SELECTIVE SEARCH 91
THE COMPUTER CHESS MAGAZINE

Est. 1985

Editor: Eric Hallsworth

Dec 2000-Jan 2001

£3.75

Chess Tiger 13.0 screenshot

We wish our readers a very Happy CHRISTmas and a really good New Year in 2001 !

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NEWS ᴀɴd RESULTS - Kᴇᴇᴘɪɴɢ ʏᴏᴜ ʀɪɢʜᴛ ᴜᴘ-ᴛᴏ-dᴀᴛᴇ ɪɴ ᴛʜᴇ COMPUTER CHESS wᴏʀʟd!

INTRODUCTION, or What Happened to the BEST BUY GUIDE?

Welcome to the last Issue of *Selective Search*..... for the year 2000!

Regulars will know that I have often designated some 12 pages of our Christmas edition as an annual *"BEST BUY GUIDE"*.

Although there is no one section this year in exactly that format, I have still tried to cover the issues that folk will be looking for - I know that many readers are looking for Christmas presents (for people to buy for them, of course!), and like to know what new products might be expected to hit the market at this time!

Well, it's still all here, it's just that I decided to set it out a little differently this year, in various separate articles rather than all being bunched together.

I think it makes it more interesting and useful, and I hope you agree.

October 9, 2000.

GAMBIT TIGER wins the French Computer Chess Title

GAMBIT Tiger won the French Computer Chess Title with ½ a point to spare. It remained unbeaten (amazing for an aggressive 'Gambit' style) and giving up just 2 draws (+7=2-0). It played on a standard Pentium II 500 Mhz while most of it's direct competitors had faster hardware (up to 1000 Mhz).

The final result:

		1	2	3	4	5	6	7	8	9	0	/9
1	Gambit Tiger 0.95	x	½	½	1	1	1	1	1	1	1	8
2	Chess Wizard	½	x	1	1	1	½	1	½	1	1	7½
3	Dragon 3.14	½	0	x	0	1	1	½	1	1	1	6
4	AnMon 509	0	0	1	x	½	1	0	1	1	1	5½
5	Z Chess	0	0	0	½	x	1	1	½	1	1	5
6	Chess Guru	0	½	0	0	0	x	1	1	1	1	4½
7	Nejmet	0	0	½	1	0	0	x	1	1	½	4
8	B B Chess	0	½	0	0	½	0	0	x	1	1	3
9	Xie Long	0	0	0	0	0	0	0	0	x	1	1
10	Small-C	0	0	0	0	0	0	½	0	0	x	½

In another impressive performance the **Rebel** company's new **GAMBIT Tiger** version also won the 20th Dutch-Open Computer Chess Championship, and by a margin of 1½ points.

The Dutch are now the world's top computer chess programming nation, so this computer-v-computer event is of high importance in the annual calendar, and winning their Title no easy matter.

A report, snippets from some of the games and the full final TOURNAMENT TABLE can be found in our *Dutch Computer Open* article '**Tiger goes Dutch**' elsewhere in this issue.

GANDALF 4.32 - promising results

I gave a very brief report, announcing the arrival of the new **Gandalf**, in *SS/90*. A quick glance at the Rating List near the back of this Issue will tell you that it's doing very well!

The *SSDF* also have it high on their rating list, and here are more scores I found for it on **Wiesenecker**'s web site:

http://members.aon.at/wck/

Wiesenecker plays matches of 10 games each at a time control of G/60mins.

Gandalf 4.32 - Comet B27 5-5
Gandalf 4.32 - Rebel Century 1.2 4-6
Gandalf 4.32 - Nimzo 732 5-5
Gandalf 4.32 - MChess Pro7 6½-3½
Gandalf 4.32 - Crafty 17.13 6½-3½
Gandalf 4.32 - Fritz 6a 6½-3½ (!)
Gandalf 4.32 - Shredder 4 5½-4½
Gandalf 4.32 - Junior 6a 3-7 (oops!)
Gandalf 4.32 - Comet B25 6½-3½
Gandalf 4.32 - Hiarcs 732 6½-3½ (!)
Gandalf 4.32 - Rebel Tiger 12.0 5-5
Gandalf 4.32 - Genius 6.5 7-3 (!)
Gandalf 4.32 - Chess Tiger 13.0 0-3 (after first 3 games)

He has also played **Rebel**'s two new programs against each other!...

Century 3.0 - Tiger 13.0 and it's 5-5!

What Lies Behind the Success of SHREDDER?!

(also known as: *"the chess program that tears opponents to shreds!"*)

Stefan Meyer-Kahlen has written a long and interesting article on some of the foundational principles which go into chess programming and, in particular, into making his own Shredder such a feared opponent. As it was written <u>before</u> his 2000 WMCC victory, his ideas carry even more weight!

<u>Here are some excerpts:</u>

"A chess program consists of two major parts: an evaluation function and a tree searching algorithm. The latter is needed to search almost all possible move sequences to find and play the best line for the program, whereas the program needs an evaluation function to tell it which positions are good and which are bad for one side.

The number of all possible variations in chess is enormous as there are on average 35 legal moves in every position. If you want to consider only one move for yourself and one for your opponent, which we call two plies, you would arrive at $35*35 = 35^2 = 1225$ different variations. With just one additional move or another two plies you reach $35*35*35*35 = 35^4 = 1500625$ possibilities. As you can see the number of all the possible variations grows exponentially... i.e. very, very fast.

Even the fastest chess program examining ALL possible moves and variations and trying to look only 5 or 6 moves ahead will need months to complete this task. What can be done?

Well, the trick is that a computer should discard variations that are obviously bad as soon as possible and use the saved time for more important tasks. Although sounding easy in theory there are many problems in practice, as the stupid queen move can turn out to be a brilliant winning sacrifice in the end!

While looking at almost all variations, the program must also evaluate them at their final positions. There is much a program can be taught... but you should bear in mind that there is an exception to almost every rule! Doubled pawns are not always weak!

There are two major ways to improve your chess program. Firstly you can try to make it faster, so that it can examine more positions in a given time and can look further ahead in the game tree.

The alternative is to make the program more intelligent or smarter, so it knows more about chess and is able to evaluate the positions in its search tree more accurately and with a smaller margin of error.

To do both would certainly be the optimum, but unfortunately that's not possible, because adding more knowledge will cause the program to perform at a slower speed, while a higher speed can only be achieved by deleting some knowledge.

There has always been a big discussion among the programmers and users about how to achieve optimal playing strength for chess programs: fast and stupid or slow and intelligent.

In my opinion, increasing the speed of the program only results in a minimal increase in the computer's playing... at today's level games are not decided on one side having overlooked a tactical threat and losing a piece, rather they are decided strategically. To play strategically you need to know about chess. It is not enough for a chess program to see 5 or 6 moves ahead, make no tactical blunder within this horizon and wait for the opponent to make a mistake. I agree that this might work pretty well against humans in speed chess, but with longer time controls it becomes all the more clear that you can't go very far in chess without strategic knowledge of the game.

Another problem is that increasing the number of moves to look ahead, is a very slow process. As the search tree growths exponentially, one needs about three times more time for every single ply the deeper you go in the tree. So unfortunately, it is not that you need twice the time to look 10 moves ahead than to look 5 moves ahead, you in fact need 59,049 times more time!

In some positions, especially in the endgame, you won't find the right move even if you can see 20 moves ahead. You simply have to know what to do and you can't hope to calculate it."

From reading that, you will correctly anticipate that the direction Stefan has chosen for Shredder is to add significant amounts of knowledge - he wants it to play good quality, strong and successful chess.

In his article he shows some games from his success in the 1999 World Championship. Here's one from **Shredder v Rebel**:-

We've joined the game with both players

trying to get their kings involved **50.♔g2 ♘d5 51.♗d8+ ♔g7 52.♔g3!** *Shredder sacrifices a pawn to activate its king! Protecting the pawn with 52.♔f2 looks obvious, but leads to no more than an equal position after* **52...♔h6 53.e4 ♘f4 54.♗xf5 ♔xh5 52...♘xe3 53.♔h4!** *The point of White's 52nd! The next part of the task is to enhance the threat posed by the h-pawn. Once Black has been tied down by that, the g6-♗ can be manouvred to threaten the b7-♙. Long range strategy by Shredder at work!* **53...♘d5 54.♔g5 ♗h3 55.h6+ ♔g8 56.♗e8 ♘f4 57.♗d7 ♗g4** *Rebel isn't doing anything wrong – it has little choice but to wait and see if Shredder can find a way to win* **58.♗c8!** *Shredder is still the sacrificed pawn down, but must concentrate on winning the correct pawn here – the one on b7 to set his a5-♙ loose! The win of f5 can only lead to a draw:* **58.♗xf5? ♗xf5 59.♔xf5 ♗h7 60.♗g5 ♘d3= 58...♔h7 59.♗c7** *Though it looks innocuous, this also is a nasty little move to face, as becomes clearer after Rebel's check* **59...♘h3+ 60.♔f6 ♘f2 61.♗xb7 ♘e4+? 62.♔xe5 ♗e2 63.a6 ♗xa6 64.♗xa6 ♔g6 65.h7 ♔xh7 66.♔xf5 ♘c5 67.♗c4 ♘d7 68.♗b5 ♘c5 69.♗b6 1-0**

MAN versus MACHINE

We have three major events:-

Rebel CENTURY 3.0 wins strong DEBRECEN tournament

The first was an unusual one, which took place in October. It was won very convincingly by **Rebel Century 3.0** which came out 1½ points above the second best computer.

The original **Debrecen tournament** in Hungary was a normal human chess tournament.
    Later, computers were allowed to participate, but when computers started to dominate the final ranking (!) the **Advanced Player** was introduced!

As *Selective Search* readers will already know from the **Anand+Hiarcs** v **Karpov+Fritz/Hiarcs** Advanced Chess Match earlier this year, and won 5-1 by Anand, an *"advanced player"* is a strong human chess player playing in a match or tournament with the help of a computer chess program at his side.

In the Portocom Computer Open some of the entrants were **Chess Programs**

(program), some were **Humans playing with a Chess Program** (advanced) and some were supposed to be, errr, just **Humans** (human!) - an unusual arrangement if ever I've seen one, though the final TABLE suggests that all of the humans actually played in *"advanced"* mode!

I expect one could argue that the presence of both human and computer opposition in this tournament marks it out as a fairly realistic way of determining a program's all round ability?! It was an 11 round Swiss, using a time control of Game in 2 hours.

Here's the result:

**International Chess Tournament
20-24 October 2000, Debrecen, Hungary**

Pos	Player	Type	/11
1	Rebel Century 3.0	program	8
2	FM Debreceni	advanced	7½
3	Sandor Nagy	advanced	7
4=	SOS	program	6½
	Nimzo 8	program	6½
6=	Junior 5	program	6
	FM Menyhart	advanced	6
8=	Genius 5	program	5½
	Shredder 4	program	5½
10=	Chessmaster 7000	program	5
	Junior 6	program	5
12=	Fritz 6	program	4½
	Markus Kastner	advanced	4½
14	Zsolt Szabo	advanced	4
15	Hiarcs 732	program	3½
16	Genius 6.5	program	3

■ COMING JANUARY 2001: **REBEL (CENTURY 3.0?)** v GM **John van der WIEL**

TIme control 40/2hrs + G/60 finish. To be played over 6 rounds between January 2-11 in Holland.

■ JUST FINISHED: **DEEP FRITZ** and **DEEP JUNIOR** in the *Kasparov Chess* MAN v MACHINE 10 round event in which ten GM's and IM's each played 1 game against **Deep Fritz** and 1 against **Deep Junior**.

See a report, with some games, in our separate article "**Computers shock Humans in Kasparov Internet Chess Event**".

DEDICATED COMPUTERS
MARKET NEWS for CHRISTMAS & 2001

Although there is still no firm news about new product for 2001, there are a few attractive **price reductions** for various models, including some at the top end of the range which should be of particular interest to *Selective Search* readers.

On the other hand one or two models are now in very short supply and may soon disappear from the scene, so if you occasionally thought to yourself *"I wouldn't mind having one of those"*, then now would be the time to get it!

Portables

The Novag **AMBER** is no longer being made, and worldwide stocks are very low. At Countrywide we just have a few left.
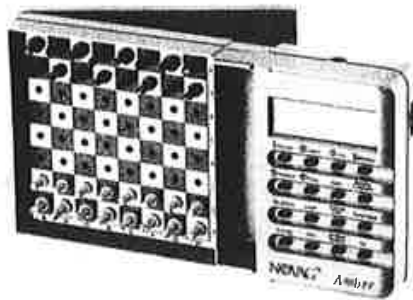
I've always liked the Amber, it's only problem being the price comparison with Saitek's Kasparov Cosmos. But it has/had the advantage of being mains or battery, so people using it regularly were able to save on battery costs. A shame.

This leaves the field for the very top plug-in portable wide open for the said Kasparov **COSMOS**, which retails at **£99.95**.

This very attractive and popular plug-in contains Franz Morsch's strong '2100' program.

Novag's other major portable is the keyboard-type **SAPPHIRE2**, and the good news here is that the price has been reduced to **£199.95**.

The Sapphire2 is the top-rated portable available: with a superb David Kittinger program, big 123,000 position opening book, fast processor & hash tables and packed with features, it also runs on mains or batteries and will be even more popular at its new price.

A unique advantage of the **SAPPHIRE2** is that it can be used as it is, as a portable with the supplied magnetic disc set, and it can be plugged into the wood, auto-sensory **UNIVERSAL BOARD!**

The price for this full set-up has been dramatically reduced from £449.95 to **£369.95**! (see advert on inside front cover). This makes it the top-rated wood auto-sensory set-up as well as the top-rated portable, and you can use the same machine in both ways!

Table-tops

There is nothing new or changed about the **CENTURION**, but I somehow missed it out of my *Best Buy Guide* last year. Ooops.

At **£79.95** and containing Franz Morsch's '2000' program, it represents excellent value for money.

Another Novag product to receive a nicely reduced price tag is the **TURQUOISE**, which is down from £149.95 to **£99.95**.

This contains the same sophisticated program and features as their Amber and Emerald Classic Plus, so you're getting a lot for your money! The board also has a modern styling, which I like.

A good price reduction from the Saitek-Kaspaov camp comes with the **COUGAR**, which is down from £129.95 to **£99.95**.

So the Kasparov Cougar and Novag Turquoise compete head-to-head, and both at a new, low price! The Cougar has the same program and features as the Cosmos, plus of course it's mains and/or batteries. I rate the Cougar as slightly (maybe 5 BCF) stronger than the Turquoise and Emerald Classic Plus... but the Novag pair definitely have better lower levels and training features.

Having already mentioned the **EMERALD CLASSIC PLUS**, I am glad that this also has a price reduction - it's come down from £179.95 to **£149.95** - because this is a particularly attractive press-sensory board.

The thing which sets the ECP apart is its superb wood-look playing surface and surround, and the wood, felted pieces, which make it *a real pleasure* to play on.

Finally I need to mention the **DIAMOND 2**, which is a rather strange case! The good news is that a price reduction was also announced for this - from £279.95 to **£249.95**.

But the bad news is that, when we put our Christmas supplies order in at Countrywide, we learned that there were no more available! As I write we have just 3 left, so if you want one I should cross your fingers and ring in as soon as you can!

PC SOFTWARE
MARKET NEWS for CHRISTMAS & 2001

At the time of writing (mid-November) there are 5 definite new products for **Christmas** and the New Year:

- **Nimzo 832** from ChessBase, out late November. **£39.95**
- **Deep Fritz** from ChessBase, due late November/early December. Probably **£79.95**
- **ChessBase 8.0** (ChessBase!), out now. **£99.95**
- **Rebel 11** from Ed Schroder & the Rebel team, out now, Century + Tiger looking great. **£46.95**
- **Shredder 5** - World Champion package 2001, due out mid or late November. **£69.95**

Hiarcs

Mark Uniacke and I have tried desperately to finish our efforts to get a Hiarcs 832 ready for Christmas. In mid-October we had just about cracked it with a version we call X45, and were getting some very good results.

However we knew we needed to look at our search technique to see if we could speed it up a little - the faster the PC's keep going, the more vital it is to not get bogged down when searching deeper, and we had been aware for 6 months or more that some programs (notably then Shredder4 and Fritz6, but now also the new Rebel programs) were getting through the deeper plies better than we do!

As a result X45's marked improvement at Blitz and Active time controls was not quite being maintained at slower time controls.

Mark had made some changes to the search *selectivity* which had helped, but we both wanted to try another idea we had. For a couple of days it seemed that the very first re-write had almost done the trick.

When we saw that the search was going a full ply deeper, and the results had held up well at Blitz whilst improving slightly at longer time controls, we felt that it had to be worth testing out a few other adjustments, to see if we could fine tune it.

At that very moment Mark's company needed him to go to Canada for a short period to work for them there and, though he's back in the UK again, everything has temporarily come to a halt... it's a real pain having to work for a living!

Nimzo 832

The new version upgrades Nimzo's interface and features to full Fritz6/Junior6 standard. As always the opening book has been brought up-to-date, and the program engine is expected to be a little better.

I haven't felt that the playing engine of Nimzo has improved too much in the past 18 months, and the WMCC and Dutch Open results for the new version are not particularly impressive. As a result I've failed to persuade myself to buy this latest Nimzo offering! Nor as yet have I seen any results for it outside of the 2 big Tournaments mentioned above, so for now it's rather a case of *'let's wait and see!'*

Deep Fritz

Franz Morsch

Franz Morsch and *ChessBase* have had a *'Deep Fritz'* version running on dual and quad processors at a couple of major Tournaments in the last 6 months.. in fact see the NEWS section re **Deep Fritz** and **Deep Junior** in a major 'Humans v Machines' challenge taking place at present!

I understand that the DEEP FRITZ program is definitely a later version than Fritz6 itself... i.e. it isn't 'just' coding changes to convert it for multi-processor use (as was largely the case between Junior6 and Deep Junior), but the playing engine itself is intended to be an improvement.

As Fritz6 outgrades Junior6 by about 30 Elo in the Rating Lists, I

expect that Deep Fritz will be at least 30 Elo stronger than Deep Junior, and therefore the immediate best buy for folk with a dual or quad processor hanging around the house (or office!).

'Deep' Speed: Crafty's **Bob Hyatt** writes that there is a speed loss for each additional processor due to move ordering inefficiencies. If we class the first processor as 100% effective, Bob says that the 'fall-off' for his **Crafty** for the 2nd. processor is about 30%, and that continues... i.e. 30% for each subsequent processor. This holds up for up to and including 4x processors, but little or no comparative work has been done beyond that.

Tests comparing Junior6 with Deep Junior have shown the fall-off figure to be about 20 or 25%, so the following is based on 25% where the baisc processor is a 500MHz unit:-

- 1 x 500MHz processor   = 500MHz.
- 2 x 500MHz processors (dual) = 875MHz equivalent.
- 3 x 500MHz processors   = 1250MHz equivalent.
- 4 x 500MHz processors (quad) = 1625MHz equivalent.

ChessBase 8.0

My view last year was that the new 32-bit ChessBase7 represented pretty much the *ultimate* in a games database with outstanding and comprehensive features for all types of use.

To the credit of *ChessBase*, they have not relaxed with their 'ultimate' product, but have made some further (though smaller) improvements <u>and</u> reduced the price from £115 to £99.95... a remarkable achievement.
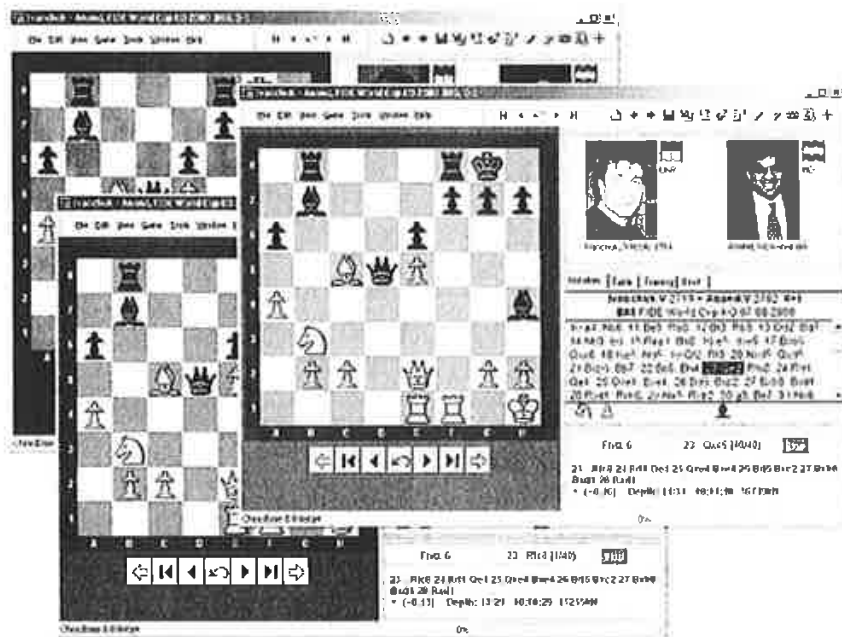
Amongst new features are the addition of a number of extra layout screens and boards available - the above picture in black&white for *Selective Search* wont show the new range too well, but should give readers some idea - it's basically the same as the range within Fritz6 and Junior6.

There are also improvements to position searching within games, and this even extends to doing searching within the variations of annotated games - I think this should be of particular benefit for those wanting to compare popular opning lines and variations. Another addition is the *annotation palette* which will make the annotator's lot easier and quicker than ever, whether typing in notes, variations, symbols or evaluations.

Whether it's really worth upgrading from ChessBase7 to 8 (cost £59.95) I'm not sure - I've not upgraded myself yet, for example - but if you haven't got ChessBase at all, or have an earlier version (from 1-6), then getting ChessBase8 is definitely a chess lover's money well spent in my opinion!

Rebel 11

Although I have already received and installed my own copy of RE-BEL 11 with its various programs and engines, I obviously haven't had chance to give it much more than an initial run through.

I must say that I am initially very impressed, and believe that both Ed's **Century** program, now in version **3.0**, and Christophe Theron's **Tiger** program, now in version **13.0**, are major improvements. Ed, who had perhaps appeared to have struggled to make much ground with his last 2 versions, has I think probably got a big jump forward this time.

Because I've not had enough time yet to produce a proper, personalised review, I am mixing mine and other users' early comments with material taken from the REBEL web pages.

Ed Schroder

Firstly the **REBEL 11 CD package** contains two distinct programs: REBEL CENTURY and CHESS TIGER.

- **REBEL CENTURY 3.0** (DOS & Win compatible) by Ed Schroder
- **CHESS TIGER 13.0** (Win) by Christophe Theron, plus **GAMBIT TIGER 1.0**, *"a revolution in playing style!"*
- **REBEL CENTURY 2.0 analysis engine** running under Windows (Tiger)

We'll start with **REBEL CENTURY 3.0**. When you first install it and then switch on, you may look at the screen and think that things are much the same!

```
 x|   Start| Levels| Option| Data| Books| Config| Layout| Colors| Extra| White| Black|
 ECO B32 Sicilian defence         | ♟  infinite           | Rebel Centu
                                  |  9. Rf1-e1    Nc6xd4  | Tot 00:01:27
                                  | 10. Rd1xd4    Re7-c5  | Mov 00:00:15
                                  | 11. Rc1-f4    Nc7-b6  |-------------
                                  | 12.                   | Fritz 5.32
                                  |                       | Tot 00:00:16
                                  |                       | Mov 00:00:00
                                  |-----------------------|
                                  | 262838 1366 0 94%     |
                                  | Hash    : 35K   35K  5%|
                                  | Engine  : Rebel Century 3|
                                  | Time    : 99:99  99:99 100%|
                                  | Rebel      d4d2 11 100.0% 24|
       ◁| ◁|  Rebel  |▷| ▷|
  A| C| D| E| G| I| J| K| L| M| P| Q|  | 00:00  8.00   0.18  Qd2 [CAT data...]
  R| S| T| U| V| Y| 1| 2| 3| 4| 5| 6|  | 00:01  9.00   0.18  Qd2 [CAT data...]
                                       | 00:02 10.00   0.18  Qd2 [CAT data...]
                                       | 00:06 11.00   0.18  Qd2 [CAT data...]
                                       | 00:00:15 12.00 (52) Qd4-d2  (235738)
 d4d2 Century 1.2 ( 2) 100.0% 11   0.18 Qd2 Ng4 Rf1 Nxf2 Rxf2 Bxf2+ Qxf2
 Positions: 99033 Book: 20643 Depth: 12 Book hits: 0 Engine hits: 0

 Rebel        8932   1578 10
```

But once you start to play/analyse, keep your eye on the analysis bar and watch that depth of search! Someone has been hard at work on **Century**'s search technique - it is so much faster and smoother through the plies that this latest version *has* to be the strongest REBEL yet!

REBEL CENTURY 3.0 what's new:
- A much stronger chess engine than CENTURY 1.0, estimated +100 elo against other computers and +20-30 elo against humans. Hash table support expanded to 400 Mb; highly improved search algorithms, Rebel Century 3.0 computers much deeper which automatically guarantees better chess; persistent hash tables give a speed-up of 10-15% from permanent brain, also faster hash table access.
- With a great choice of screen settings, board sizes, and feature options, Century 3.0 is as Windows-like as a DOS program can ever be!
- New CAT (Computer Analysis Tool) database. CAT is the way to organize your computer-computer games or computer analysis.
- The Rebel database now has 800,000 high qualified chess games.
- The Rebel opening book has been expanded with 60,000 (all hand-typed) new book moves

concerning the latest opening theory. The total number of variations is now over 46,000 resulting in 2.6 million positions. Plus a brand new EOC database of 20,000,000 unique chess positions.

- BLUFF CHESS: Playing coffee-house chess (try it!)
- CLUB PLAYER: Rebel now and then makes minor to serious mistakes giving you the chance to win.

Some results from the REBEL web pages - I don't know if this is a list of all results, or just a selection. They certainly make impressive reading!:

Century 3.0 - Fritz 5.32	57 - 45	56%
Century 3.0 - Fritz 6	31½-20½	61%
Century 3.0 - Junior 6a	27 - 16	63%
Century 3.0 - Century 1.0	38½-29½	57%
Century 3.0 - Rebel-Tiger	25 - 36	41%
Century 3.0 - Shredder 4.0	17½- 9½	65%

Now to **CHESS TIGER 13.0**. The first thing to note is that there are two versions of Tiger on the CD, they install together automatically then, when you run CHESS TIGER, you will have the choice of using **Chess Tiger 13.0** or **Gambit Tiger 1.0**!

- The traditional classic **Tiger 13.0** is estimated 50 Elo points stronger than **Rebel Tiger 12.0**. The search algorithms have been improved, so Tiger now computes deeper; better king safety evaluation; more chess knowledge added, including ability to play better against several anti-computer strategies which have been identified; bigger hash tables available.
- The **Gambit** version plays a whole different game of Chess using a new king safety concept, and plays gambits much better than the classic Tiger. It is estimated by the Rebel company as in the range of +/- 20 elo points in comparison with the standard Tiger, but my (Eric's) view is that it is about -20/30. What is clear is that it plays a rare and aggressive type of chess for a program.
- Rebel CENTURY 2.0 and TIGER will run simultaneously under Windows, as shown in this screenshot:

- There are many Interface and Feature improvements, too numerous to list and mostly of a small nature, but responding to requests and recommendations by REBEL TIGER 12 owners.

Some results from the REBEL web pages:

Chess Tiger 13.0 - Crafty 17.11	8½-3½	(Chris Taylor)
Chess Tiger 13.0 - Shredder 4	12-3	(Chris Taylor)
Chess Tiger 13.0 - Shredder 4	4½-4½	(Harald Faber, Tiger on slower hardware)
Chess Tiger 13.0 - Shredder 4	4½-1½	(Enrique Irazoqui)
Chess Tiger 13.0 - Fritz 6	7½-12½	(Enrique Irazoqui)
Chess Tiger 13.0 - Junior 6	6-3	(Enrique Irazoqui)
Chess Tiger 13.0 - Little Goliath	23-8	(Enrique Irazoqui)
Chess Tiger 13.0 - Nimzo 732	7-4	(Enrique Irazoqui)
Chess Tiger 13.0 - Fritz 6	15-15	(Chessfun)

Chess Tiger 13.0 - Hiarcs 732	13-13	(Chessfun)
Gambit Tiger 1.0 - Century 3.0	4½-2½	(Didzis Cirulis)
Gambit Tiger 1.0 - Fritz 6	16-16	(Chessfun)
Gambit Tiger 1.0 - Hiarcs 732	11-11	(Chessfun)

Shredder 5

Though it was due, I think, any day, my copy of the **World Champion Package 2001** 6 CD package hadn't arrived, and *Selective Search* was finally just about ready for the printers. So the selected information and screenshot here are courtesy of **Ossi Weiner** and the Millennium company which distributes the software.

"6 CD-ROMs all together, each one packed and stuffed full with chess at it's very best - for only £69.95! Beside the world's strongest chess program, lots of valuable additions are part of the content."

SHREDDER 5.0 - The reigning World Champion (1999 and 2000!) *"To name it: Without doubts the by far strongest chess program money can buy, released by Stefan Meyer-Kahlen. Simply the ultimate reference! Independent tests show it about 100 Elo points stronger than Fritz 6a, for example. Beside this, of course, lots and lots of brandnew features included."*

Stefan Meyer-Kahlen

- New developed, king sized opening library (approx. 4 Million plies) by the reputated expert Sandro Necchi (ex M Chess opening specialist). Includes the display of opening codes, names of the variations and also a freely editable opening tree.
- German/English speech, with intelligent, natural spoken comments.
- Allows the use and display of several, different chess engines at the same time.
- Ready for the future with the MCS modularity, which allows the use of various top programs as well as Winboard engines from the Internet.
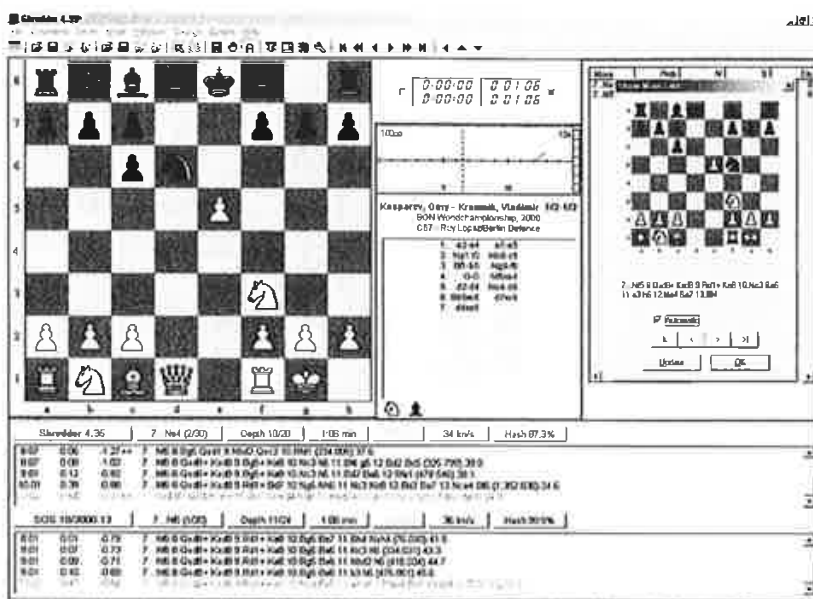
Worldwide unique feature:
- TRIPLE BRAIN: the sensational result of the constant development over many years by Stefan Meyer-Kahlen: Whilst two engines compute in parallel, the TRIPLE BRAIN module decides, which move is selected as the best. A mind blowing breakthrough in the history of chess programming!

Other Engine details:
- **SOS** - The Amateur-World Champion: The newcomer of the year by Rudolf Huber left several of the "big names" behind him during the world championship in London. A name, one surely should keep in mind for the future! This original World Champion engine is exclusively presented by MILLENNIUM 2000. The screenshot shows Shredder and SOS analysing 'side-by-side'.
- **CRAFTY** by Prof. Robert Hyatt: up-to-date version of the legendary US Internet program.
- **NIMZO 2000** by Dr. Chrilly Donninger: ultra fast, tactically very strong and great overall performing chess program. The NIMZO full version comes along with its own opening library as well as with the added engines NIMZO 2000A and B.
- The NALIMOV Tablebases - the powerful endgame CD-ROMs: the world famous tablebases by Eugene Nalimov contain the most important 4 and 5 man endgame types and ensure a perfect handling of the endgame as well as giving users a most efficient training help.

GAME OF THE MONTH
by Graham White

GAME OF THE MONTH! I would like to present this little-known masterpiece, played in 1993 between **Serper** and **Nikolaidis**.

Annotations are by the winner, Serper, from within Chessbase, with some additions by myself and Fritz6 as indicated.

We've added plenty of diagrams, to help readers follow some of the complications without, hopefully, getting lost!

Serper,G (2575) - Nikolaidis,I (2440)

[E70] St.Petersburg Open, 1993
Annotations:
- G. Serper
- G. White
- Fritz 6

1.c4 g6 2.e4 ♗g7 3.d4 d6 4.♘c3 ♘f6 5.♘ge2 ♘bd7 6.♘g3 c6 7.♗e2 a6 8.♗e3 h5 9.f3! b5 10.c5
10.a3?! bxc4! 11.♗xc4 d5!∞

10...dxc5 11.dxc5 ♛c7 12.0-0 h4 13.♘h1 ♘h5
With the idea ♗e5

14.♛d2 e5
F6+GW: ?! − It doesn't look right to block in the bishop − it seems Black has a very time consuming plan involving moving his knight to d4 via f8 and e6.

15.♘f2 ♘f8?!
With the idea of ♘e6−d4. Better was 15...♘f4 16.♘d3 ♗h6 17.a4±

16.a4 b4
F6+GW: And here we go!....

17.♘d5!
F6+GW: !! − White sacs a piece to get two powerful pawns − none of the Chessbase engines would play this, but Fritz6 gives it a -0.75 evaluation.

17...cxd5 18.exd5
With the idea ♘e4−d6 followed by c6, ♖ac1, d6!

18...f5
F6+GW: To stop ♘e4 − Black could also try 18...♘f4 19.♘e4 ♘xe2+ 20.♛xe2 ♘d7 and the position would be by no means clear!

19.d6!
F6+GW: Interestingly Fritz slightly prefers c6, and Qb4 and Nd3 are worth considering.

19...♛c6
19...♛d7 20.c6! ♛xc6 21.♖fc1 Δ ♖c7+−;
F6+GW: Fritz prefers 19...♛a5! which avoids the following game combination, but there is no doubting White's long-term compensation for the piece after say 20.♘d3 (or what about *20.f4!? exf4 21.♗d4*)

20.♗b5!!
F6+GW: White sacs another piece to get three powerful pawns!! Again, none of the engines play this − preferring Nd3 or Qb4 with good compensation.

20...axb5 21.axb5 ♛xb5?
What are the alternatives?:
21...♛b7? (!) 22.c6

22...♕b8 *(If 22...♕xb5 23.d7+!+−);*

F6+GW: However, Serper missed the best defence: *22...♖xa1!* (Fritz) *23.cxb7 ♖xf1+ 24.♔xf1 ♗xb7 25.♕xb4 ♗f6! 26.♕c4 ♖h7±* continues the fight.

23.b6!+−. Just look at this!...

F6+GW: Serper ends his analysis here, but is his evaluation of this remarkable position correct?

Eg *23...♘f6 (23...♔f7 24.♕xb4 ♘e6 25.b7+−; 23...♘d7 24.♖a7)* *24.♕xb4 ♘8d7 25.b7 ♗xb7 26.cxb7 ♖xa1 27.♖xa1+−.* I think Serper's evaluation is right.

Back to the game, after Black's 21...♕xb5?

22.♖xa8 ♕c6 23.♖fa1
   F6+GW: 23.♖a7! ♘e6 24.♘d3+− Fritz

23...f4 24.♖1a7!
   F6+GW: 24.♘d3! fxe3 25.♕xe3+− Fritz;
   F6+GW: I also thought 24.♖1a6! ♕xa6 25.♖xa6 fxe3 26.♕xe3 ♗xa6 27.c6 would win.

24...♘d7

Note 24...fxe3? 25.♕d5!! exf2+ 26.♔xf2 ♕xd5 27.♖xc8#
   F6+GW: It looks as if Black is establishing a successful blockade, White must act fast...

25.♖xc8+!
   Yet another sacrifice to clear the way for the pawns!
   F6+GW: Fritz finds 25.♖a6 ♕xa6

A) 26.♕d5 fxe3 27.♕e6+ ♔f8 28.♘h3 ♕xa8 *(28...♗f6? 29.♖xa6 ♗xa6 30.♕xd7)* 29.♕e7+ ♔g8 30.♕e6+ ♔h7 31.♘g5+ ♔h6 32.♘f7+=;

B) 26.♖xa6 26...fxe3 27.♕xe3 ♗xa6 28.c6 ♗b5 29.cxd7+ ♗xd7± which is not nearly as strong.

25...♕xc8 26.♕d5 fxe3
   26...♘hf6 27.♕e6+ ♔f8 28.♘e4 ♕e8 *(28...fxe3 29.♘g5 ♕e8 30.♖a8)* 29.♕xe8+! ♘xe8 *(29...♔xe8 30.♖a8+ ♔f7 31.♘g5#)* 30.♖xd7 fxe3 31.c6+−

27.♕e6+
   F6+GW: 27.♘d3 e2 28.♖a8+− Fritz

27...♔f8 28.♖xd7 exf2+ 29.♔f1 ♕e8
   29...♕a6+ 30.♔xf2 ♕e2+! 31.♔xe2 ♘f4+ 32.♔f1 ♘xe6 33.c6 ♔g8 34.♖e7!+−;
   29...♘g3+ 30.hxg3 ♕xd7 31.♕xd7 hxg3 32.♕e7+ ♔g8 33.♕e8+ ♔h7 *(33...♗f8 34.♕xg6+ ♗g7 35.♕xg3+−)* 34.d7+−

30.♖f7+!!

Our co-annotator and regular
magazine contributor,
Graham White

30.♕xe8+ ♔xe8 31.♖e7+

A) 31...♔f8! 32.c6 ♘g3+!! 33.♔xf2
(33.hxg3 hxg3 34.♔e2 ♖h1-+)
33...♘f5-+

F6+GW: Serper ends here but it is by no
means trivial:
  34.♖xg7! ♘xd6! *(34...♔xg7?! 35.d7
♖d8 36.c7 ♖xd7 37.c8♕ ♖d2+=)* 35.♖d7
♘f7 36.♖b7 ♔g7 37.♖xb4 ♖c8 38.♖c4
♘d8 39.♖xh4 ♖xc6 and indeed Black
should win.);

  B) 31...♔d8? 32.c6 ♔c8? 33.♖a7 ♔b8
34.d7! ♔xa7 35.c7+-

F6+GW: It is interesting that Serper is
wrong here, showing +-!
  35...♗f6 36.c8♕ ♗d8 looks completely
unclear 37.♕c4 ♘g3+ *(37...♗b6)* 38.♔xf2
(38.hxg3 hxg3 39.♔e2 ♖h1 is a draw)
38...♗b6+ 39.♔e1 ♘f5
  Once more, back to the actual game!
After White's 30.♖f7+!!

30...♕xf7 31.♕c8+ ♕e8 32.d7 ♔f7
33.dxe8♕+ ♖xe8 34.♕b7+ ♖e7

35.c6!+-
  F6+GW: This pawn will be decisive.
Black responds with the only move to of-
fer any counter-chance

35...e4!
  36.fxe4?? ♖xb7 37.cxb7 ♗e5-+

36...e3 37.♕d5+ ♔f6 38.♕d6+ ♔f7
  38...♖e6 39.♕xe6+

39.♕d5+
  White was in time trouble at this stage

**39...♔f6 40.♕d6+ ♔f7 41.♕xe7+ ♔xe7
42.c8♕ ♗h6**
  42...♗d4 43.♕c4+-

43.♕c5+ ♔e8
  43...♔f7 44.♕c4+ Δ ♕h4

44.♕b5+ ♔d8 45.♕b6+ ♔d7 46.♕xg6 e2+
  F6+GW: Just a couple more tricks to
avoid.

47.♔xf2 ♗e3+ 48.♔e1
  F6+GW: 48...♘f4 49.♕f7+ ♔d8 50.g3+-.
A fantastic game to analyse! **1-0**

Thε TIGER qoεs DUTCH!

I commented in the **NEWS** section that the Dutch are now the world's top computer chess programming nation, and the list of entrants for this year's event confirms that.

The Dutch even have some great looking up-and-coming stars, so their future in this field can only get better.

First I can remind you of the 1999 result:

1　**Quest** (1999's Fritz6 beta)
2　**Nimzo 732**
3=　**The King, Tiger 12.0**

Here are the results for <u>Round 1</u> for the year 2000 Tournament, which will also serve as an entrants listing:

Quest - Ant　1:0
Tao - The King　0:1
Nimzo - McTobber　1:0
Goldbar - Gambit Tiger　0:1
Diep - Morphy　1:0
XiniX - Patzer　draw
Kallisto II - Duck　1:0

The stronger programs were paired against weaker ones, and all top programs duly won except for Patzer, that had to accept a draw against XiniX. Quest (a Deep Fritz beta) is lucky against Ant, which spoiled a completely drawn position with one bad move.

<u>Round 2</u>
Kallisto II - Quest　0:1
The King - Diep　draw
Gambit Tiger - Nimzo　1:0
Patzer - Duck　1:0
Morphy - Xinix　0:1
Ant - Goldbar　1:0
McTobber - Tao　0:1

The game of the Tournament was played in this round as Gambit Tiger produces an amazing sacrifice against Nimzo.

Gambit Tiger - Nimzo 8
Nimzo has just played 42...♕g5, see diagram top of next column. GT with a small advantage from the opening, has struggled to make much of it.... until now! Here it suddenly unleashes a completely unexpected sacrifice. All the more amazing because whilst it scores itself at +250, Nimzo has Black +100, Hiarcs says Black +180, even close relative Tiger13.0 has Black nominally ahead!
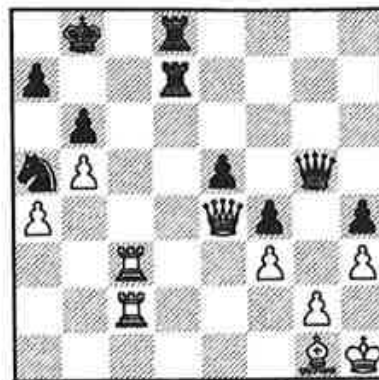
43.♖c6!? **♘xc6** **44.bxc6** **♖c7** **45.a5** *Adding a (temporary) pawn sac' to the exchange sac'* **45...bxa5** **46.♕e2!** **a4** **47.♕b5+** **♚a8** *47...♚c8?? 48.♕a6+ is m/5* **48.♕xa4** **♕f6** **49.♕a5** **♕e7** *Even here Nimzo and Hiarcs have Black ahead. But Tiger proves to be right, improving its position move by move until, in the end, it's a massacre!* **50.♖e2** **♖dc8** **51.♖xe5** **♕g7** **52.♕e1** **a6** **53.♕e2** **♖xc6** **54.♖e7** **♕c3** **55.♚h2** **♕b4** **56.♖a7+** **♚b8** **57.♕e5+** **♖8c7** **58.♕h8+** **♖c8** **59.♕xh4** **♖c1** **60.♗f2** **♖1c6** **61.♕g5** **♖8c7** **62.♕g8+** **♖c8** **63.♕g7** **♖8c7** **64.♕h8+** **♖c8** **65.♕e5+** **♖8c7** **66.h4** **♖c2** **67.♗d4** **♖2c4** **68.♕e8+** **♖c8** **69.♕e4** **♖8c6** **70.♖d7** **a5** **71.♗e5+** **♚a8** **72.♖d8+** **♚a7** **73.♕h7+** **♚a6** **74.♖b8** **♖b6** **75.♖a8+** **♚b5** **76.♕d7+** **♖cc6** **77.♗c7** **♕e1** **78.♖e8** **♕xh4+** **79.♚g1** **♕f6** **80.♖e5+** **♚c4** **81.♗xb6** **♕xe5** **82.♕xc6+** **♚b3** **83.♕e4** **♕a1+** **84.♚f2** **♕b2+** **85.♕e2** **1-0**

Kallisto is simply beaten by Quest whilst the previously unknown Tao wins its first game.

<u>Round 3</u>
Quest - Gambit Tiger　draw
XiniX - The King　draw
Diep - Patzer　0:1
Nimzo - Ant　draw
Tao - Kallisto II　draw
Goldbar - McTobber　draw
Duck - Morphy　1:0

<u>Leaders after 3 rounds:</u>
2½　Quest, Patzer, Gambit Tiger
2　The King, XiniX
1½　Nimzo, Diep, Ant, Kallisto II, Tao

<u>Round 4</u>
Duck - Goldbar　0:1
Patzer - Quest　0:1
Kallisto II - Diep　draw
ANT - Tao　1:0

McTobber - Morphy   draw
Gambit Tiger - XiniX   1:0
The King - Nimzo   1:0

Round 5
McTobber - Duck   1:0
Morphy - Nimzo   0:1
Patzer - Kallisto II   draw
Quest - The King   draw
Tao - Goldbar   1:0
XiniX - Diep   draw
ANT - Gambit Tiger   0:1

Quest v The King was the top pairing of this round, with Quest uncorking a Morra gambit which left it looking for enough compensation. In the end the draw became inevitable.

Round 6
Diep - Quest   0:1
Duck - ANT   draw
Tao - Patzer   draw
Gambit Tiger - The King   1:0
Goldbar - Morphy   draw
Nimzo - Kallisto II   draw
XiniX - McTobber   1:0

The big game was clearly Gambit Tiger versus the king of the pawn sacrifice, The King. But The King played a dubious opening line and is thrown out of book by Tiger, a queen exchange follows and, with the better pawn structure and a strong bishop, Tiger shows great strength in the endgame and The King gets no chance whatsoever.

Leaders after 6 rounds:
5½   Gambit Tiger
5   Quest
3½   The King, Patzer, XiniX
3   ANT, Kallisto II, Nimzo, Tao

Although a clear gap has opened at the top, G/Tiger and Quest/Fritz themselves are so close that the tension for the leaders is enormous - any half point dropped could be vitally important!

Round 7
Diep - Duck   1:0
Goldbar - Nimzo   0:1
Kallisto II - McTobber   draw
The King - Ant   1:0
Morphy - Tao   0:1
Patzer - Gambit Tiger   draw
Quest - XiniX   1:0
After a good opening Gambit Tiger should

have had no problem against Patzer (on a very fast Dual system with 2 x PIII 733 MHz). But Tiger played some strange moves, got into trouble and only escaped with a draw due to a Patzer mistake and its own excellent endgame play. This gave Quest its opportunity to share 1st. place with a win over XiniX, which it manages only after a tough struggle! Two nervewrackers!

Round 8
McTobber - Diep   0:1
Gambit Tiger - Tao   1:0
Nimzo - Quest   1:0
The King - Patzer   1:0
Kallisto II - Goldbar   1:0
Ant - Morphy   1:0
Duck - XiniX   1:0

An amazing round. Gambit Tiger plays against Tao, the surprising program of Bas Hamstra, and operator/book preparer Jeroen Noomens uses the Belgrade Gambit as he knows Tao has a very small openingbook. Total success! Not knowing the dangerous lines Tao 'wins' a poisoned rook and gets crushed in 25 moves.

Gambit Tiger - Tao
1.e4 e5 2.♘f3 ♘c6 3.♘c3 ♞f6 4.d4 exd4 5.♘d5 ♞xe4 6.♕e2 f5 7.♘g5 d3 8.cxd3 ♞d4 9.♕h5+ g6 10.♕h4 c6 11.dxe4 cxd5 12.exd5
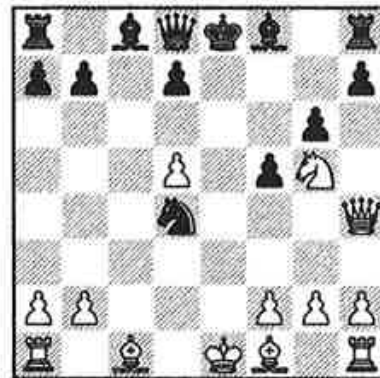
12...♞c2+? *Much too dangerous, as are Qa5+ and Qe7+. The only safe course is Bg7* 13.♔d1 ♞xa1 14.♕d4 ♖g8N *14...h6 has been tried here, but without success after 15.Bc4 Qe7 16.Qxh8 Qg7 17.Re1+ Kd8 18.d6* 15.d6 ♗xd6 *The game is probably beyond saving by now!* 16.♕xd6 ♕e7 17.♕d5 ♖f8 18.♗b5 ♞c2 19.♔xc2 a6 20.♘e6 f4 21.♖e1 ♖f5 22.♘c7+ ♔f8 23.♖xe7 ♖xd5 24.♘xd5 axb5 25.♗xf4 g5 1-0

In the meantime Tiger suddenly got a lot of help from Nimzo which outplayed Quest in

a Sicilian Dragon! Gambit Tiger with 7/8 is 1 point in front of Quest with 6!

Round 9
Diep - Nimzo   0:1
Duck - The King   0:1
McTobber - Ant   draw
Morphy - Patzer   0:1
Tao - Quest   1:0
Gambit Tiger - Kallisto   1:0
XiniX - Goldbar   1:0

Gambit Tiger, using the very same variation as played in the Kramnik-Kasparov game that day, wins a strong positional game against Kallisto. But the big talking point was the amazing victory by Tao against Quest, effectively ending the tournament! Quest sacs a pawn for attacking chances, but Tao defends well, keeps the pawn and slowly but surely increases its advantage to win this key game! A debut program on a 550MHz notebook wins against one of the favourites on its dual processor machine!

Tao - Quest
1.e4 c5 2.♘f3 d6 3.d4 cxd4 4.♘xd4 ♘f6 5.♘c3 ♘c6 6.♗g5 e6 7.♕d2 ♗e7 8.0-0-0 0-0 9.♗xf6 ♗xf6 10.♘xc6 bxc6 11.♕xd6 ♕b6 12.♕g3 ♖b8 13.b3 ♗xc3 14.♕xc3 ♕xf2 15.e5N c5 16.♗d3

16...♕f4+ 17.♖d2 ♗b7 18.♕xc5 ♖fc8 19.♕xa7± ♕xe5 20.♔b1 h6 21.♕f2± ♖a8 22.♖e2 ♕a5 23.c4 ♖d8 24.♖f1 ♖d7 25.♕e3± ♖ad8 26.♗c2 ♖c8 27.♖f4 ♖a8 28.a4 ♕h5 29.g3 ♕a5 30.h3 ♖c8 31.♖g4 ♕h5 32.♕c3 g5 33.♖h2 ♗c6 34.♕e5 ♗f3 35.♖d4 ♖xd4 36.♕xd4 g4 37.h4 ♕a5 38.♖d2 ♖a8 39.♕f4 ♔g7 40.♖d7 ♖f8 41.♕e3 ♖d8 42.♖a7 ♕h5 43.♕xe6 ♗d1 44.♕e4 ♗xc2+ 45.♔xc2 ♕c5 46.♖d7 ♕f2+ 47.♔b1 ♖xd7 48.♕xg4+ ♔f8 49.♕xd7 ♕xg3 50.♕d8+ ♔g7 51.♕d4+ ♔g6

52.♔b2 f5 53.c5 ♔h5 54.♕d5 ♕h2+ 55.♔a3 ♔xh4 56.c6 ♕f4 57.♕c4 1-0

Only 2 rounds to go and Tiger's 8/9 has it 1½ points ahead of The King, 2nd with 6½, and 3= Quest and Nimzo with 6.

Round 10
Patzer - McTobber   1:0
Quest - Duck   1:0
Morphy - Kallisto II   0:1
Diep - Gambit Tiger   0:1
Nimzo - Tao   1:0
Ant - XiniX   1:0
Goldbar - The King   0:1

Above the 3 Prize-winners. Below Jeroen Noomens with Tiger's 1st. Prize.

With its win over Diep, Gambit Tiger takes the Championship! The big drama took part in the Ant-XiniX: XiniX had 3 queens against none (!!!), but failed to give mate in 1. After lots of checks XiniX lost on time! Bugs can always appear in important tournaments, still this was awful luck for Tony Werten, the author of XiniX.

Round 11
Gambit Tiger - Duck   1:0
Morphy - Quest   0:1
Kallisto II - Ant   1:0
The King - McTobber   1:0
Patzer - Nimzo   1:0
Tao - XiniX   1:0
Goldbar - Diep   draw

The top 3 placings are settled in this round: **Gambit Tiger** completes a remarkable tournament with a 32 move win v Duck, **The King** mates McTobber in another quick game (26), **Quest** has no problems with Morphy, and Patzer crowns a strong tournament with a great victory over a sad Nimzo.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	/11
1	**Gambit Tiger**	x	1	=	1	=	1	1	1	1	1		1	1		10
2	**The King**	0	x	=	1	1		1	1	=	=	1	1	1		8½
3	**Quest/Fritz**	=	=	x	0	1	1	0	1	1	1		1		1	8
4=	**Nimzo 8**	0	0	1	x	0	=	1	=	1		1		1	1	7
	Patzer	=	0	0	1	x	=	=		1	=	1	1		1	7
6	**Kallisto II-X**	0		0	=	=	x	=	1	=		=	1	1	1	6½
7	**Tao**	0	0	1	0	=	=	x	0		1	1		1	1	6
8	**Ant**	0	0	0	=		0	1	x		1	=	=	1	1	5½
9	**Diep**	0	=	0	0	0	=			x	=	1	1	=	1	5
10	**XiniX**	0	=	0		=		0	0	=	x	1	0	1	1	4½
11	**McTobber**		0		0	0	=	0	=	0	0	x	1	=	=	3
12=	**Duck 1992**	0	0	0		0	0			0	1	0	x	0	1	2½
	Goldbar 2000	0	0		0		0	0	0	=	0	=	1	x	=	2½
14	**Morphy 3.2**			0	0	0	0	0	0	0	0	=	0	=	x	1

DEEP TROUBLE foR IM's/GM's iN
Kasparov Internet Chess Event!

During November **KasparovChess.com** ran a unique series of Human vs Machine matches, over the Internet and with live expert commentary.

The computer programs were **Deep Fritz** and **Deep Junior**, each running on quad (4) 500MHz Xeon processor systems.

10 GM's and IM's were lined up, and each day the selected human player faced both programs back-to-back. The time control was Game in 60 minutes, and in each pair of games the second game started 10 minutes after the first finished.

The Deep FRITZ version in use was a final beta test version of the one due out commercially 'any day'. However this Deep JUNIOR was an experimental version in which *'much'* has been changed, especially in an attempt to improve its evaluation function.

At a time when some players are trying to get the 'all conquering' computers banned from any tournaments bar their own, it is good to see such a group of strong IM's and GM's willing to meet such strong programs at a sensible time control!

I was interested to read Junior programmer **Shay Bushinsky**'s comment that many programmers actually see human opposition as a *'dangerous trap!... if your program wins, it was <u>the awesome machine</u> that won against the poor human, but if you lose, then <u>the program</u> gets the blame, it "sucks"!*

For this issue of *Selective Search* we have the results with some very brief game outline comments and just a couple of game snippets. We'll come back to it with some fascinating game analysis in our next issue!

7 Nov: 1 Deep Junior - Bezgodov (2557) 1/2
7 Nov: 2 Bezgodov (2557) - Deep Fritz 1/2

Against DJ, Bezgodov ran short of time but played an inspired defense to get a perpetual check and draw in game 1 when it had seemed he'd not survive!

In the game v DF he gave up a bishop for three pawns and reached an easy endgame draw. The game was interesting because Fritz evaluated the material imbalance as quite favourable to itself, but Bezgodov and the GM's watching insisted the game was always equal.

8 Nov: 3 Deep Fritz - Janovsky (RUS, 2495) 1-0
8 Nov: 4 Janovsky (RUS, 2495) - Deep Junior 1/2

The computers scored first blood in the series when

Deep Fritz beat GM Sergey Janovsky - DF nurtured a small advantage in the endgame quite impressively.

Deep Fritz - Janovsky, S
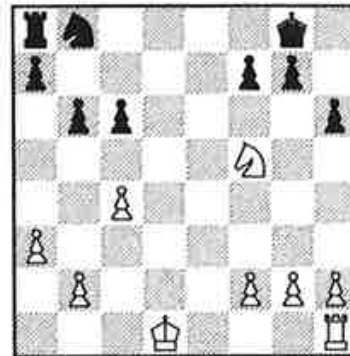
22...♚f8 *The way in which Fritz repositions its ♚ and activates its ♖ is worth watching!* **23.♚c2! ♘d7 24.♖d1! ♘f6 25.♖d6! ♖c8 26.♚d3 h5 27.b4 ♘g4 28.f3 ♘e5+ 29.♚d4 f6 30.♚c3 ♖c7?** *30...c5 would have kept a draw in sight* **31.♘d4 ♚e7 32.c5! g5 33.g3 bxc5 34.bxc5 ♚f7 35.f4 gxf4 36.gxf4 ♘g6 37.♖xc6 ♖xc6 38.♘xc6 ♘xf4 39.♘xa7** *The timing of Fritz's moves is excellent and the extra pawn it has now won is decisive* **39...♚e6 40.♚c4 ♚d7 41.a4 ♚c7 42.♘b5+ ♚c6 43.♘d4+ ♚c7 44.a5 ♘g6 45.c6 ♘e5+ 46.♚d5 ♘d3 47.♘b5+ ♚b8 48.c7+ ♚c8 49.♚d6 1-0**

Deep Junior saved an ending that looked slightly worse for black.

Janovsky, S - Deep Junior

39.f4! ♚f7! 40.♘d2 ♚g6 41.♘f3 ♚h5 *The key moment! What should White do next?* **42.♚g1** *Maybe 42.♘e5 forcing 42...♝c8 and now 43.♚g1 intending ♚f2; or 42.d6 followed by ♘e5. Any Sel-Search readers like to analyse these a bit deeper?* **42...d6!** *And the chance has gone for either*

White's d6 or ♘e5! 43.♘g5 ♚g6 44.♘e6 ♗c8
45.♘c7 ♚f7 46.♚f2 ♚e7 47.g3 ♗d7 48.♘b5
♗xb5 49.axb5 hxg3+ 50.♚xg3 ♚f6 51.♚f3 ♚f7
52.♚g3 ♚g6 53.♚f3 ♚f6 54.♚g3 ♚f7 55.h4 ½-½

9 Nov: 5 Deep Junior - S.Polgar (ISR, 2501) 1/2
9 Nov: 6 S.Polgar (ISR, 2501) - Deep Fritz 0-1

WGM Sofia Polgar played her old favourite against
Junior - recently also tested by Kramnik against Kas-
parov - the Berlin Defence, and did well to defend an
interesting endgame for the draw. With White in game
6 against Fritz, she pushed her f-pawn a little over-
optimistically, and then missed the computer's nice
pawn-winning ..Nf6! shot. It was downhill from there.

10 Nov: 7 Deep Fritz - Belov (RUS, 2470) 1-0
10 Nov: 8 Belov (RUS, 2470) - Deep Junior 1/2

Fritz had a typical computer win in game 7 over IM
Vladimir Belov, who had crushing attacking chances.
Fritz defended well, grabbed a pawn or two, Belov
failed to find a win, computer won! An exciting game!
Did Belov miss a win? Against Junior the IM quickly
headed for the safety of the endgame!

11 Nov: 9 Deep Junior - Har Zvi (ISR, 2508) 1/2
11 Nov: 10 Har Zvi (ISR, 2508) - Deep Fritz 1/2

Israeli GM Ronen Har Zvi also tried the Berlin Defense
and got a winning ending, but couldn't convert with
only a minute on his clock! Fritz foolishly locked up
the queenside in its game, but found a saving ...f5 just
in time. Now with an advantage it couldn't find the way
to break through, though analysis next Issue will try to
show that walking the king over to the queenside and
preparing ...g6 might have done it!

12 Nov: 11 Deep Fritz - Vlassov (RUS, 2455) 1/2
12 Nov: 12 Vlassov (RUS, 2455) - Deep Junior 0-1

After getting an easy draw against Fritz, IM Nikolai
Vlassov gave us some exciting chess, playing hard for
a win against DJunior in game 12. But as we know,
when you play to win you often risk losing against a
computer, and Junior generated a wicked counterat-
tack. This 'new' DJ ignored Vlassov's helpless d-pawn
in order to attack his king, and broke through nicely for
a two-queen win after great chess from both players!

13 Nov: 13 Deep Junior - Golubev (UKR, 2523) 1-0
13 Nov: 14 Golubev (UKR, 2523) - Deep Fritz 0-1

GM Mikhail Golubev also tried the aggressive, tactical
route, and against both machines! But the Dragon ex-
pert couldn't defend against DJ's interesting e5 break-
through in game 13, which ended in a pretty mate.
Against Fritz the GM out-tacticked the machine in the

centre, but fell for a cheapo in the ending with ...Rg6?
when he probably could have drawn. The first 2-0!

14 Nov: 15 DFritz - Khodarkovsky (USA, 2410) 1-0
14 Nov: 16 Khodarkovsky (USA, 2410) - DJunior 0-1

Humans are supposed to learn from their mistakes!...
but it's the machines which are improving! IM Michael
Khodarkovsky was swept away 2-0 as two decent po-
sitions were transformed into tactical nightmares by
Fritz and Junior.

15 Nov: 17 Deep Junior - Alterman (ISR, 2564) 1-0
15 Nov: 18 Alterman (ISR, 2564) - Deep Fritz 1-0

Right after Deep Junior proved, in a remarkable dem-
onstration, that computers can play positional chess,
GM Boris Alterman proved that they can also be made
to look silly! With classic anti-computer play that saw
Fritz go down a pawn and then get its queen trapped,
Alterman (amusingly dubbed 'Deep Boris' on the **kas-
parov** web pages) won a piece and then converted
the endgame to the human team's first (and only) win
of the series!
    Here is a totally unique position (8 White pawns on
the 4th rank) which occured in Alterman-DFritz. We'll
look at Alterman's win from here, as well as DJunior's
fine win in Alterman's other game, in our next Issue!

16 Nov: 19 Deep Fritz - Levitt (ENG, 2438)1-0
16 Nov: 20 Levitt (ENG, 2438) - Deep Junior 1/2

GM Jonathan Levitt played his very own Clarendon
Court Defense against DFritz in game 19, but Fritz an-
nounced mate in 16 on move 38. Ouch! Anti-computer
play was successful against Junior as Levitt reached
what must have been a winning ending. But after an
inaccuracy he grabbed a perpetual check draw.

So the computers win 'by a mile'... 14½-5½. **Deep
Fritz** scored 7½/10 for a **2692** Elo grade, and **Deep
Junior** 7/10 for **2652**. Pretty close to what we'd ex-
pect, in fact just a touch better, which is helpful and
encouraging in our efforts towards indicating realistic
ratings!

THINKING BACKWARDS: a Problem for Computer Programs? *by Bill REID*

In an article in *SS79* I examined an area where human players may have an advantage over programs - what I have called *'statics'*: situations where aspects of a position can become permanently fixed, so that purely tactical analysis can come up with the wrong answer.

Here I want to look at this kind of problem under the more general title of *'thinking backwards'*.

Computers think forwards!

They begin with a position and then consider the consequences of various moves, followed by various replies, followed by various replies to replies, and so on. The advantage of this is that all possibilities are thoroughly examined. Computers will not 'blunder' through overlooking something that lies 2, or 3, or 4 moves ahead - or even further.

The corresponding disadvantage is that the number of possibilities to be looked at soon becomes astronomical, so that a 'horizon' is reached. Something that lies over it is hidden to the program, though a human player might be able to spot it quite easily (this is what is happening in the case of *'statics'*).

Human players have relatively weak calculating power, but what they can do is visualise a position which might be reached several moves ahead, and then see how that future position could be connected back to what confronts them now.

In other words, they can think backwards. This is a technique which we all commonly employ both in practical matters - such as constructing something - or in theoretical matters - such as proving a mathematical proposition.

We have a vision of where we want to get to, and then we think about how to connect that vision back to the resources we currently command.

Here are some examples drawn from Alekhine's *'Best Games, 1908-1923'* - dating from long before the arrival of computers on the scene. In the first example, Alekhine 'thinks backwards' by visualising a position in which a pinned piece cannot be rescued.

Alekhine,A - Chajes,O
Karlsbad, 1911. [ECO: A13]

1.c4 e6 2.e4 c5 3.♘c3 ♘c6 4.♘f3 g6 5.d4 cxd4 6.♘xd4 ♗g7 7.♘db5 ♗e5 8.f4 a6 9.fxe5 axb5 10.♗f4 bxc4 11.♗xc4 ♖a5 12.0-0 b5

The White bishop is attacked by the b/♙, and Rebel8 after 15mins thought on a P/150 considers White's best plan is to retreat it by 13.♗b3, with a slight positional advantage +046. Alekhine, however, envisages a position where the b-file is open, so that he can ignore the threat to the bishop and fatally pin the Black knight against the queen. Having been told the aim, can readers visualise how this might be done?

13.b4!

Bill reports Rebel8 as choosing 13.♗b3. As a matter of interest, 13.♘xb5 would be the Hiarcs choice: ELH

New note [Nov]. I (Eric) have just received my new Rebel-11 CD with Century3.0. There obviously hasn't been time to go over the whole article with it, but I've added notes for a few moments which I've looked at quickly. Here C3.0 chooses 13.Be2 showing +62.

13...♕b6+

Retreating the rook, e.g 13...♖a8, simply loses a pawn to 14.♘xb5 after which White also has a massive attack

ELH: With our advantage of knowing Alekhine's plan, Black might have done better to take the pawn immediately, with 13...♘xb4, but 14.♘xb5 ♖xb5 15.♗xb5 still puts White on top..

14.♔h1 ♘xb4 15.♗xb5 ♖xb5

"It is clear that Black has no alterna-tive" Alekhine

16.♘xb5 ♕xb5 17.♖b1 ♗a6

There is nothing better.

If Black tries to escape the pin with 17...♕a5, White produces another with 18.♗d2 after which 18...♕xe5 19.♗xb4 followed by ♕f3 or ♕d6 is terminal

18.♕d6

This is decisive

18...f6

If 18...♘e7 19.♖fd1! ♘c8 20.♕xb4 wins

19.♖fc1

And Black is nearly ready to resign, which he did after

19...♕d3 20.♖xb4 g5 21.♖d4 ♕b5 22.a4 ♕b7 23.♖c7 ♕b1+ 24.♖d1 1-0

Another instance of 'backward thinking' is when the possibility exists for a pawn to queen.

Alekhine,A - Bogoljubow,E

Hastings Six-Masters, 1922. [ECO: D63]

1.d4 d5 2.♘f3 ♘f6 3.c4 e6 4.♘c3 ♘bd7 5.♗g5 ♗e7 6.e3 0-0 7.♖c1 a6 8.c5 c6 9.b4 ♘e4 10.♗f4 g5 11.♗g3 ♘xg3 12.hxg3 f5 13.g4 fxg4 14.♘e5 ♘xe5 15.dxe5 ♕c7 16.♕d4 ♖f5 17.♗d3 ♕xe5 18.♕xe5 ♖xe5 19.♖xh7 ♗f6 20.♔d2 ♗g7 21.♖ch1 ♖b8 22.♘a4 ♖f5 23.♗xf5 exf5 24.♖7h5 ♗e6 25.♖xg5 d4 26.exd4 ♖d8 27.♔c3 ♔f8 28.♖d1 ♔f7 29.♘b6 ♖h8 30.♖xg7+ ♔xg7 31.a4 ♖h2 32.♖g1 f4
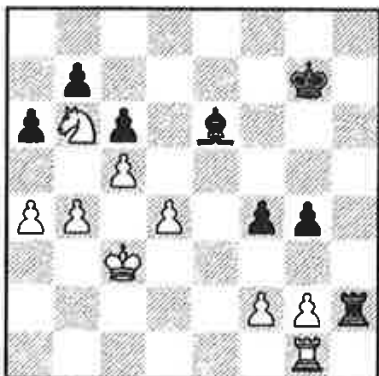
White, with an extra pawn, has winning chances. Rebel8, again after 15mins thought, settles on 33.♘c4, intending to bring the knight to e5, and judging that it is +081. (ELH: Hiarcs has the same idea and exactly the same evaluation!).

Alekhine however sees a much more convincing way to win. The b6/♘ controls c8. So, if a c/♙ could arrive on that square, White must win a piece.

33.d5! cxd5 34.♔d4 g3 35.f3 ♔f6 36.b5!

ELH: Hiarcs has this critical move in sight after 3secs. At 14secs the eval is +205

C3.0 also finds this vital move and in just 5secs - good! At 16secs the eval. is +115.

36...axb5 37.axb5 ♖h5

Perhaps Black's best try for a defence would have been to follow C3.0's suggestion, which is to get his king closer to the main scene of action with 37...Ke7

38.c6 bxc6 39.bxc6 ♔e7 40.c7

40.♖e1! would have been even stronger, though it would result in Black losing his piece without White's pawn needing to reach c8, thus spoiling Alekhine's achievement of his plan, and depriving us of the chance to use it as an example!

40...♔d6 41.c8♕ ♗xc8 42.♘xc8+
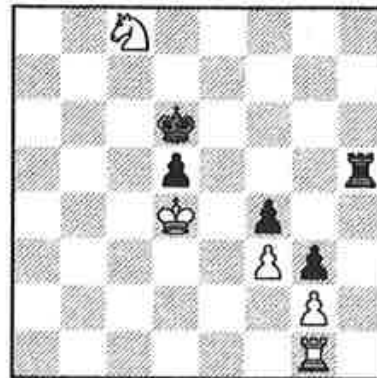
Alekhine has achieved his aim! The game is over, though Bogoljubow struggled on for 10 more moves before he was mated.

42...♔d7 43.♖c1 ♖h2 44.♖c2 ♔e6 45.♖e2+ ♔f6 46.♘b6 ♖h1 47.♘xd5+ ♔g5 48.♔e5 ♖h8 49.♘xf4 ♖a8 50.♘e6+ ♔h4 51.♖e1 ♖h8 52.♖h1# 1-0

My third and fourth examples concern the visualisation of mating positions. When there is a completely forced sequence, Rebel

can follow Alekhine's line of thinking - though it takes it quite a while to work through it.

Alekhine-Prat

Simultaneous display, 1913

In just under 15mins thought Rebel8 comes up with the key move:
22.♕h5+!

Good news here for C3.0 purchasers! The new program finds the move in only 2m08secs and actually shows mate in 14 at just 2m25!!

Indeed the move initiates a forced sequence ending in mate on move 31. Incidentally this game was part of a Simultaneous display over 20 boards, so obviously Alekhine didn't need 15mins to find the line. See our further note at the end of the game re mating positions!

22...♘xh5 23.fxe6+ ♔g6 24.♗c2+ ♔g5 25.♖f5+ ♔g6 26.♖f6+ ♔g5 27.♖g6+ ♔h4 28.♖e4+ ♘f4 29.♖xf4+ ♔h5 30.g3

It is good to have a diagram so that we can compare our initial position with that which Alekhine must have visualised!

Recognising mating patterns is a key

element of improving at chess... Murray Chandler's excellently titled book *'How to Beat your Dad at Chess'* contains 50 such themes for instructive study. Here, whatever Black plays, ♖h4 is mate. **1-0**

However mating attacks are not always so straightforward. Sometimes what is visualised is 'just' a step along the way.

Wjakirev-Alekhine

Correspondence game, 1908

This time with 15mins Rebel8 gives as the best move 25...♘h4 and +068 (ELH: Hiarcs again agrees with Rebel).

But Alekhine visualises a position where the White ♔ is on g3 and Black can deliver mate with ♗h4. How to get there?
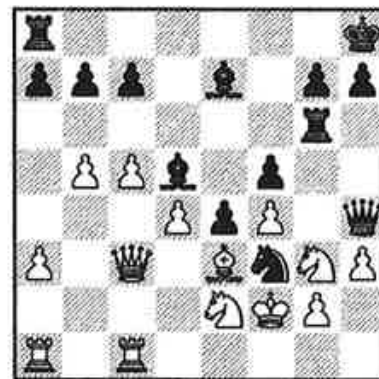**25...♕h4!**

No doubt readers can see the threat posed by Black's f3/♘!
26.b5

Removing the dangerous knight with 26.gxf3? is not recommended: 26...exf3 27.♘g1 ♖g6!
26...♖g6! 27.♖fc1 ♗e7

Black threatens 28...♖xg3 29.♘xg3 ♕xg3 30.♔xg3 ♗h4 mate!

The aim is already within view! White can and does avoid this, but it was Alekhine's visualisation of this possibility which won the game!

28.♔f1

Now the mate must be achieved in a different way, but it is White's need to counter the first threat that leads directly to his demise.

Here is how the game ended:

28...♖xg3 29.♘xg3 ♕xg3 30.♗f2 ♕h2 31.gxf3 exf3 32.♖c2 ♖e8 33.♗e3 ♕h1+ 34.♗g1 ♗h4 35.♖h2 ♕g2+ 36.♖xg2 fxg2#
0-1

We can conclude that, until computer programs learn to think backwards, human players can still occasionally hope to outwit them.

A few days after I received the above excellent article from Bill, a further letter dropped onto my doormat!

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Dear Eric,

I'm sending a copy of a remark-
able win by Bareev which at first
sight seems to be a classic case
of creating a semi-static.
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Here is the game Bill sent, with a mixture of his and my notes in their appropriate places!

Bareev,E - Piket,J

Montecatini (round 7), 2000. [ECO: A25]

1.c4 e5 2.g3 ♘c6 3.♗g2 g6 4.♘c3 ♗g7 5.♖b1 f5 6.b4 ♘f6 7.b5 ♘e7 8.e3 a6 9.b6 c6 10.d4 d6 11.♘ge2 ♗e6 12.♕b3 0-0 13.dxe5 dxe5 14.♘a4 ♘d7 15.0-0 ♕e8 16.♗a3 ♕f7 17.♖bc1 ♖ad8 18.f4 ♖fe8 19.♗d6 exf4 20.♘xf4 ♘e5 21.♘xe6 ♕xe6 22.♖fd1 ♘c8 23.♘c5 ♕f7

White can now create a semi-static, in this case putting Black's ♕ out of play at the cost of a piece.

I would be VERY surprised if any computer program could come up with such an inventive idea!

24.♘xb7!

In fairness to Rebel8 (and Junior6 for example: ELH) it comes up with a move which also looks to be winning: 24.♗c7! ♖xd1+ 25.♖xd1 ♘xc4 26.♗xc6 ♘8xb6 27.♗xe8 ♕xc7 28.♘d7.

C3.0 produces the same in quick time.

Why did Bareev reject this? He must have been very confident of the damage to Black of having a (semi−)static queen!

24...♕xb7 25.♗c7!

Rebel8 (and Junior6: ELH) think that White is now clearly losing

25...♖d7 26.♖xd7 ♘xd7 27.c5+ ♔h8 28.h3 ♘f6 29.♖d1

It is of particular interest and very surprising that, having locked up the queen on the queenside, White does not then go for a win with superior force on the king−side. Instead he proceeds with threats in the centre and on the queenside itself!

29...♘e7 30.♕e6

30...♕a8

Rebel8, convinced that White is now lost, would have chosen 30...♘ed5? (+359), as would Junior6 and others.

C3.0 has the same intention, but the eval. is lower at +245 which is nearer the mark than

its predecessors.

Worth noting: Hiarcs8exp shows White at = after 19secs on a P/600 and changes to 20...a5 (to free the queen?). This, for once, is more like it.

Bareev (when he played 30.♕e6) and Piket must also both have seen what happens if the computer choice of 30...♘ed5 is played: 31.♗xd5! ♖xe6 32.♗xe6 ♘d5 (again) 33.♖xd5 cxd5 34.♗d7! Cannot Rebel8 analyse to that depth!? (says Bill).

Rather than being foxed by anti-static, it now seems not to realise that 2x♗ and 2 united, advanced, passed pawns are worth more than ♕+♗?? What is going on? Perhaps Rebel Century can tell us?

ELH: Century1.0 quickly has the losing line to 32.♘d5, but eval. still Black +288 at 13mins on a K6/300.

ELH: the problem is partly with 33.Rxd5 it seems, which the earlier program struggles to find. It shows Bxd5 at first and then Bf4. Rebel8 doesn't seem to give Rxd5 any credence during the 5mins. for which I tried it, whereas C3.0 found it in 35secs. Of course this is much much faster (and the eval. is also far better, with White at +7), but needing 35secs here indicates why the whole idea wasn't seen at move 30. Incidentally by 34.Bd7 the C3.0 eval. quickly goes to White +101.

31.♖b1 ♕b7 32.♗f4 h6 33.♖d1 g5 34.♗c7 ♕a8 35.♖b1 ♕b7

Junior6 still shows Black +149 here! We have a series of moves perhaps designed to get the players to the time control. Then Bareev finds the right plan!

36.♖d1 ♕a8

I'm sure readers can see 36...♕c8?? extricating the queen, cannot be played: 37.♕xc8 ♘xc8 38.b7! wins

37.♖b1 ♕b7 38.♖d1 ♕a8 39.♖d6! f4 40.♕f7 ♘f5?

A mistake under enormous pressure. 40...♘fg8 was best and White would still need to do some work to clinch the win even though Black's queen is still incarcerated.

However after 41.exf4 ♖f8 42.♖xh6+ ♘xh6 43.♕xe7 there would probably be exchanges on f4 and Black may have drawing chances

41.♖xf6 fxe3 42.♖e6 ... 1-0

Bill and I both spotted that Piket, the loser

in this game, demonstrated another perplexing computer chess issue (the *'Veiled Attack'*) in his win against DJ6 in Dortmund. See coverage on pages 28-29 of *Selective Search 90.*

Finally (ELH) it is already clear from this brief check of **Rebel Century3.0** that the new version is going to do much better than any Rebel predecessor.

That is not to suggest that either it or any other software yet shows signs of solving static-type issues. But all improvement is welcome, and deeper, faster searching with improved evaluations has to be good. In all there are certainly 2 or 3 occasions here where we can see a very clear step in the right direction!

✝ In Memory ✝

Very many of my readers will know the name **Terry Knight**, who died suddenly at the end of September.

He had taken his daughter, Marie-Joy, to Reading, to help her do some final shopping to get her ready to go to Bristol University, when he was suddenly taken ill in his car. Although an ambulance was called and arrived quickly, he was found to have died of a massive heart attack.

Terry's computer chess (and bridge) business was best known as *Competence*, though he also traded as *The Specialists* at one time. I worked for him for about a year when he was in Wallingford and a further year later on, after he had moved to Wimborne.

He represented Fidelity in the UK during their heyday in the early 1980's, when chess computers were quite a profitable business to be in! In recent years, with first Fidelity taken over by Mephisto (who were later incorporated into Saitek), and then the rise of PC's & software which caused a drop in the dedicated computer market , things became more difficult.

Perhaps Terry was best known in the computer chess world for his *'Phone today have it tomorrow!'* headline, and his 28 day home trial scheme - the latter I think probably brought in some extra business, but often also caused him quite a few headaches!

Through it all Terry always maintained a cheery and optimistic disposition, and his death came as a great shock to both family and friends.

I had spoken to him only a few days earlier when he rang our Countrywide office to order something, and we had a quick but cheerful chat, as always. I have since spoken to Marie-Joy, and she is bearing up well, all things considered - she and her dad, Terry, were very close. I liked him and I'll miss him.

COMPUTER CHESS
PRODUCT LISTING for 2001

DEDICATED CHESS COMPUTERS

For all computers listed:
- BCF/Elo ratings for computers rated over 125BCF/1600 Elo are taken from *Selective Search*.
- [A] = can be used with Adaptor.
- [B] = can be used with Batteries.
- [no OB] = no Opening Book... *I* recommend users choose a computer with an Opening Book.
- [tiny OB] = tiny Opening Book
- [s/s] does not mean *Selective Search* this time, but = *'in short supply and model may be discontinued'*.

PORTABLES

Kasparov Aria Peg style plug-in with move & clock display. 63x108mm. Est'd rating 50 BCF/1000 Elo. **£19.95** [B]-[no OB]

Kasparov Avalon Peg style plug-in with move & clock display. Many levels plus teaching modes. 176x100mm. Est'd rating 60 BCF/1080 Elo. £24.95 [B]-[tiny OB]

Kasparov Aurora The Avalon program with a voice mode. 173x136mm. Est'd rating 60 BCF/1080 Elo. **£29.95** [B]-[tiny OB]

Novag Jasper Special Keyboard entry with move display, hints & training features, plus small folding board & magnetic stand-up pieces. Est'd rating 100 BCF/1400 Elo. **£32.95** [B]-[tiny OB]

Novag Amethyst Plus Peg style plug-in with move display, hints & training features. Piece storage and clip-on lid. Est'd rating 100 BCF/1400 Elo. **£34.95** [B]-[tiny OB]

Novag Tourmaline Plus Semi-portable with 150x150mm board & stand-up pieces. Key entry and move display. Est'd rating 100 BCF/ 1400 Elo. **£39.95** [B]-[tiny OB]

Kasparov Bullet Peg style plug-in. Voice option includes move announcement, hints & coaching features. 230x182mm. Est'd rating 100 BCF/ 1400 Elo. **£49.95** [B]

Novag Opal Plus 125x125mm board with storage area for stand-up Staunton pieces. 8,500 opening book, teaching mode. Est'd rating 125 BCF/1600 Elo. **£49.95** [A or B]

Tiger Mk.2 Morsch program with keyboard entry system. Info display for analysis & evaluations. Includes flat disc pieces. Est'd rating 166 BCF/1927 Elo **£69.95** [A or B]

Kasparov Cosmos Peg style plug-in. Strong Franz Morsch program using H8 RISC-style processor. Display shows user-selectable info incl. hints + evaluations. Multiple levels and 'Coach' bad move warning system. 230x182mm. Est'd rating 178 BCF/2025 Elo. **£99.95** [B]

Novag Amber Distinctive plug-in with clip-over lid. Info-rich scrolling display for analysis, evaluations and coaching features. Big opening book. Est'd rating 175 BCF/1998 Elo. **£139.95** [A or B]-[s/s]

Novag Sapphire 2 *(see Countrywide advert on Inside Front Cover for photo and full details)*. Est'd rating 195 BCF/2159 Elo. **£199.95** [A or B]

PRESS-SENSORY TABLE-TOPS

Kasparov Atlas The Aria program & same features in 239x239mm board. Est'd rating 50 BCF/1000 Elo. **£24.95** [B]-[no OB]

Kasparov Alchemist The Avalon program & same features in a 314x251mm board. Est'd rating 60 BCF/1080 Elo. **£34.95** [B]-[tiny OB]

Kasparov Blade The Bullet program & same features incl. voice option in a 315x239 board. Est'd rating 100 BCF/1400 Elo. **£49.95** [A or B]

Novag Aquamarine Premier Plus A computer for hobby players. 200x200mm board with move display. Useful teaching modes! Est'd rating 100 BCF/1400 Elo. **£54.95** [A or B]-[tiny OB]

Novag Agate Plus High-speed program and challenging chess. Wide range of levels and built-in training system. 8,500 opening book. Est'd rating 125 BCF/1600 Elo. **£69.95** [A or B]

Kasparov Barracuda An excellent Franz Morsch program on the H8 chip. Display shows user-selectable info incl. hints + evaluations. 308x230mm. Est'd rating 168 BCF/ 1945 Elo. **£79.95** [A or B]

Kasparov Centurion Basically the Barracuda in a bigger board (336x252mm) - not as many novice levels but has 'Coach' bad move warning system. Display shows user-

selectable info incl. hints/evaluations. Est'd rating 168 BCF/1945 Elo. **£79.95** [A or B]

Kasparov Capella A press-sensory but in a wood finished veneer with wood felted pieces. 64 levels incl. beginners. 311x311mm. Est'd rating 162 BCF/1893 Elo. **£99.95** [A or B]-[s/s]

Kasparov Cougar Display shows user-selectable info incl. hints + evaluations. 'Coach' bad move warning system. 418x283mm. Est'd rating 178 BCF/2025 Elo. **£99.95** [A or B]

Novag Turquoise Amber/Emerald program & features in modern look board. 290x330mm. Est'd rating 175 BCF/1998 Elo. **£99.95** [A or B]

Kasparov Chess Academy 64 LED's. Voice for move announcement and interactive teaching (10 topics each with 10 lessons) + Display which shows user-selectable info incl. hints + evaluations. Est'd rating 162 BCF/1893 Elo. **£149.95** [A or B]

Novag Emerald Classic Plus An excellent Dave Kittinger program and in a lovely wood-look board with wood pieces! Info-rich scrolling display for analysis, evaluations and coaching features. Big opening book. Est'd rating 175 BCF/1998 Elo. **£149.95** [A or B]

Mephisto Milano Pro 340x260mm board with 32-bit Franz Morsch program. Info & evaluation display. 50,000 opening book. Clip-on 'laptop' lid. Est'd rating 190 BCF/2121 Elo. **£249.95** [A]-[s/s]

Novag Diamond 2 *(see Inside Front Cover for photo and full details)*. Est'd rating 195 BCF/2159 Elo. **£249.95** [A or B]-[s/s]

Mephisto Atlanta Spec. as for Milano Pro, PLUS hash tables for extra speed & strength, and 64 LED's for ease of use! Est'd rating 204 BCF/2235 Elo. **£379.95** [A]

WOOD AUTO-SENSORY BOARDS

Novag Universal board with Sapphire 2 computer *(see advert on Inside Front Cover for photo and full details)*. Est'd rating 195 BCF/2159 Elo. **£369.95** [A]

Mephisto Exclusive with **MM6 program modules** Beautiful 400x400mm wood auto-sensory board with wood, felted pieces. Packed with features, incl. info & evaluation display. Est'd rating 180 BCF/2035 Elo. **£449.95** [A]

Mephisto Exclusive with **Senator program modules** As MM6 above, but with Franz Morsch's terrific 32-bit Milano Pro/Senator program. Est'd rating 190 BCF/2121 Elo. **£649.95** [A]

Mephisto Exclusive with **Magellan program modules** As above, plus Franz Morsch's terrific 32-bit Atlanta/Magellan program with hash tables. Est'd rating 204 BCF/2235 Elo. **£749.95** [A]-[s/s]

CHESS: PC BOARDS

DGT wood auto-sensory board Play on this superb tournament 480x480mm piece recognition chess board against your PC loaded with Fritz, Hiarcs, Junior or Nimzo! There are no LEDs as the moves are announced vocally through your PC speakers. Analysis can be obtained in the usual way from the PC screen whenever required. Smooth, sophisticated and beautiful! Mains transformer included. **£274.95** [A]

CHESS CLOCKS
(also suitable for other games!)

Saitek Clock Mk.2 A superbly made, ultra reliable clock, selling to individuals and chess clubs alike. Clear and accurate, with all the features you could require for Tournament, Blitz, Bonus, Bronstein and other time controls. 190mm wide x 70mm high. **£49.95** [B]

DGT Clock "2000 plus" Probably the leading electronic clock with all the traditional time controls plus Fischer & Bronstein modes. Smart black casing, 190mm x 55mm. **£64.95** [B]

CHESS PC SOFTWARE
PLAYING PROGRAMS
(all on CD & for Win95/98/2000 unless otherwise stated)

ALL of the software in this listing is for IBM compatible PC's. Whilst the <u>minimum</u> requirement in one or two cases is a 386/486/Pentium, really a Pentium Pro2/3, MMX, or AMD K6/K7 is recommended. <u>Almost all programs also now need you to have a CD ROM drive</u>. Most 'prefer' 64MB RAM or more, but will run okay under 32MB... but not usually less.

Remember: 8-bit and 16-bit programs will sometimes run on MS-DOS, but 16-bit <u>may</u> be Windows ONLY! 32-bit programs are always that and more, they are Windows95/98/2000 ONLY, plus (usually) WinNT!

The PROGRAMS we list are aimed at chess players - meaning that their main qualities are not related to flashy graphics or wild sound effects etc. All of the programs do have good, clear, easy to see chess boards and analysis detail, of course... indeed 3D displays and move announcement with comments feature in most. But top of the agenda for these programs has been maximising strength, providing big opening books, ensuring that the specific analytical features wanted by the more serious chess users have all been provided and can be studied on screen, running under easy to use feature systems, so that the **chess** takes priority! Most of those listed are genuinely in use by various IM's and GM's, including Kramnik, Kasparov and Anand amongst many others.

■ **ChessBase playing programs**: the following five are CHESSBASE's latest 32-bit ENGINES. Each includes a massive 300,000 games Database, superb large Opening books, amazing playing Strength, remarkable Analytical features, great Graphics, Voice options, 3D boards, game and diagram Printing. What more can we say!? Buy 2 and play them in a match on one computer! In addition all of these engines can be used within either ChessBase7 or ChessBase8 for analysis whilst playing through or studying games.

Fritz 6 by Franz Morsch **£39.95**
Junior 6 by Amir Ban **£39.95**
Hiarcs 732 by Mark Uniacke **£39.95**
Nimzo 832 by Chrilly Donninger **£39.95**
Young Talents (7 playing engines: Goliath, SOS, Anmon, Gromit, Ikarus, Patzer & Phalanx) **£46.95**

■ **Other playing programs:**

Rebel 11   This CD not only contains the new **Century 3.0** (DOS & Win) by Ed Schroder, but also Christophe Theron's new Rebel **Tiger 13.0** plus his **Gambit** Tiger engine (both Win). Enjoy wonderful chess from 2 top programmers on this CD, which is *packed* with features, a massive Games Database, Encyclopedic openings and other goodies! **£46.95**

Shredder 5   by Stefan Meyer-Kahlen. The reigning World Computer Champion - it won in 1999 and now again in 2000, a remarkable achievement against all of the world's top PC software! It's packaged with 3 other engines: SOS, Crafty and Nimzo 2000, plus a massive Opening book and the Nalimov tablebases, all on 6 CDs! **£69.95**

Gandalf 4.32 by Steen Suurballe. Winboard & ChessBase compatible, though the user needs to set up a couple of .ini files **£34.95**

Hiarcs 7 by Mark Uniacke (DOS, Windows compatible, MAC). Popular amongst folk with a PC at home and a MAC at the office, Hiarcs programs are loved by all for their humanlike playing style! **£49.95**

DATABASE & GAMES COLLECTIONS
(all on CD & for Win95/98/2000)

ChessBase 8.0 The most popular and complete Games Database system, with the very best features. Over one million games, players' encyclopaedia, multimedia presentations, search trees, statistics, superb printing facilities and (genuinely) much, much more! Only **£99.95**!

<-- With *either ChessBase7 or 8*, buy one of the **ChessBase playing programs** (opposite) and get analysis whilst you input or play through games!

ChessBase 7.0 The 1999/2000 version with a 300,000 games database has been reduced to **£49.95**

Upgrading from ChessBase7->8 is **£59.95**... we need a note of your registration number!

TUTORIAL PROGRAMS
(all on CD & for Win95/98/2000)

ChessMates (PC as above and MAC) Animated teaching with Wigby the Wizard. Includes tests and a playing program. **£34.95**

Maurice Ashley Teaches Chess This multimedia course aims to take the beginner to a good standard. Great for both children and adults - includes a playing program. **£39.95**

■ **Chess Mentor** courses can improve anyone's chess understanding and knowledge. Integrated 'hints' are always available to offer different levels of advice according to your needs. The 3 most popular courses are:

Chess Mentor Comprehensive £59.95
Chess Mentor Advanced £59.95
Chess Mentor Complete £224.95

Note: The COMPREHENSIVE course (for hobby players) and ADVANCED course (for club players) each include the basic Mentor interface system and 3 appropriate tutor modules. The COMPLETE course includes ALL 14 of the tutor modules. Purchasers of the Comprehensive or Advanced can buy individual modules for £22.95 each at a later time if they wish.
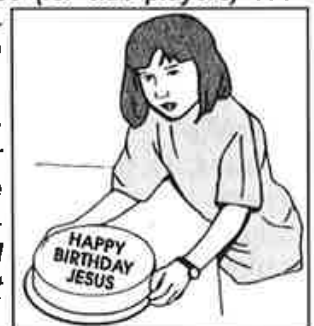
GENERAL COMPUTER + PC CHESS INFO

Additional Information which we print ANNUALLY as a GUIDE for using the RATINGS effectively.

These discussions include *TABLES* looking at various **rating issues**, **result expectancies**, and comparing the effect different **PC processors** are likely to make to a program's rating.

GENERAL ISSUES:

1. GRADING PLAYERS & COMPUTERS
2. RESULT EXPECTANCY
3. TIME CONTROLS AFFECT RESULTS
4. PC's & PROCESSORS

GRADING CHESS PLAYERS AND COMPUTERS

What is a GRADING ?!
Most of Europe, in fact nearly the whole world, use the Elo scale to measure a player's ability by comparing their results against other rated players in official Tournaments and Matches. The 'Elo' system was invented by Professor Arpad Elo, and is also used to grade table tennis players incidentally.

To complicate matters the British Chess Federation (BCF hereafter) has its own method! Like £sd, miles, furlongs and yards, and lbs and ounces, with BCF we Brits again demonstrate our determination to be different! There is a simple mathematical formula to convert a BCF Grade to Elo, and vice versa:-

(BCF x 8) + 600 = Elo.
E.g 175 BCF = (175 x 8) + 600 = 2000 Elo
(Elo-600) / 8 = BCF.
E.g 2000 Elo = 2000-600=1400/8 = 175 BCF

There is just one more complication! In the USA they use a calculation method almost the same as the Elo system, but results of Computers and PC Programs in their Tournaments and Tests come out higher than our BCF/Elo figures.

I've always deducted 120 from USCF figures, but the USCF themselves have released their own conversion method which is more of a 'sliding scale'.

	USCF rating	Elo equiv
Eric	all	-120
USCF	up to 2199	-160
''	2200-2399	-130
''	2400-2599	-100
''	2600+	-80

So before buying, check what you read in an advert, or on the computer's box. If it says *'graded xyz in official USA test'* or mentions USCF, I'd recommend you to deduct something straight away, following the above approx. figures, or just use my '-120'.

If the result was as Blitz or Active chess, there's more to deduct.... read on!

WHO WILL WIN? - BY HOW MUCH!?

The value of knowing the ratings for 2 computers (or 2 humans!) is that it enables us to forecast the likely result between them in a match.

Of course if only a single game or a few games are played, say 10 or less, then chance and probability curves tell us that almost anything can happen, but when enough games are played the statistics will usually prove about right!

The systems are easy to follow when we try to forecast the likely result of, say, a 20 game Match between 2 players. Our next example shows the expectancies, using slightly simplified mathematics:-

GAP between 2 players	Likely Score in a 20 game Match
5 BCF/40 Elo	11-9
10 BCF/80 Elo	12-8
15 BCF/120 Elo	13-7
20 BCF/160 Elo	14-6
25 BCF/200 Elo	15-5
30 BCF/240 Elo	16-4
35 BCF/280 Elo	17-3
40 BCF/320 Elo	18-2
45 BCF/360 Elo	19-1
50 BCF/400 Elo	20-0

After a Match (or even 1 game!) has been played, the respective players' Gradings will be adjusted up or down accordingly. If the result was different to what was expected, the change will be all the greater.

FAST CHESS!

The ratings we give in *"Selective Search"* are for 'Tournament' games at time controls from, at the fastest, Game in 60mins and 60 moves in 1hr., through to 'Tournament' 40 moves in 2hrs.

But a Computer playing against humans in an Active Tournament (Game/30) or a Blitz Tournament

(Game/5 or 10) should always get a higher perform-ance grade, as shown in our next TABLE:

Computer Improvement	@ FAST CHESS
Time Control:	Computer Gain:
Tournament Chess	= Normal
Speed/Active Chess (G/30)	+10BCF/+80Elo
Blitz Chess (G/5 orG/10)	+25BCF/+200Elo

Although the standard of the chess played usually drops a little at fast chess, the Computers nearly al-ways get higher gradings! Why? We believe that Com-puters are less prone both to blunders under time pressure, and mental exhaustion through playing many consecutive games, compared with their human opponents.

Therefore if you see 'claimed gradings' based on Blitz or Speed Chess, remember again to make an ap-propriate deduction (just like the -120 from USCF) to reach a truer Elo figure for your prospective purchase!

As an example: A Computer or Program grading of 2400 Elo in an Active Chess Tournament is the equivalent of 2320 Elo at Tournament (40/2) time con-trols.

If that 2400 was gained in the USA, then it's 2400 - 80 (Active) = 2320, and 2320 - 120 (USA) = 2200, and now this figure would be nearer the correct Tourna-ment Elo equivalent in my opinion.

PC and PROCESSOR: comparisons

What if your Computer is faster :-) .... or slower :-(? What difference does that make to the estimated grading?

This is not as simple a matter as it seemed to be 12 months ago.

In the period 10-15 years ago it was pretty much proven that a doubling in processor speed was worth 80 Elo points... a figure which was confirmed in both computer v computer and computer v human games.

However we were aware even then that gains of 80 Elo per doubling were not going to be maintained forever... constant speed doubling deepens analysis, but always further away from the root position. Tacti-cal discoveries at the 10th and 11th plies are never going to be as vital as those at the 4th and 5th plies!

For the past couple of years we have begun to view a speed doubling as being worth 60 Elo rather than 80. Play Fritz6 on a P3/450 against Fritz6 on a P2/233 and you'll get a definite confirmation of this... in fact

sometimes computer v computer results appear to still be at the 80 Elo 'doubling' figure. To a great degree SPEED still rules in computer v computer chess.

It would be really helpful if the rating gains from speed in computer v computer transferred themselves ex-actly to computer v human games, but it seems this is no longer so!

Unfortunately the clear evidence from latest v hu-man matches, with PC programs like Fritz and Junior on P/450-P/600 machines, and especially when on super-powerful Dual and Quad processor systems, in-dicates that the computer v computer Elo gains from speed are not being maintained against humans.

Certain strategical problems (statics, blocked cen-tres, misplaced pieces, long-term positional issues) are not solved by speed and depth of search.

Strong players aware of these shortcomings can and do take advantage of them against computers, whether it's Fritz on a Dual 600MHz machine or an early 1990's Mephisto Polgar 5MHz! Well, that's a slight exaggeration, but you see the point. My current best guess is that the speed improvement fall-off v hu-mans starts at around 100MHz.

This was discussed at greater length in *Selective Search 90*, and I expect it to be a matter we will need to look at again in the future. The first programmer to make increased speed really count against humans will have a breakthrough program!

The result is that I have added a third column to my next TABLE, which is somewhat *experimental!*

PC comparisons	if 233MHz=0	
PC PROCESSOR	+/- v Computers	+/- v Humans
Quad P3/500	140	100
Dual P3/500	100	75
Pentium3/750	80	60
Pentium3-K7/500	60	45
Pentium Pro2/450	40	30
Pentium Pro-MMX-K6/300	20	10
Pentium Pro-MMX/233	=	=
Pentium/166	-40	-30
Pentium/133	-60	-45
Pentium/100	-80	-60
486DX4/100	-140	-120
486DX2/66	-160	-140
486DX/50	-180	-160
486DX-SX/33	-220	-200
386DX-SX/33	-300	-280

RATINGS for ALL the TOP PROGRAMS

The PC gradings shown next are taken from the RATING LIST which appears regularly in *SELECTIVE SEARCH*.

Many readers play **Computer-v-Computer** matches and provide valuable results information for our RATING LIST. I collate these and other results from around the world to maintain a COMPUTER RATING LIST, which is as reliable and as accurate as I can make it! We all also owe a great deal to the work done by the Swedish testers in the **SSDF**.

My RATINGS are based on Pentium 233MHz PC's with 32MB RAM, processors which are nearly reaching the stage where they need to be classed as introductory machines - but at which we have established many gradings for **PC's v Humans**, so it makes a particularly good benchmark!

Readers can easily adjust the rating shown for any program by either adding or deducting the appropriate adjustment figure for their PC+processor from the human or computer column - I consider the 'human' column gives the truer rating. In that way they can get a very close-to-the-truth rating for their particular set-up.

Program	Rating
Fritz 6a	2625
Rebel Tiger 12	2600
Junior 6a	2599
Gandalf 432	2588
Hiarcs 732	2587
Hiarcs 7.1 (DOS+MAC)	2583
Shredder 4	2578
SOS *(Young Talents CD)*	2566
Nimzo 732	2564
Fritz 532	2564
Fritz 516	2555
Chessmaster 6000+7000	2553
Nimzo 98	2550
Nimzo 99A	2546
Goliath Light *(Young Talents CD)*	2543
Junior 5	2541
Crafty 17.07	2536
Hiarcs 6	2530
Rebel Century	2527
Rebel 10	2521
Rebel 9	2521
M Chess Pro 7	2510
M Chess Pro 6	2509
Chess Genius 5	2507
Shredder 3	2505

Chess Genius 4	2504
M Chess Pro 8	2503
Shredder 2	2498
Chessmaster 5000+5500	2486
Nimzo 3.5	2482
Gandalf 3	2476
Chessmaster 4000	2468
Junior 4.6	2456
Kallisto 2	2449
Fritz 4	2447
Crafty 16.15	2438
W Chess	2426
CS_Tal 2	2384
Comet A90	2382
Rebel Decade 2.0	2373
Zarkov 2.5/2.6	2334
Zarkov 2	2306
Comet 32	2301
Socrates 3	2300
Sargon 5	2297
Psion 2	2277
Rex	2268
Zarkov 3	2248
Chessmaster 3000	2211
Chess Champion 2175	2201

The NEW PROGRAMS!

In past years I have taken a big chance and included in the list my estimates for the ratings of new programs just out. Though my figures last year proved quite accurate, with one exception, this time I've decided to show the new programs in a separate list!

That exception was a BIG one... World Champion Shredder4. From its WMCC result and all its games (which I went through!), I felt fairly sure it would top the list, just ahead of Rebel Tiger. I had Fritz6 25 Elo behind this pair, which it <u>was</u>... but then ChessBase brought the 6a upgrade out, and that made top place!

I still personally find Shredder4 to be enormously strong, almost ideal for play against humans and it has excellent scores against the other top 5 programs. But it doesn't seem to win by such big margins against weaker oppositon, and I think this is costing it in computer v computer lists. So here goes for 2001....

Deep Fritz (due Dec)	est. 2665	*require dual or*
Deep Junior (out)	2639	*quad procs.*
Chess Tiger 13.0 (out)	est. 2630	*it may be very*
Shredder 5 (due late Nov)	est. 2620	*close - they could even all*
Gambit Tiger 1.0 (out)	est. 2610	*be the wrong*
Rebel Century 3.0 (out)	est. 2610	*way round!*

The (nearly) All-Time RATING LIST

Name	Rating	Name	Rating	Name	Rating
Deep Blue2	*2775*	Mephisto Milano	1994	Fidelity Elite C	1810
.Deep Blue1	*2700*	Mephisto Mondial 68000XL	1990	Fidelity Elegance	1804
Tasc R30-1995	2379	Novag Jade2+Zircon2	1988	SciSys Turbostar 432	1798
Mephisto London 68030	2347	Mephsto Montreal+Roma68000	1983	Mephisto MM2	1798
Tasc R30-1993	2329	Mephisto Amsterdam	1974	Fidelity Excellence/3+Des2000	1792
Mephisto Genius2 68030	2325	Mephisto Academy	1972	Kasparov A/4 module	1778
Mephisto London Pro 68020	2318	Novag Super Forte+Expert B/6	1959	Conchess/4	1774
Mephisto Lyon 68030	2292	Fidelity 68000 Mach2B	1959	Kasparov Renaissance basic	1773
Mephisto RISC2	2291	Mephisto Mega4	1955	Kasparov Prisma+Blitz	1773
Mephisto Portorose 68030	2282	Kasparov D/10 module	1950	Novag Super Constellation	1770
Mephisto Berlin Pro 68020	2273	Fidelity 68000 Mach2C	1947	Novag Super Nova	1763
Mephisto Vancouver 68030	2269	Kasparov Barracuda+Centurion	1945	Mephisto Blitz module	1757
Kasparov RISC 2500-512	2266	Kasparov GK2000+Executive	1945	Fidelity Prestige+Elite A	1728
Meph Lyon+Vanc 68020/20	2262	Mephisto Modena	1939	Novag Supremo+SuperVIP	1728
Meph RISC1	2255	Mephisto MM4	1934	Fidelity Sensory 12	1722
Kasparov SPARC/20	2248	Fidelity Travelmaster+Tiger	1927	SciSys Superstar 36K	1708
Mephisto Montreux	2237	Novag Ruby+Emerald	1925	Mephisto Exclusive S/12	1706
Mephisto Atlanta+Magellan	2235	Meph Supermondial2+College	1920	Meph Chess School+Europa	1704
Kasparov RISC 2500-128	2221	Mephisto Monte Carlo4	1920	Conchess/2	1700
Mephisto London 68020/12	2221	Novag Super Forte+Expert A/6	1920	Novag Quattro	1692
Fidelity Elite 68040v10	2200	Kasparov C/8 module	1918	Novag Constellation/3.6	1690
Mephisto Vancouver 68020/12	2191	Kasparov Travel Champion	1913	Novag Primo+VIP	1688
Mephisto Lyon 68020/12	2184	Fidelity 68000 Mach2A	1912	Fidelity Elite B	1678
Mephisto London 68000	2169	Mephisto Monte Carlo	1906	Mephisto Mondial2	1651
Mephisto Portorose 68020	2162	Conchess Plymate Victoria/5.5	1906	Fidelity Elite original	1649
Novag Sapphire2+Diamond2	2159	CXG Sphinx Galaxy	1904	Mephisto Mondial1	1638
Fidelity Elite 68030v9	2152	Kasparov TurboKing2	1897	Novag Constellation/2	1634
Mephisto Berlin	2151	Kasparov Adv.Trainer/Capella	1893	CXG Super Enterprise	1629
Mephisto Vancouver 68000	2141	Kasparov Chess Academy	1893	CXG Advanced Star Chess	1629
Mephisto Lyon 68000	2139	Novag Expert/6	1889	Fidelity Sensory9	1567
Mephisto Almeria 68020	2135	Conchess Plymate Roma/6	1885	Kasparov Astral+Conquistador	1566
Novag Sapphire1+Diamond1	2122	Fidelity Par Excellence/8	1884	Kasparov Cavalier	1566
Mephisto Milano Pro+Senator	2121	Fidelity 68000 Club B	1878	Chess 2001	1538
Mephisto MM4/Turbo18	2115	Novag Expert/5	1873	Novag Mentor16+Amigo	1537
Mephisto Portorose 68000	2109	Novag Super Forte+Expert A/5	1870	GGM+Steinitz module	1536
Fid Mach4+Des2325+68020v7	2103	Fidelity Par Excellence	1865	Mephisto 3	1519
Fidelity Elite 2x68000v5	2083	Fidelity Elite+Designer 2100	1865	Kasparov Turbo 24K	1516
Mephisto Mega4/Turbo18	2070	Fidelity Chesster	1865	SciSys Superstar original	1515
Mephisto Polgar/10	2068	Novag Forte B	1863	GGM+Morphy module	1512
Mephisto Roma 68020	2063	Mephisto Rebell	1861	Kasparov Turbo 16K+Express	1512
Mephisto Dallas 68020	2061	Fidelity Avant Garde	1861	Mephisto 2	1510
Kasparov Brute Force	2060	Novag Forte A	1852	SciSys C/C Mark6	1468
Mephisto Almeria 68000	2044	Fidelity 68000 Club A	1851	Conchess A0	1466
Novag Scorpio+Diablo	2041	Kasparov Stratos+Corona	1848	SciSys C/C Mark5	1459
Mephisto MM6	2035	Mephisto Supermondial1	1844	CKing Philidor+Counter Gambit	1440
Kasparov Cougar/Cosmos	2025	Kasparov A/6 module	1843	Morphy Encore+Prodigy	1398
Kasp President+GK+TC2100	2025	Conchess Plymate/5.5	1838	Sargon Auto Response Board	1380
Mephisto Nigel Short	2019	Kasparov TurboKing1	1838	Novag Solo	1340
Mephisto MM4/10	2015	Conchess/6	1837	CXG Enterprise+Star Chess	1320
Fid Mach3+Des2265+68000v2	2012	Kasparov Simultano	1833	Fidelity Sensory Voice	1300
Meph Dallas 68000	2006	Novag Expert/4	1828	Chess King Master	1260
Mephisto MM5	1999	Fidelity Excellence/4	1825	Boris Diplomat	1200
Novag Emerald Classic+Amber	1998	SciSys Turbo Kasparov/4	1824	Fidelity Chess Champion 10	1200
Mephisto Polgar/5	1997	Novag Jade1+Zircon1	1818	Novag Savant	1160
Nov Super Forte+Expert C/6	1997	Conchess Plymate/4	1818	Boris2.5	1120