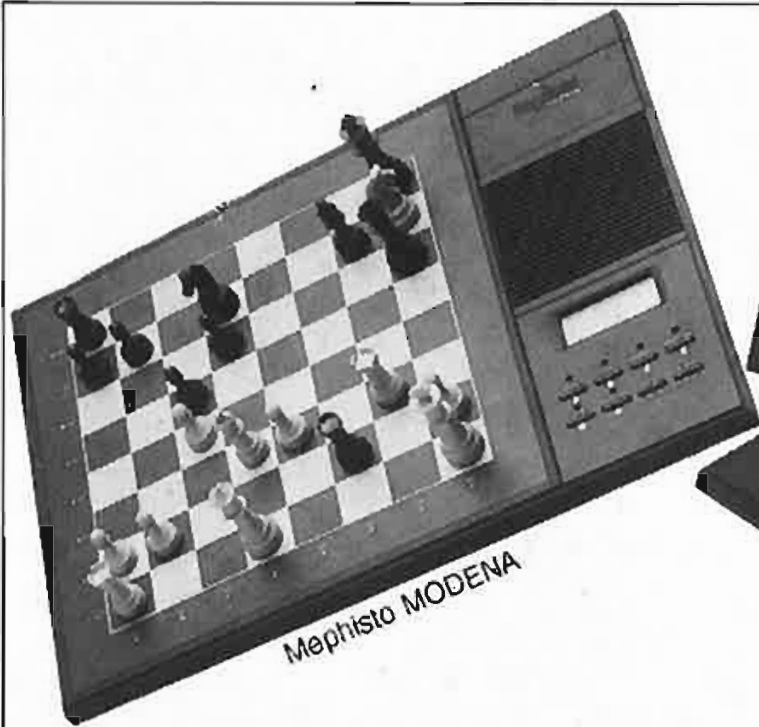
Kasparov TRAVEL CHAMPION display



Mephisto MARCO POLO



Mephisto SUPER MINI



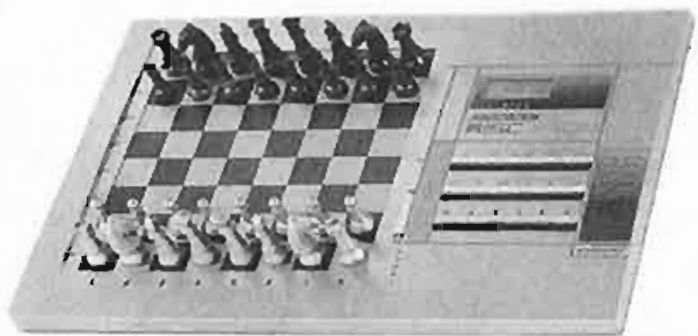
Mephisto MODENA



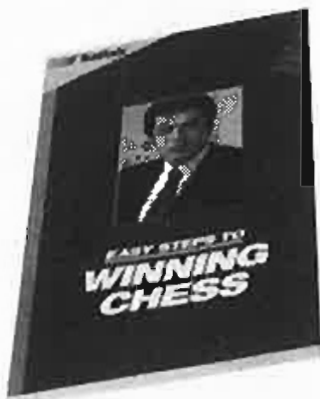
Mephisto BERLIN



Novag SCORPIO



Kasparov RISC 2500



Kasparov BLITZ