

SELECTIVE SEARCH

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The TERMINATORS!

DEEPER BLUE 3½
Gary Kasparov 2½

HIARCS6 4
Deen Hergott, IM 2

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NEWS and RESULTS

Latest Computer Results - New Product - Other Info

Welser 1997, cont...

When SS/69 went to print, we were just about three-quarters of the way through the annual Welser Tournament.

Welser 1997 was played over **12 rounds** at 40/2, on the Autoplayer 232 system, using a Pentium/133. Mention should also be made of **Franz Wiesenecker**, who organises these Events and to whom thanks are due.

Here was the Score-Table, already seen in SS/69, with 3 rounds to go.

Welser 1997: after 9 rounds

7	Rebel7
6½	Genius5, MChessPro6
6	Hiarcs5, Hiarcs4
5½	Nimzo3.5, Nimzo3, Genius2, Kallisto1.83
5	Hiarcs3
4½	MCPPro5, MCPPro4, Fritz3, Fritz2
4	Genius3, Rebel8, Kallisto1.98, CometA45
3½	
3	WChess, CometA42, Rebel6, Isichess2.5
2½	Gandalf
2	Diogenes315
1½	
1	Diogenes31x

Shocks in Store?!

Obviously there were some surprises in there, not least the top placing of **Rebel7** - and I mean no disrespect to Ed Schroder's 1995 version, but it was a strange comparison to see the upgrade Rebel8 (top of the SS/69 Rating List) languishing on under 50% on 4/9.

Other positions raising a few eyebrows included **Genius2's** high placing, whereas the very highly rated **Genius3** - which some people still assert is Richard Lang's strongest ever version - was keeping Rebel8 company on 4.

Of course **Genius5**, along with **MChessPro6**, and perhaps **Hiarcs4** and **5**, were close enough to have chances of getting to 1st. place if Rebel7 slipped and they

could score 2½ or 3 from the final 3 rounds.

And **W Chess**, which won with 6½/9 in 1996, ahead of **Hiarcs3**, **Genius3**, **Rebel7** and **Kallisto1.83** all on 6/9, was looking somewhat miserable on only 3/9. Time for an upgrade!... can someone tell Dave Kittinger?!

The Final Rounds

Of the leaders, **Nimzo3.5** did best over the last 3 rounds, scoring 2½.

Genius5 scored 2/3, as did both **Hiarcs4** and **5**.

MChessPro6 slipped up, only managing a single point.

Of course what everyone really wants to know now is what happened to the various Rebel programs?!

In fact **Rebel8** recovered tremendously, though of course it was playing mid-table opposition. Anyway, it also managed a 2½/3 finish!

And **Rebel7** hung on at the top by closing with a fine 2/3, thus earning an excellent Tournament victory, as the full Table shows:

Welser 1997 Final Standings: 12 Rounds

9	Rebel7
8½	Genius5
8	Hiarcs5, Nimzo3.5, Hiarcs4
7½	MChessPro6
7	
6½	Nimzo3, Genius2, Kallisto1.83, MChessPro4, Rebel8, Fritz2, Fritz3, CometA45
6	Hiarcs3, MChessPro5, Kallisto1.98
5½	Genius3, WChess
5	Isichess2.5
4½	CometA42, Rebel6
4	
3½	
3	
2½	Gandalf
2	Diogenes315
1½	
1	Diogenes31x

HIARCS6 Results

We listed some of the early gamma-test results in SS/69. **Enrique Irazoqui**, who had previously shared a 60/30 Cross-Table with us between the then **top four**, has now included Hiarc6.

The original Table (shown in SS/68) was:

1. Hiarc5	17
2. Genius5	16½
3. MChess Pro6	15
4. Rebel8	11½

The new Cross-Table looks like this:

30 secs per move Tournament

	H6	H5	G5	M6	R8	
1. Hiarc6	--	6	6½	8½	7½	=28½
2. Hiarc5	4	--	4½	5	7 ½	=21
3. Genius5	3½	5½	--	7½	3½	=20
4. MCP6	1½	5	2½	--	7½	=16½
5. Rebel8	2½	2½	6½	2½	--	=14

Surprised by the margin of victory, Enrique played 5 more Hiarc6 v Genius5 games, which Hiarc6 also won by 3½-1½, giving it, in fact, a 10-5 lead in their own match. This 60/30 result is about the same as our own combining my G/60 and various 40/2 results in so far, but in Sweden, all at 40/2, the score is 19-19!

Other Results

Carl BICKNELL sent me a few scores, from matches involving his Mephisto RISC2 and the Genius and Hiarc programs running on his Pentium/100.

At Game in 5
Genius 5 P/100 8-2 RISC2

At G/60
Genius5 P/100 5-5 RISC2
Hiarc6 P/100 9½-½ RISC2

You may remember that **Garry SEDMAN** "let the Hiarc5 side down" with his results in SS/69. His **Hiarc6** scores against it's bete noir (Fritz) show an improvement:

H6 P/75 7-3 Fritz3 486 (5-5 with H5)
H6 486 4½-5½ Fritz3 P/75 (4-6 with H5)

Still with the new Hiarc6, **Norman O'Connor** played 6 games at 60/60 and

had:

Hiarc6 P/90 5½-½ RISC 2500

Frank HOLT's latest **Rebel8** results are against Fritz4. As usual he has tested under a range of time controls from G/30/60/90 through to 40/1 and 40/2.

I have listed the results in full under Rebel8's different playing styles, though the 'extreme' ones and the G/30 scores are excluded for Rating List calculations.

Rebel8 Pent/100 v Fritz4 Pent/100

R8 Normal 6½-5½ Fritz4 Normal

R8 Active 7½-4½ Fritz4 Normal

R8 Solid 10-2 (!) Fritz4 Normal

R8 Aggressive 3½-8½ (!) Fritz4 Normal

R8 Defensive 6-6 Fritz4 Normal

Frank says that the games are fascinating to watch, and reminded me that Rebel8's overall 55.8% score this time compares with Rebel7's 53.3% last year. Also Rebel8 very slightly out-booked Fritz over the whole of the match, but not in any way that suggested special preparation.

Frank was also using the Fritz4 End-Game CDRom, and saw it announce a mate in 26 from this in one of the games - it was a 98 mover, so we won't include it here!

However I am going to show one longish one, due to the interesting difference in evaluations during the game!

REBEL8 (2515) – FRITZ4 (2425)

[C18 – French] Frank Holt, G/90,
1997[Comments: Frank & Eric]

1.e4 e6 2.d4 d5 3.♗c3 ♘b4 4.e5 ♗e7 5.a3
♗xc3+ 6.bxc3 c5 7.♗g4 0-0 8.♗g5

F4 leaves its Book after this?!

8...♗a5 9.♗e2 ♗g6 10.♗d1 ♗c6

And R8 also now leaves its Book. Evals are R8 -36, F4 +94 ->♗e3.

11.f3 ♗a4 12.♖a2 b5 13.h4 h6 14.♗c1 ♖h8
15.h5 ♗ge7

R8 still shows it fairly even at -16, but F4 has moved up to +103. F4's view of White's vulnerable ♗ and its loss of castling rights appears to be very different to its opponents.

16.♗f4 cxd4!

16...c4?! was intended until well into 3 mins – fortunately F4 had been thinking in R8's time on the correctly expected ♗f4!

17.♗xd4!?

17.cxd4 ♖f5 and F4 shows +76.

17...a6

Now, in fact, F4 reads +116.... but not for too long as R8's extra mobility from the ♖ on d4 means that the sting can be taken out of Black's attack.

18.♖d3 ♖xd4 19.♗xd4 ♖c6 20.♗xa4 bxa4

And both evals are close to =.

21.f4 a5 22.♖b2 ♖a6?!

An utterly mysterious move, at least to me, as it undoubles and centralises White's previously unhealthy ♖'s!?

23.♖b6 ♖xd3 24.cxd3 ♖fc8 25.♖e3 ♖ab8

26.♖c2 ♖xb6 27.♖xb6 f6 28.d4 f5 29.♖c5 g6 30.hxg6 ♖g7 31.c4

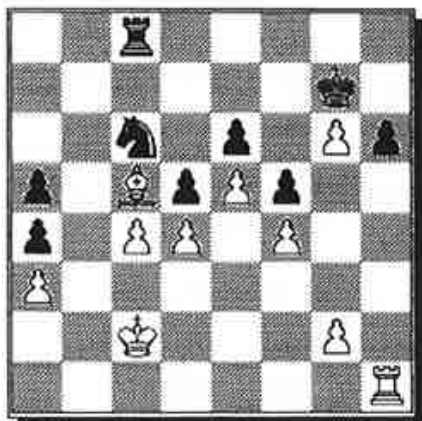


DIAGRAM. Apparently giving Rebel8 a ♖ breakthrough! It shows +118, F4 -88.

31...♖xg6 32.♖d3 ♖b8 33.cxd5 exd5

Now, does White guard the 2nd. rank, e.g. ♖c2, or....

34.♖e1 ♖f7 35.♖e3? ♖b2! 36.♖h3 ♖g6

37.g3?!

I am not so keen on this. Maybe 37.♖g3+ was better, then 37...♖h7 38.♖e3 returning to the threat of pushing the e/♖.

37...♖b1 38.♖e3 h5 39.♖h2 ♖b3+ 40.♖f2 ♖d8! 41.♖h1 ♖e6 42.♖e1 h4 43.gxh4 ♖h5

Now both programs show themselves ahead: R8 with +26, F4 with +38.

44.♖g1 ♖c3 45.♖e2 ♖h3

45...♖xc5?! looks tempting, but 46.dxc5 ♖xh4 not (46...♖xc5?! 47.♖d3 ♖xh4 48.♖d4!±) 47.e6 ♖xc5 48.♖e3 ♖c6 49.e7 ♖e6+ 50.♖f3 threatening ♖h1 mate 50...♖h5 51.♖g5+ should be drawn.

46.♖g8 ♖xf4+ 47.♖d2 ♖xh4 48.♖e7 ♖h2+ 49.♖e3 ♖g6! 50.♖c5 ♖g2 51.♖a8 ♖g5

Frank suggests that f4+! was best here.

52.♖a6

52.♖xa5? traps his own ♖, so 52...f4+ 53.♖d3 f3 54.♖a8 ♖b2+.

52...f4+ 53.♖d3 f3 54.♖e3 ♖h4 55.♖e7+ ♖g4 56.♖xh4 ♖e2+ 57.♖d3 ♖xh4 58.♖g6 ♖e1!

The winning move - F4 is enjoying this endgame with tactics and reads +228, with R8 on -157!

59.♖f6 ♖a1 60.♖e3 ♖xa3+ 61.♖d2 ♖g3 62.♖g6+ ♖f2 63.♖h6 ♖a2+ 64.♖d3 ♖g2 65.♖g6+ ♖f1 66.♖c6 f2 67.♖c7 ♖e2 68.♖c1+ ♖e1 69.♖c2 a3 70.♖c3 ♖b1

and R8, reading -1186, resigned. A game which shows the Fritz endgame in something of a new light, when there are some tactics to liven the play. 0-1

At almost the last moment Frank's Rebel8 vs Genius4 results arrived:

Rebel8 Pent/100 v Genius4 Pent/100

R8 Normal 6½-5½ Genius4 Normal
R8 Active 4-8 (!) Genius4 Normal
R8 Solid 7½-4½ Genius4 Normal
R8 Aggressive 5½-6½ Genius4 Normal
R8 Defensive 7-5 Genius4 Normal

In SS/69 we had Dr Torsten Schoop's Tournament Table Results at 60/5, using the Auto232 Tester on his P/120 machines. This is now updated to include the latest Genius3 results:

	60/5 Tournament						
	G3	G5	R8	N3	H5	F3	K9
Genius3	-	8½	10½	12½	13½	14	17½ 76½
Genius5	11½	-	11	11	12	12½ 15	73
Rebel8	9½	9	-	12½	13	10½ 13	67½
Nimzo35	7½	9	7½	-	11	10½ 16	61½
Hiarcs5	6½	8	7	9	-	13½ 15½	59½
Fritz3	6	7½	9½	9½	6½	-	10½ 49½
Kal'sto19	2½	5	7	4	4½	9½	- 32½

One thing seems certain - 'Genius still rules, o.k.' when it's Blitz!

IT'S REBEL'S TURN!

REBEL
vs
Arthur YUSUPOV
(G.M. 2660 Elo)

Match in June, Italy.

Day 1: 10 games at Blitz, G/5

Day 2: 5 games at Blitz, G/10

Day 3: 2 games Active chess, G/30

Day 4: 1 game at G/60 (Rebel White)

Full Report in SS/71

The Rebel8 - Crafty Challenge

Nodes per Second, SPEED v KNOWLEDGE Test

The Crafty-Rebel NPS challenge

Acknowledgements to Ed Schroder's web page for much of the preamble and other information.

A 10 game TIME HANDICAP match between Crafty and Rebel started in late February 1997.

This match (or, rather, experiment) was a result of a huge discussion on the Internet concerning the current state of playing strength of today's PC chess programs, compared with the supposed strongest chess program Deep Blue1/2 of IBM.

The main participants in the discussion, **Bob Hyatt** (Crafty) and **Ed Schröder** (Rebel), strongly disagreed about the Elo gap between today's strongest PC chess programs and the Deep Blue monster machine of IBM.

In the fire of the discussion Bob Hyatt stated that Deep Blue2 is at least 200 Elo points stronger than the best PC chess program. Ed Schröder replied that the gap is not more than 50 Elo points.

Bob Hyatt believes that Deep Blue2 is around 2600-2650 Elo, whereas the best PC programs, even on the fastest Pentium-Pentium Pro machines, in his opinion only get to 2400-2450.

Ed believes that a program such as his Rebel8, on a hot Pentium Pro, will grade at close to 2600 Elo! He also believes that the top PC programs, and he named Rebel and Hiarc, have better chess knowledge in them than such as Deep Blue, and that the extra knowledge would make up for the overwhelming speed, or NPS (Nodes Per Second) difference.

Bob believes that Deep Blue2 has plenty of knowledge in it, and that the sheer scale of the speed difference will always blow PC programs apart.

After that Bob challenged Ed to a 50:1 time handicap match between **Crafty** and **Rebel**, to demonstrate that "speed rules". Ed Schröder accepted, saying "let's make it a 100:1 time handicap match then".

So here we are, a 10 game match between Crafty and Rebel, played on tournament 40/2 level by Rebel8, and Crafty using 100 x more time than Rebel8. Both were running on today's fastest machines, the Pentium Pro 200 Mhz. It was agreed there would be no 'thinking in opponent's time' so that Rebel8 would not be able to partially equalise the time gap, should it correctly anticipate a high percentage of Crafty's moves!

Now what will this experiment prove?

Deep Blue1, the big iron of IBM due to his incredible hardware, was able to search around 100,000,000 chess positions in one second (this is what we call NPS), whereas the average PC programs 'only' search 50,000 to 100,000 NPS. Because of this, it's generally assumed that both Deep Blue1 and the even faster **DB2** (or **Deeper Blue!**) will crush any PC program in a 10 game match, since it has been proven that speed is very important for chess programs.

With this match we hope to get more information about what machine power does for chess programs.

There will also be a 50-60 game match between Crafty and Rebel8 on EQUAL tournament time, which will give a good indication of the relative 'true' playing strength of both programs.

Then we can compare these results with those from the handicap match, and make some assessment concerning the effect of the speed.... will it "kill" Rebel8, or will the claimed extra knowledge quality of the latter enable it to hold Crafty to a close score?

How Good is Crafty?

A question I should probably leave to the end of the Match! However we know it grades highly (around 2500) in Internet Blitz games against humans, and it has often been mooted that it isn't too far behind the leading PC programs.

On the other hand SS regular Michael Redman, in our Issue 68, declared his personal disappointment after testing Crafty

against the Novag Diamond.

Possibly Crafty's result in the 1996 World Micro Event is our best guide... I print its score and position alongside programs for which we have gradings.

WMCC 1997 - Rated Leaders		
7.5	Nimzo3.5	2451
7	Crafty	
6.5	FritzX	2412
6	Gandalf	2104
5.5		
5	Pandix	2049

Falling between Nimzo and Fritz might suggest a figure of around 2425 for Crafty, though the proximity of the weakish Gandalf should be noted.

Also, the FritzX rating is taken from Fritz4's grading, but 'X' often made different (weaker) moves than its predecessor, and Franz Morsch afterwards said it was a disappointing experimental re-write, and was not as good as either Fritz3 or 4.

Therefore, again taking into account Michael's review, my guess is that it's not 2425. Bob Hyatt says that it is optimised for [1] Human opposition, and [2] Blitz chess for the Internet. Therefore I'd estimate Crafty at 2350 for now, compared with 2520 for Rebel8: so let's see how it goes.

Rebel8 (2520) – Crafty [B20] NPS Challenge, 1997 GAME 1.

1.e4 c5 2.b3 d6 3.♖b2 ♖f6

The first 'crisis' – Crafty's gone out of Book! The final auto-test version has been wrongly compiled, and half the Book is missing. It is agreed they'll play on.

4.♗c3 g6 5.g3 ♗g7 6.♗g2 0-0 7.♗ge2

This is Rebel's first move out of its Book. The advantage of the lost Crafty Book may not have been too influential, as we note R8 shows +18, Crafty-5, and Crafty's time allowance surely renders his loss in this area of small significance!

7...e5 8.0-0 ♗c6 9.f4 c4

R8 and Hiarcs6 both consider this a small inaccuracy, giving a 20 eval swing to White. However if 9...♗g4 10.h3, would Black retreat with ♗e6, happy to have created a small possible weakness in White's ♖-formation, or play 10...♗xe2 11.♗xe2.

10.♖h1 cxb3 11.axb3 ♗g4 12.h3 ♗xe2
13.♗xe2 ♗e8 14.f5 d5 15.exd5 ♗xd5
16.♖h2 a6 17.♗e4 ♖d7 18.fxg6 hxg6

19.♗c3 ♗xc3 20.dxc3

20.♗xc3 was considered by many to be the better recapture, whilst Ed Schroder was convinced that R8's choice was right.

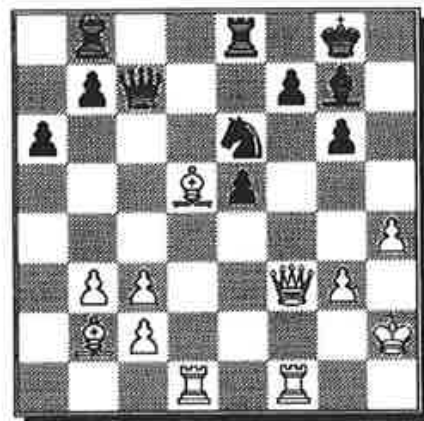
20...♖c7?!

This resulted in another eval swing, according to Rebel8 and Hiarcs6, towards R8. H6 suggested 20...♗ed8 21.♖xd7 ♗xd7 22.♗fd1 ♗xd1 23.♗xd1 ♗d8 and White +22. However, with 20...♖c7 Crafty went to a small plus for the first time... +28.

21.♗d5 ♗d8 22.♖f3 ♖b8

Here R8 showed +47 and Crafty +34... the last time the latter would show itself ahead.

23.♗ad1 ♗e6 24.h4!?



Full marks for boldness... but R8, showing +61, doesn't know the time control is 100:1 against it when it gets tactical! Nevertheless, good positions and winning chances are obtained by good chess and superior knowledge/understanding before tactics 'take over'.

24...b5

It is at this point that Crafty apparently calculated that it would lose a ♖, and starts spending much effort to control which pawn goes. Bob Hyatt believes it should have pushed the e-pawn to get rid of it, and thinks that's the one it hung on to because it's a passed-pawn. Rebel's analysis does not show the win of the ♖ yet, but its eval indicates that it expects some reward from its superior play!

25.h5 gxh5 26.♖xh5

26.♗a3 was stated by Crafty's 'deeper analysis' to be slightly stronger for White – but I don't agree. I also note that Crafty's own eval. after ♖xh5, though steadying to -20 for a couple of moves, drops heavily to -84 with 28...a5.

26...♖b6 27.♗g2 ♗d8

Presumably to allow the a6/♗ to get, say, to h8. However, though it also protects the dodgy f7 from here, it also means

White's d5/♙ now targets that square.

28.♙c1!

A nice reorganisation of White's pieces begins.

28...a5 29.♙e4!

Changing the attack to h7. H6 shows White at +172.

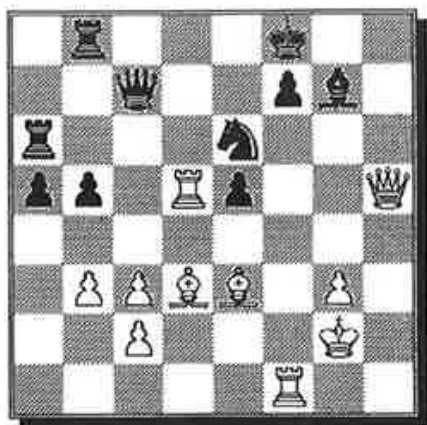
29...♙e6 30.♙e3

30.c4 also looked promising.

30...♖a6 31.♖d5 ♖b8 32.♙h7+

32.♙h7+ was Crafty's recommendation here, then 32...♙f8 33.♙h2 which **is** very strong!

32...♙f8 33.♙d3



33...♖b7

33...♙g8? 34.♙xb5! ♖xb5 (34...♖d6??

35.♖xd6 and Black's ♙ cannot leave the protection of f7, so 35...♖xb5 36.♖xe6!)

35.♖xb5.

34.♙xb5

R8 has +149, Crafty -202.

34...♖d6 35.♙c4 ♙c6 36.♙f3 ♖c7

36...♖bd7 37.♖xa5 ♙xf3+ 38.♖xf3 ♙e7 might have given slightly better chances of saving the game, though either way it's a bit likely to be all downhill.

37.♙c5! ♙xc5

It was amusing to hear that Crafty was moving 'very fast' at this time. It had used 293 of its 300 hours, so only had 7 hours to the time control at move 40! Meanwhile Rebel8 has used just 2hrs 39 mins. The evals show R8 +321, Crafty -286.

38.♖xd6 ♙xf3+ 39.♖xf3 e4

39...♙e7 looks slightly better, as in the note to 36...♖c7.

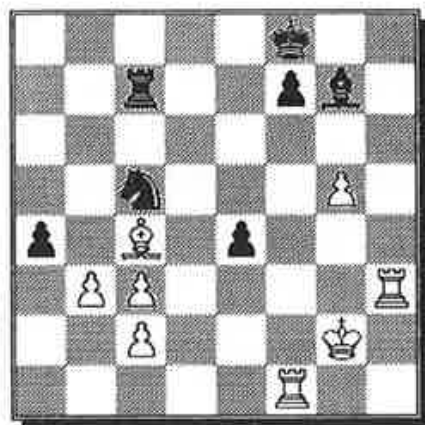
40.♖e3 a4!

Visibly the last practical 'chance', but Rebel8 has it under control even though with the time control now reached, Crafty can start taking 7 or 8 hours over each move again!

41.g4 ♙e7

41...a3?! 42.♖d8+ ♙e7 43.♖a8.

42.♖d1 ♙h6 43.♖h3 ♙g7 44.♖f1 ♙f8 45.g5!



With this the R8 eval got to +279 whilst Crafty's deeper search showed -351. The rest, despite the 1:100 time disadvantage, should be (and was) a matter of correct technique for White.

However it was around here that Bob Hyatt began to post almost daily confirmations on the Internet that the 100:1 time ratio was 'proving' a big advantage to Crafty, just as he had said it would! How come? Because it was avoiding worse losing moves that shorter searches might have made, and also it knew it was losing before Rebel knew it was winning!

Understandably, I think, this did not go down well in certain quarters.

45...a3 46.g6 f6 47.♖a1 ♖a7 48.b4 ♙d7 49.♙e6 ♙e5 50.♙f5 ♙f3 51.♙f2 ♙g5 52.♖e3 ♙g8 53.c4 ♙f8 54.c5 a2 55.c3 ♖a3 56.♙xe4 ♙xe4+ 57.♖xe4 ♙g7 58.♖c4 ♙xg6 59.c6 ♙d6 60.c7 ♙xc7 61.♖xc7 1-0

Just before the game finished, Ed Schroder posted: "Today I decided to end the NPS challenge after game 1 is over... I am not interested to read all kinds of possible and impossible explanations to imply or hide the real reason Crafty lost. For instance Bob Hyatt wrote:

"I'll post some interesting analysis later, but you might be surprised at some of what went on in this match. For example, in at least two places Crafty played a weaker move, simply because it saw at depth=15 something it thought Rebel would play, and didn't like it. In these two cases I know of, I've tested Rebel on the position, and it wouldn't have made the move Crafty feared! So Crafty simply avoided something that would not have happened, and consequently played something worse".

As Ed says, this presumably means that both Crafty and Rebel, Hiarcs et al would really struggle against Mephisto 1, Boris Diplomat, Sensory 8 and my wife etc.

because they would be constantly avoiding all the best moves for fear of what their weaker opponents might just play.

He concluded: *"I am not in the mood for these kind of explanations for another 9 games over the next 5-6 months; my time is too precious for that... but I believe this game shows that Rebel was able to handle the big time and ply search gap - this has always been my point, and game 1 has proven it. I believe this also counts for other chess programs such as Hiarc6 etc".*

For the record, the 40/2 Match was also stopped, with **Rebel8** leading by 9-3.

Crafty and the Auto232

There was one other problem which kept rearing its head throughout all the games, and that was a constant communication problem between Crafty and the AUTO232 software.

Many new 'auto232 corrected' versions of Crafty were sent to Ed for installation as the games went on, but neither Bob nor Ed were able to find a solution.

After Bob Hyatt had received log files of the early 40/2 games and Crafty analysis, he felt there might be a problem with the moves being played, and the situation, requiring hours of Ed's time, became 'un-workable' after attempts to start game 13, with Crafty as White, failed.

This should be born in mind when viewing the 9-3 score: it may or may not be reliable. A great shame, and a sad end to what had seemed a very promising and interesting experiment.

Ed's web site was attracting over 500 callers a day during the Match, as far as I could tell. But his final message *"Match Ended"* on April 1st. was not a joke.

A Final Piece completes our Jigsaw!

Also after the Match there was much discussion on the occasionally varying evaluations the pair showed, and also the reasons for same.

Mainly it was assumed that the Crafty evaluations are mainly materialistic, showing increases/decreases according to whether it could see pawns being dropped

or not.... and the Rebel evaluations were more positional and knowledge-based - if you get a decent position, something good will happen, even if you don't necessarily know what just yet!

However it was also revealed that Rebel8 uses a slightly unusual pawn evaluation!

Most programs are 'supposed' to be using approximately the following to indicate their evaluations:

- Pawn = 1.00 (or 100)
- Bishop and Knight = 3.00 (or 300)
- Rook = 5.00 (or 500)
- Queen = 9.00 (or 900)

It is fairly widely known that Hiarc6 uses Pawn = 1.28 (or 128) with other values also x 1.28. It is believed, but not confirmed, that MChess Pro uses a figure either the same as or similar to this. But Ed confided later, to help us appreciate the merits of R8's figures that:

"In Rebel the following, as basic values for the MIDGAME, are true:

- Pawn = 0.75
- Knight = 3.00
- Bishop = 3.00
- Rook = 4.75
- Queen = 8.875

After eval:

- a Pawn can be worth 0.25-2.00
 - a Knight can be worth 2.25-3.75
 - a Bishop can be worth 2.25-3.75
- and so on.*

Please note that the figures are also completely different for the PRE-ENDG, NORMAL ENDG, MINOR-ENDG and PAWN-ENDG. I hope this explains a little".

So now we've learned a something of the sophisticated type of evaluation techniques which go into all of the top-rated PC programs!

Following the end of this experiment, two other Internetters have arranged to play **Crafty** (Game in 480 hrs) v **Hiarc6** (Game in 6 hrs), again the intention being a 10 game Match. We'll look at this in future Issues of S/S... it'll take a while!

HIARCS6.0 v. I.M Deen HERGOTT

First EVER Commercial Computer v I.M: 6 game MATCH @ 40/2



Canadian I.M
Deen Hergott

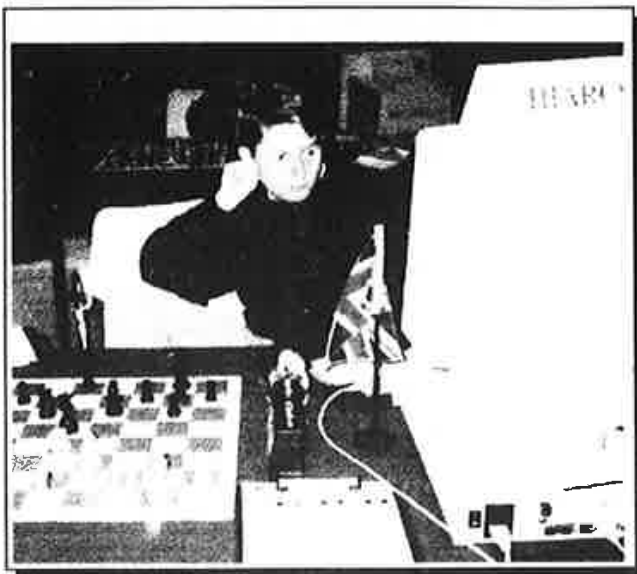
The 'Beat any I.M' Challenge!

We reported the lead-up to the Match in SS/69: Canada's **Alan TOMALTY** (a.k.a. *Komputer Korner* on the Internet), having seen **Hiarcs6** defeat two I.M's at Blitz by a combined score of $12\frac{1}{2}$ - $3\frac{1}{2}$, challenged any I.M to a 40/2 Match, predicting that "*Hiarcs will win!*"

The Canadian I.M's had reportedly been pretty dismayed by their defeats, but **Deen HERGOTT** was nevertheless quick to take-up the 40/2 Challenge if cash could be found. The other Blitz-defeated I.M., Tom O'DONNELL, was to be his second!

Sponsors at the Ready

'The Challenge' and its acceptance caused some concern at HIARCS' HQ in England - there could be both a lot to win or lose for 'us', in terms of our newly found big reputation.... and sales! But the possibilities quickly captured the imagination of everyone else, and it wasn't long before a healthy list of potential sponsors had been found.



Hiarcs programmer
Mark Uniacke

Mark, David Hatchett and I believed the venture was one we should fully support. We had no choice as to whether or not it would take place, but if the program is that good, it is exactly the sort of Event which should prove it one way or the other! We felt that chances were about 50-50 over 6 games if a Pentium Pro/200 could be used.

So the Hiarcs name (Applied Computer Concepts) appeared on the list of \$1,000 purse sponsors, along with Mike Leahy (BookUp), and ChessBase.

Other sponsors were Ottawa's Camdev Properties, also Computer City who provided the Pentium (MMX/200 in fact, which is little different to the PPro/200 in Hiarcs' case), and the Chess Federation of Canada provided the premises and Internet access.

Our Forecast:

$3\frac{1}{2}$ - $2\frac{1}{2}$ at best, if not...3-3!

Our '50-50' feeling was based on what had happened in DEEP BLUE vs KASPAROV - the computer's early win was soon overtaken by Kasparov's chess knowledge and experience, once he had got used to it and spotted its areas of weakness. This factor has been referred to so often, and by so many people, that it has inevitably affected our own view of 'real' Computer ability.

Though we think the Hiarcs6 program really is outstandingly good, we are not

opinions vary (see the note to 37...♖b6 below). H6 was reading +174, being in the process of launching its knights now the attack has been visibly repelled.

36.♖b5 ♖c8! 37.♗c3

How about 37.♖xc4? At first 37...♖xc4 38.♗xa3 ♖c2! looks great for Black, but I think 39.h4 holds, with still a +50 for White. So that might have been okay too, though not as good as the move H6 played. 37...♖b6

"The losing move", (Tomalty); "caused as Hergott was in time trouble".

If there is a better move here, it would be H6's own recommendation which was: 37...♖f5. Now 38.♖xa3 or f4 seem best, and keep the advantage. (But not 38.♖xc4? ♖xc4 39.♗xa3?? ♖c2; also 38.g4? fails, to 38...♗h4, and if 39.gxf5 ♖d6!).

38.♖c6 ♖h8 39.♖d6!

H6 reads +261 and, after this move, Black's position caves in.

39...♖c7 40.♗c5 ♖d7 41.♗a5 ♖e8 42.♗a8 ♗xf3 43.♖d4 1-0

Deen Hergott (2485) – Hiarcs 6.0 (2600)
[A08]. Game 2

1.♖f3 d5 2.g3 c5 3.♖g2 ♖c6 4.d4 e6 5.0-0 ♖f6 6.c4 dxc4 7.♗a4 ♖d7 8.♗xc4 b5 9.♗d3 ♖c8 10.dxc5 ♖xc5 11.♖c3 b4 12.♖e4

This puts H6 out of Book – a better performance this time! – we had expected ♖b5.

12...♖xe4 13.♗xe4 0-0 14.♖d1 ♗e7 15.♖g5 f6 16.♖h3



16...♖b8?

Looking through the opening after the game, having learned that this is actually H6's first move out of known theory (16...♖h8 is on some databases!), I had to conclude there are many difficulties for

Black. So maybe there are one or two improvements even before here. I certainly don't feel that this was a good choice, as it really puts the ♖ out of the game long-term, but nor do I find ♖h8 that much better either!

17.♖e3 f5 18.♖xc5 ♗xc5 19.♗f4 ♗e7 20.♖ac1 ♖a4 21.b3 ♖c6 22.♖e5 ♖e4 23.♖g2 g5?!

Positionally we might call this 'a losing' move – but it makes things happen at a time when Hergott was threatening to strangle the computer, so in a strange way it's both a welcome and, even, humanlike move, refusing to die a slow death and seeking counter-chances!

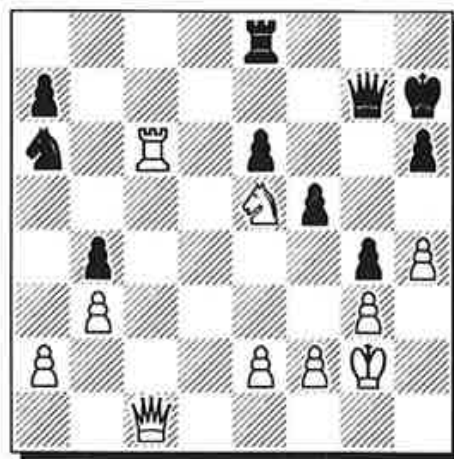
24.♗e3 ♖xg2 25.♖xg2 ♖fe8 26.♖d4 h6 27.♖dc4 ♖xc4 28.♖xc4 ♖h7

H6 had dropped to +175 here, and started spending plenty of its big time-advantage seeking out the best possible replies. This move took up 25 mins, 30 will take 16 mins, and 31 another 27. However after 9 mins on 32...♗xg4 it started moving pretty quickly again, keeping piece activity concentrated towards White's ♖.

29.h4 g4 30.♗c1

30.♖xg4! here was discussed over the Internet and, it is reported, found after some time by Fritz4 as winning. It seems good, too. For example: 30...fxg4 31.♗e4+ ♖h8 32.♗g6.

30...♖a6 31.♖c6 ♗g7



The critical moment of this game. DH has a clear advantage, and should be winning despite H6's clever defence. But White's time is getting short and he's trying to bring an end to some of H6's constant efforts to complicate every issue, so...

32.♖xg4?!

Wins material and simplifies, but also makes Black's task easier. Therefore

relatively best was 32.♟f4 ♖c7 33.e4, though a move such as 33...♟f8 here would clearly multiply the complications once again.

32.♟xa6 ♟xe5 33.♟xa7+ ♖g6 should also win, but Hergott said he thought this could be particularly difficult.

But, regarding the real reason for 32.♟xg4, see my note to move 36 below.

32...♟xg4 33.♟xa6 ♟e4+ 34.♖g1 ♖g6 35.♟c7 ♟xe2 36.♟xa7 ♖h5!

Amazingly ♖h5 will be a key move once again for H6 in game 6!

A move Hergott had completely missed when playing 32.♟xg4. In fact he'd believed he was mating Black, and only saw this saving response when they'd got part way down the line! He wasn't alone, as the feeling on the Internet was that Hergott's attack was overwhelming, until reports of this move in H6's analysis line filtered through!

37.♖g2?

37.♟f4 must be better, attacking the sad ♖-b4. If Black defends by 37...♟g4 (but NOT 37...♖g6?? 38.h5+!!+-) 38.♟xg4+ ♟xg4 39.♟b7 ♟a8 40.♟b5+ and I think White must win another ♖, though it could still be difficult to finish H6 off.

37...♟e4+ 38.♖h2 ♟g8!

Fine counter-attacking play by Black, this should have really rung the warning bells in Hergott's ears! (see note after game!).

39.♟d6?

Played in now severe time pressure, a result of H6's persistency in creating complications. Even though Hergott will have known he was 'winning', the constant need to rediscover a winning method is taking its toll.

39.♟b7 was right, so that after 39...♟e2 40.♖g2, the Black ♟ cannot return to e4.

39...♟e2 40.♖g2 ♟e4+

H6 now reads =, and its operator offered a draw, which was refused.

41.♖h2 ♟e2 42.♟d4 ♟g4 43.♟e3

H6 expected 43.♟c5, and would then have played 43...♟xg3! instantly.... still drawn after 44.♖xg3 ♟g4+ etc.

43...♟xe3 44.♟xe3 ♟e4 45.♟b7 ♟xe3

46.♟xb4 ♟e2+ 47.♖h3 ♟xa2 48.♟b5 ♟e2

49.g4+ ♖g6 50.gxf5+ exf5 51.b4 ♟e3+

52.♖g2 ♟b3 53.♖h2 ♖h5 54.♟xf5+ ♖g4

55.♟f2

Some programs were reported to be showing Black at -+150, but the H6 eval

never got above -+71 and was mostly in the 30/40 range.

55...h5 56.♟g2+ ♖xh4 57.♟g8 ♟xb4

Anyone well-versed in basic ♟+♖ endings knows this is now a draw, and I thought it a shame the H6 operator didn't offer to shake hands around here.

58.♟g2 ♟a4 59.♟g8 ♟c4 60.♟g7 ♟c3 61.♟g8 ♟d3 62.♟g7 ♟f3 63.♟g8 ♟c3 64.♟g7 ♟h3+ 65.♖g2 ♟a3 66.♖h2 ♟b3 67.♟g8 ♟f3 ½-½

The note to move 38 is an attempt at a small joke! The place where the match was played, at the Canadian Chess Federation's offices alongside a busy shopping mall in Ottawa, had proved a little noisy for Hergott's liking in game 1. So much so, he had asked for ear-plugs for game 2 - which Alan Tomalty bought for him, and which he used... as well as a pair of ear-muffs of his own which he brought along!

The Hiarcs team made a major decision before game 3. Though 'we' are fairly sure that the 'Normal' playing style is just about Hiarcs6's best, Hergott had let it be known that he and O'Donnell had found and prepared a trap for Hiarcs for game 3.

We guess that he was assuming H6 would repeat the line from a won game, and go for another French. Though that's not exactly how its book learning works, we wanted to minimise any risk of falling for some special preparation! The very threat also added weight to the feeling we had that Hergott had access to a version of Hiarcs5/6.

Therefore we decided to alter the opening book setting from Tournament to Normal, giving slightly more equal chances to its opening with any of e4/d4/c4/♟f6.

Mark had also found that it played a slightly different (and possibly better) 9th. move on its Aggressive setting. Even if the move's not that much better, it would be likely to put Hergott out of his stride - and secretly Mark still prefers Aggressive anyway!

Hiarcs6 (2600) - Deen Hergott (2485)
[A56]. Game 3

1.c4

Well, the Hergott 'trap' will have to wait for another game!

1...♟f6 2.d4 c5 3.d5 e5 4.♟c3 d6 5.e4 ♖e7

6.♠f3 ♠bd7 7.♙e2 ♠f8 8.0-0 ♠g6

This is the computer's Book move, but the line ends here and H6 is now on its own again.

9.♙e3 h6 10.b4 b6 11.bxc5 bxc5 12.♖b1 0-0 13.♗a4 ♠h7 14.♗c2 ♠g5 15.♠d2 ♠f4 16.♙xf4 exf4 17.♖fc1 ♙f6 18.♙d3 ♙e5 19.h4!?

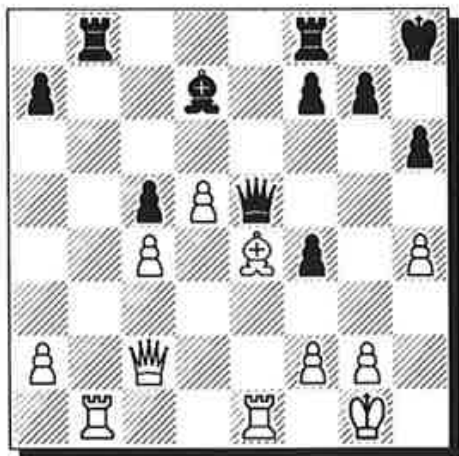
Is this really okay?! It's certainly very risky but, in the game, the pawn's presence caused Hergott a lot of trouble... and time. 19...♠h7 20.♠f3 ♗e7 21.♠xe5 ♗xe5?!

21...dxe5 was expected by the program and is, I think, better. Of course it is also double-edged: both sides would have protected passed-pawns.

22.♠b5

H6 evaluated +−70 playing this.

22...♙d7 23.♠xd6 ♗xd6 24.e5 ♗xe5 25.♙xh7+ ♙h8 26.♙e4 ♖ab8 27.♖e1!



H6 starts to dominate the game from this point.

27...♗f6 28.♗d3 ♗a6

28...♗xh4 29.♖xb8 ♖xb8 30.♗a3 ♖e8 31.♗xa7 would suit White.

29.♗c3 ♖fe8 30.♖xb8 ♖xb8 31.♙d3 ♗d6 32.♗e5! ♗xe5

No choice. If 32...♗f8? 33.♗e4.

33.♖xe5 ♖e8?

Blamed by most as the losing move. But Hergott believes he was losing to the passed d-pawn anyway, and that this would result in his best practical chance.

Yet, in a few moves, the same observers on the Internet would be arguing as to whether Hergott had actually bamboozled Hiarcs... or not!

Still, 33...♙g8 was expected by most commentators, and does look best. H6 would play 34.♖e7 but after 34...♖d8 I don't see H6 as having that clearly a winning advantage, though it showed +−134.

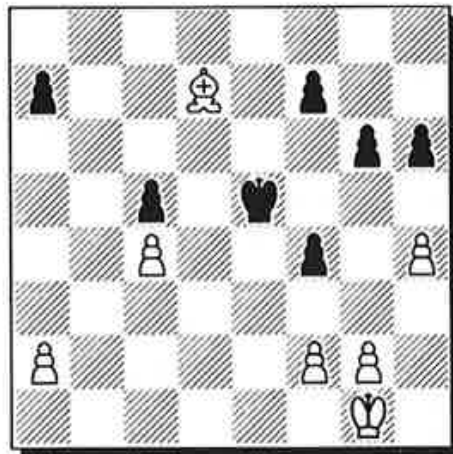
34.♖xe8+

H6 now showed +−444!

34...♙xe8 35.♙f5!

It becomes clear that it will cost Black his ♙ to stop the d-♙.

35...g6 36.♙c8 ♙g7 37.d6 ♙f6 38.d7 ♙xd7 39.♙xd7 ♙e5!



An unexpected turn of events... and sudden panic amongst the H6 supporters on the net as we hadn't expected Black's ♙ to advance! Black sacrifices his f7-♙ to make a grab for White's a-♙, making his own a7-♙ passed. And White's own c4-♙ stops our ♙ intervening! Has Hergott found a really clever tactic to maybe even win?!

40.♙e8

Mark sent a quick e-mail message to me – you can do clever things whilst connected to chess.net! – and told me that he and his PPro/200 said Hiarcs was okay, looking very deep and still confidently reading +−462.

40...♙d4 41.♙xf7 g5 42.hxg5 hxg5 43.♙h2

Here most observers expected ♙f1, to see if the White king can get back in time. "No need", says H6, showing +−639. The rest of us are now counting squares and trying to work out if, after White loses his ♙ to stop Black's a-♙, the ♙ now on c5 can somehow be stopped after Black's ♙b3 and ♙xc4.

43...a5 44.♙h3 a4 45.a3!

A brilliant, tempo-winning response.

45...♙c3 46.♙g4! ♙b3 47.♙e8 ♙xa3

48.♙xg5

Another tempo-winning device, though this one was much easier to see... wait until the Black ♙'s moved away before taking on a4. H6 reads +959, and I've relaxed now!

48...♙b3 49.♙xa4+

H6 reads +1322, and it's g-♙ promotes before Black's c-♙... I'll leave readers to work it out for themselves – the main thing

is that H6 had, and Hergott knew it.

Writing up my notes, it now seems more straightforward than it did at the time – but I can tell you our hearts were pounding after 39...♙e5 during the game! 1–0

So, Hiarcs leads by 2½–½!

Deen Hergott (2485) – Hiarcs6.0 (2600)
[A11]. Game 4

1.♘f3 d5 2.g3 c6 3.♙g2 ♘f6 4.0–0 ♙g4 5.c4 e6 6.b3 ♙d6 7.♙b2 0–0 8.♙e5

The H6 Book has 8.♙a3 here, so it's now on its own. The position is very even, and remains so almost throughout the game.

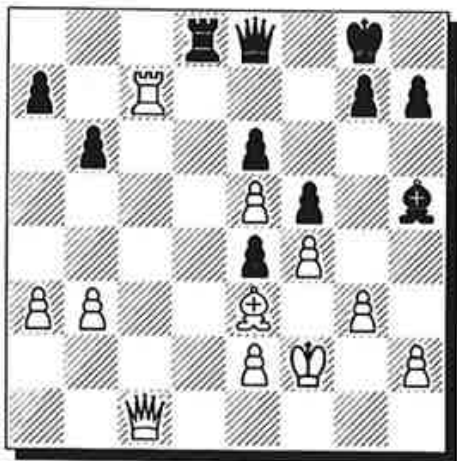
8...♙f5 9.d4 ♘bd7 10.♙d2 ♖c8 11.♖e1 ♙e7 12.a3 b6 13.♖c1 ♙xe5 14.dxe5 ♙e4 15.cxd5 cxd5 16.♖xc8 ♙xc8 17.♙f3 ♙b8

The H6 eval briefly reached +34 here, but there's really little or nothing in it still.

18.♙a1 ♙g6 19.♖c1 ♙h5 20.♙d4 ♙g5 21.f4 ♙e7 22.♙xe4 dxe4 23.♙c6 ♙b7 24.♙xe7+ ♙xe7

After this exchange we see that both sides have poor ♙s, and some of the manouvres which follow sees each player try to remedy this for themselves.

25.♖c2 ♙d7 26.♙d4 ♖d8 27.♙f2 f5 28.♙e3 ♙e7 29.♙c1 ♙e8 30.♖c7!



Slowly but surely it seems, Hergott has worked his way to the better position, and the 'net observers start talking of a Hergott recovery. But... 30...♙xe2!!

A major shock for the I.M which slowed him down considerably as he searched for a way to play on for the win without risking defeat.

However H6 read = when it played this move, accompanied by a variation indicating perpetual check or draw by repetition.

Once this was made known, the 'net folk pronounced Hiarcs6 the equivalent of an Eric Cantona or a Martina Hingis. What a fickle lot we are!

31.♙xe2 ♙h5+ 32.♙e1 ♙xh2 33.♖c8!

Worth a try!... there are two mistakes available to Black.

33...♙h1+!

Thank goodness! Not, however

33...♖xc8?? 34.♙xc8+ ♙f7 35.♙c7+ ♙g6 36.♙xa7 ♙xg3+ and now the ♙ can escape to the d-file! 37.♙d2+.

Nor 33...♙xg3+? 34.♙f2! ♙d3 35.♖xd8+ (35.♖c7!?) 35...♙xd8 36.♙c6 and a draw is the most likely, though White still has slight chances.

34.♙f2 ♙f3+ 35.♙e1 ♙h1+ 36.♙f2 ♙f3+

Game drawn by mutual agreement ½–½.

We began to doubt that Hergott could get back into the Match now – we were wrong!

Hiarcs6.0 (2600) – Deen Hergott (2485)
[C11]. Game 5

1.e4 e6 2.d4 d5 3.♙c3!

Hiarcs has given Hergott the chance of another French, in which he's supposed to have prepared the special trap. However the definite advantage of having a wide Opening Book guarantees we won't see it in this Match, now that H6 has varied quickly from game 1.

3...♙f6 4.e5 ♙fd7 5.f4 c5 6.♙f3 ♙c6 7.♙e3 ♙b6 8.♙a4 ♙a5+ 9.c3 c4 10.b4 ♙c7 11.♙e2 ♙e7 12.0–0 f5 13.exf6

H6's first move out of Book, and reading +75.

13...♙xf6 14.♙g5 ♙f8 15.♙c2 ♙e7 16.♙g4 b6 17.♖ae1 h6 18.♙f3 ♙d7 19.a3 0–0 20.♙e5 ♙xe5 21.fxg5 ♙e8 22.♙b2 ♙g6 23.♙a4 ♙f5!?

Black looks to be wrapping himself up, and most commentators wanted to see the freedom-seeking

23...♙f5.
24.♙f4 ♙d7
25.b5

DIAGRAM



White's attack is beginning to look a little dangerous, with Black's minor pieces still looking disadvantaged.

25...a5!

A fine and very unexpected move which will turn the game! Would or does any computer choose this?... I would think not, as all those I have tested show a 50-100 eval. jump for White, having expected ♖e7 (Crafty suggests ♖h7).

H6 in fact went from +158 (a bit too high?) to +279 (much too high!).

26.bxa6

A key to the PCs' big plus eval. here is that they expect Black's ♖ to move away! White is a ♗ up, so the traditional 'rule' is that Black won't want to exchange pieces and White will.

But I.M's and G.M's know better that sometimes the rules (or, for PC's, the algorithms!) are there to be broken!

26...♖xa4! 27.♗xa4 ♖c7

When we re-consider the position now, we note that White's extra ♗ is: [1] doubled, and [2] on an open file, as well as [3] shorn of the ♖'s support. Thus, instead of being dangerous, it is in fact very weak.

Furthermore, if the a6-♗ falls, the one on a3 could easily follow. And if a3 falls then the base of H6's locked ♗-chain at c3 will become even weaker. Thus Hergott has some valuable targets to aim for and, in this blocked position, time to build up the attack.

28.♗b2 ♖a8! 29.a4

29.♗d1 ♖xa6 30.a4 looks a slightly better defence. I think H6 should aim to contest the a-b files, but it gets tangled up and can't respond quickly enough at vital moments. However Bob Hyatt later said that he thought H6 had handled its now difficult position 'fine', which I think means as well as could be expected!

29...♖xa6 30.♖f3?! ♗d7 31.g3 ♖b8 32.♖ef1!

Well we see what H6 is up to, aiming for a breakthrough on the f-file, so we can at least commend it for following through with a purpose. But time is against it.

32...b5 33.axb5 ♖xb5

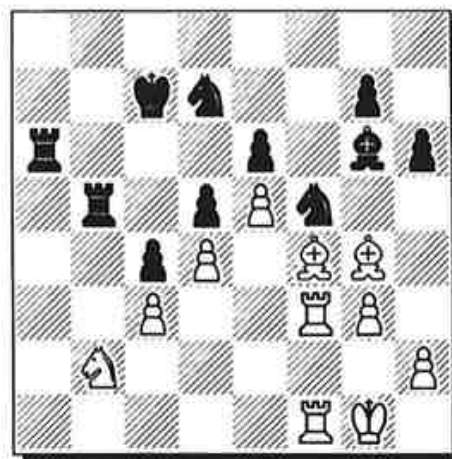
See DIAGRAM top of next column.

Targets update, from move 27:

[1] captured,

[2] exchanged, and the vulnerability of

[3] is quite plain to see!



34.♖f2 ♖b3 35.♗d1 ♖d8 36.♗e2 ♗e7!

37.g4 ♗c6 38.♗g3 ♗a7 39.♗h4+ ♖c7

It is now the H6 pieces which are all getting in each other's way. The e2-♗ stops one ♖ from reaching the b-file; similarly the d1-♗, which cannot move, stops the other ♖ getting to b1.

40.♖f4 ♗b5 41.♗e1 ♖a1 42.♖f2 ♖c6

43.♗d2 ♗b6 44.g5

44.♗xh6?! gxf6 45.♖f6 was seriously considered by H6 here, and when the observers on the 'Net' were told by folk analysing with their H6 versions at home, everyone wanted it to happen! A blood-thirsty crowd we are, when it's not our own Elo ratings and reputations at risk!

It's an interesting idea which might have continued: 45...♗d3 46.♗xd3 cxd3

47.♖xe6+ ♖b7 48.♖xh6 ♖bb1. Sadly, as we see, Black wins quite easily!

44...h5 45.♗e1 ♗a4 46.♖f8 ♗axc3

46...♖bb1 was feared by H6, and it looks perhaps even stronger. However the exchanges will (this time!) suit the player who's a ♗ up, and the move played is good. 47.♗xc3 ♗xc3 48.♗xc3 ♖xf1+ 49.♗xf1 ♖xc3 50.♖c8+

Computer horizon-effects were still giving the optimists some hope, as a series of checks keeps the inevitable at long range for another few moves! In fact, instead of driving Black's ♗ into the heart of White territory, an immediate ♖g8 might have served better.

50...♖b6 51.♖b8+ ♗a5 52.♖a8+ ♖b4

53.♖b8+ ♗a3 54.♖a8+ ♖b2 55.♖a6 ♗f5

56.♗e2 g6 57.♗f2 ♖h3 58.♗g2 ♖h4

I thought our H6 operator could have resigned here - our eval. was +622 - but the game went on for just a few more moves 'to make sure'.

59.♗f3 ♖xd4 60.♗f2 c3 61.♖b6+ ♖c1

62.♗e1 ♖d2 63.h4 ♖b2 64.♖c6 c2 65.♗d1

♙b1 66.♙xc2+ ♜xc2 67.♞d6 ♜c4 68.♙d2
 ♜xh4 69.♞b6+ ♙a2 70.♞a6+ ♙b3 71.♞c6
 White resigned 0-1

Wow! With one to play, it's now down to a 3-2 lead for Hiarc6.

On the 'net the feeling as this game came to its close was that Deen Hergott had 'sussed (worked) H6 out and, as he had White for game 6, he'd quite possibly now be able to tie the Match with another display similar to the one just seen.

This, of course, is what some of the discussion has been about – given time to evaluate the program, I.M's and G.M's are able to apply the appropriate areas of their chess knowledge and experience to gain the upper hand. The programs should not be called I.M strength on the basis of individual games against a variety of half-prepared opponents, but must show that they can win Matches against them before any claims can properly be made.

This is the opinion, shared by quite a few observers and taken one logical step further, which believes our Rating Lists are set too high. They had expected Hergott, especially with his pre-Match preparation, to 'prove' it, thus showing that not only Hiarc6, but Rebel, Genius, MCPPro and Fritz et al, are all over-rated.

After 4 games, they'd gone a bit quiet, but now they were thinking Hergott was going to provide their evidence after all!

Here is the maths: a drawn Match vs. Hergott would put Hiarc6 on a Pentium/200 equal to Hergott, at 2485 Elo.

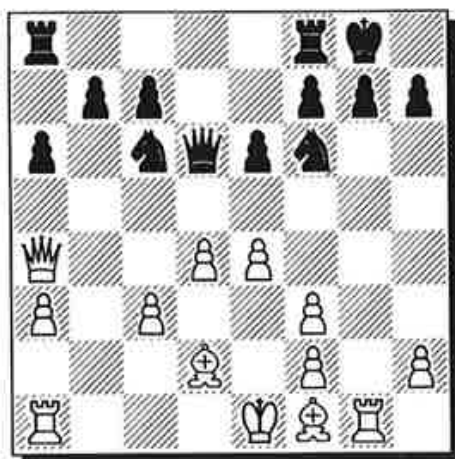
After deducting 60 points to equate the result to a standard Pentium/100-133 (as used in the SS Rating List), we get Hiarc6 P/133 = 2425. Of course, that's only if we lose the..... last game!:

Deen Hergott (2485) – Hiarc6.0 (2600) [D23]. Game 6

1.d4 ♘f6 2.♙f3 d5 3.c4 dxc4 4.♙a4+ ♙c6
 5.♙xc4 ♙e6

Hergott has found another little-known line (as far as H6 is concerned!), and this is the program's last Book move.

6.♙a4 ♙d5 7.e3 e6 8.♙c3 ♙b4 9.♙d2 ♙xf3
 10.gxf3 a6 11.a3 ♙xc3 12.bxc3 ♙d5
 13.♞g1 0-0 14.e4 ♙d6!?



A very interesting move, apparently offering White a material-winning pawn fork.

15.e5!?

If this isn't best, then 15.♙g5 looks the choice move of various alternatives.

15...♙xe5!

The exchange of the ♙ for three ♙'s raised many eyebrows amongst the 'net observers, but we think Hergott will have expected it. Indeed most/all programs go for it now (though not the invitation at 14...♙d6, of course – indeed such exchanges don't always work out so well).

But what was the alternative? 15...b5 is best, but 16.exd6 bxa4 17.dxc7 (17.♙h6 17...♙h5 18.dxc7 ♜fc8 19.♙g5 also offers White a small +=) 17...♜fc8 18.♞b1 ♜xc7 19.♙f4 leaves White with a useful advantage.

16.dxe5 ♙xe5+ 17.♙e2 ♙xh2

The material 'difference' is that White has 2 bishops for knight and 3 pawns. I half-feared that the I.M would slowly succeed in using his extra piece to knock off one or two pawns.

18.0-0-0 ♜fd8 19.♙f4 ♙xf4 20.♙xf4 ♜xd1+ 21.♜xd1 ♙d5 22.♙e5?!

This results in the loss of Hergott's main source of possible advantage, the 2 ♙'s – perhaps he underestimated H6's 23rd.

22.♙d2, although passive-looking, looks best, aiming to follow up with c4 and then the return of the ♙ to f4.

22...f6 23.c4

23.♙d4? c5 24.♙xc5 ♙xc3+

23...♞e8! 24.cxd5?!

Was 24.♙h2 better? Perhaps, e.g.: 24...♙c3 25.♜d7! ♙xe2+ 26.♙d2. Despite trapping the ♙ and so regaining the piece, after 26...♙d4 27.♜xd4 ♞e7, the game is beginning to look drawn.... and don't forget that Hergott must win!

24...exd5 25.♖xd5

25.♙xc7 has also been suggested, then
25...♖xe2 26.♙b6.

25...♖xe5

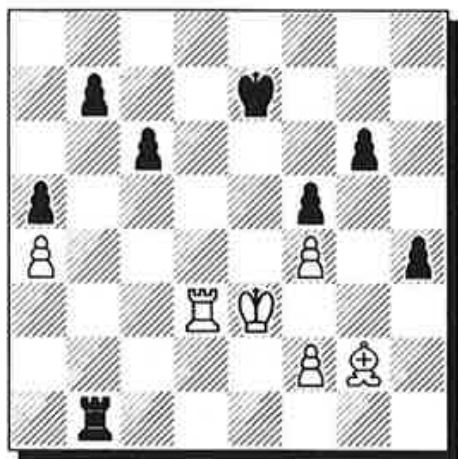
It's time I told you how H6 evals. this...
+33, in fact. Hergott now wants to get his
♖ in amongst the ♖'s via either the 7th or
8th rank. But first he has to secure his ♙.
26.♖d8+ ♙f7 27.♙d3 g6 28.f4 ♖e8! 29.♖d4

There was no choice but to retreat if
White still wants to play for the win.
29...♖e7 30.♙d2 h5! 31.♖c4 f5 32.♖c1 ♙f6
33.a4 a5 34.♖b1 c6 35.♖c1 ♖h7 36.♙f1 h4!
37.♖c3

Although Hergott clearly doesn't want to
see his ♙ reduced to the rank of pawn-
blockader, maybe ♙h3 was still better here.
37...♖d7+

H6 now shows +104.

38.♙e3 ♖d1 39.♙g2 ♖b1 40.♖d3 ♙e7



For those expecting ♙e6, this is not actu-
ally so mysterious. What it does is cover all
the d3-♖'s 6th, 7th and 8th rank entry
squares!

41.♖d2?!

41.♙f3 was expected by H6 here, intend-
ing 41...♖b4 42.♖a3, and then 42...♙d6.

41...♖e1+ 42.♙f3

42.♙d4 ♖g1 43.f3 was the other possibil-
ity, though White's ♙ looks sadder than
ever either way.

42...b5?!

This is okay – as it turns out! But what if
Hergott had played the move in my note
below? Therefore, objectively, I think
42...♖e4 would be the right move; then, af-
ter 43.♖a2, ♙d6.

43.axb5?!

What about 43.♖a2! b4 44.♖e2+ ♖xe2
45.♙e2 ♙d6 46.♙d3, and I think we could
have been looking at a draw.

43...cxb5 44.♖d5 ♖b1 45.♙e3 a4 46.♖e5+

♙f8

This was questioned by observers on the
'net, but again H6 seems to be restricting
White's access to the 7th and 8th ranks.

47.♙c6

Free at last!... but

47...h3!

H6 reads +252.

48.♙xb5

Having struggled so hard to achieve the
opportunity of getting his ♖ onto the 8th,
it's surprising that White didn't at least try
48.♖e8+!? here. Then ♙g7 49.♖e7+ (if
49.♖a8? h2! wins) 49...♙h6 50.♖e8... but
this time it's 50...a3! which wins, as played
in the game now.

48...a3!

H6 reads +395. White just cannot cope
with the timing of the ♖-pushes on both
flanks.

49.♖e8+ ♙g7 50.♖a8 ♖xb5 51.♖xa3 ♖b1!

Exemplary endgame technique by H6.

52.♖a7+ ♙h6 53.♖a8!

Threatening ♖h8 mate! But H6 had spot-
ted this, and shown its solution at move 50.

53...♙h5!

Clinching the game.

54.♖h8+

If 54.f3 ♙h4!

54...♙g4 55.♖h6 ♖b3+

H6 now shows +532.

56.♙e2 ♙xf4 57.♖xg6

57.♖h4+ was the only move likely to ex-
tend the game, but 57...♙g5 58.♖h8 ♙g4
59.♖h6 ♖b2+ 60.♙f1 ♖b1+ 61.♙e2 g5 is still
comfortably conclusive.

57...♖b2+ 58.♙f1 ♖b1+ 0-1

Followed by mayhem and celebration in
Wilburton... but Mark was in Aegon, oper-
ating Hiarcs6 in its draws with Anand and
Timman in a pre-Tournament Simul., and
wouldn't know until the following day!

Match Table:

Hiarcs6.0	1 ½ 1 ½ 0 1 = 4
Deen Hergott	0 ½ 0 ½ 1 0 = 2

Match Performance by Hiarcs6.0

2485 (Hergott) + 133 (for winning 4:2)
= 2618 on a Pentium MMX/200.

Equivalent for a P/100-133 is 2618-60
= 2558.

AEGON, 1997

COMPUTER and PLAYER's Scores: Full account SS/71

FINAL STANDINGS

- To distinguish:-
COMPUTERS capitalised,
Players normal.
- Most PC programs were
on PPro/200MHz machines.
- CILKCHESS and
ZUGZWANG are main
frame (i.e non commercial)
programs.

Pos Name Score

- 1 Yona Kosashvili **6**
- 2= Yasser Seirawan **5½**
Johan van Mil
- 4= KALLISTOV3.1* **4½**
REBELv97*
Ye Rongguang
John van der Wiel
Lembitt Oil
CHESSMASTER 5000
Gert Jan de Boer
- 11= ZUGZWANG **4**
DRAGON
CILKCHESS
NIMZO3.5
ZARKOV*
Gennadi Timoshchenko
Friso Nijboer
Erik Hoeksema
THE KING
Jonathan Speelman
Rini Kuijf
CHESSICA
GANDALF
Larry Christiansen
David Bronstein
HIARCS6.0
- 27= Heiner Matthias **3½**
Roberto Cifuentes
DARK THOUGHT
Sofia Polgar
M CHESS PRO6
Peng Zhao Qin
ARTHUR
TASC R30-1995
FRITZ4

ANT
Paul Boersma
W CHESS
Nico Kuijf
RAJAH
CAPTURE

- 42= Gert Ligterink **3**
VIRTUAL CHESS
GENIUS5
ISICHESS 2.6
KASPAROV SPARC
Jeroen Noomen
Hans Ree
Hebert Perez Garcia
Stefan Loeffler
FERRET
MEPHISTO ATLANTA
Rob Hartoch
MEPH GENIUS 68030
CHESS SYSTEM TAL
HECTOR
Jan Joost Lindner
MEPH BERLIN PRO
TASC R40
NOVAG DIAMOND
SCHACH 3.0

- 62= NOW **2½**
Peewee van Voorthuijsen
Gerri Visser
Gert Jan Ludden
DIEP
MACCHESS AEGON'97
Dick van Geet
SHREDDER
COMET
Paul Bierenbroodspot
MEPH MILANO PRO
ZZZZZ

- 74= CHEIRON **2**
Jeroen Blokhuis
Henk Arnoldus
Mathias Feist
Lex Jongsma
Piet Bakker
Ad van der Berg
Martin Voorn
CENTAUR
Maliangkay/Oranje
DAPPET
MIRAGE

Fre Hoogendoorn
NIGHTMARE
Tom Fuerstenberg

- 89= Frank de Hoog **1½**
Henk de Kleijnen
Nico Vromans
Alexander Kure
Rudy Bloemhard
NOVAG SAPPHIRE
Pam/Maes

- 96= XXXX II **1**
Peter van Wermeskerken
GOLDBAR
Loewenthal/Wiarda

- 100 BIONIC **½**

Final Score

Man 148½ - Machine 151½
[1996- 137½-162½]
G.M's 51½ - Machine 20½
[More GMs/IMs this year!]

Top PC Computer Tournament Performances:

- | | | | |
|---|--------------|----|------|
| 1 | KALLISTOV3.1 | 4½ | 2632 |
| 2 | REBELv97 | 4½ | 2619 |
| 3 | C'MASTER5000 | 4½ | 2452 |

Good to see some **Dedicated Computers** there! TPR's, as far as I know them, were:

- | | | |
|------------------|----|------|
| Tasc R30-1995 | 3½ | 2221 |
| Kasparov SPARC | 3 | 2402 |
| Meph ATLANTA* | 3 | 2288 |
| Meph GENIUS68030 | 3 | 2272 |
| Meph BERLIN PRO | 3 | 2188 |
| Novag DIAMOND | 3 | 2051 |
| Meph MILANO PRO | 2½ | 2179 |
| Novag SAPPHIRE | 1½ | 1987 |

Notes:

Kallistov3.1* *these are NOT*
Rebelv97* *currently available*
Zarkov* *commercial versions.*

Mephisto Atlanta* *should be*
available soon, probably £499.

DEEP[er] BLUE2 vs Gary KASPAROV

IBM Challenge - the RE-MATCH

I'm not entirely sure which is the more daunting - me setting out to present a Match between arguably the two strongest 'players of chess' in the world, or Kasparov himself preparing to do battle with the fastest chess calculator of all time!

Not that I believe Gary saw it as of particular concern a few weeks ago! Maybe a bit the reverse: 'just' the repeat of a minor hazard on the way to another big payout cheque (\$700,000)!? Nearly as many zeros in the winner's prize as there are in DB2's node count per second!

The Dust Settles

I take it that none of my readers have been vacationing on Mars, and you all know the result! Mainly you want to know 'how?', and 'why?', and 'where next?!'

- How much better was DB2 than the 1996 version? - quite a bit, I'd say.
- Did Kasparov's chess do him full justice? - probably not, though I do think the match arrangements were set against him (which nobody had minded so much, as most people were pretty sure he'd win whatever).
- Will this result be damaging to chess? - I'll try to leave some space to dwell on these questions after you've had chance to go through the games.

But let's start at the beginning.

Prologue

Deeper Blue2 has faster CPU's, more memory capacity, better logic, and improved chess programming over the original Deep Blue.

Some of its approximately 4x power, available for speed increase, has been used to improve the chess knowledge. G.M Joel Benjamin in particular has been working hard to improve DB2's positional play.

Their team is "very optimistic" and seem genuinely to think they can win. Over recent years DB has been developed by a committed team of scientists, researchers, engineers and chess experts, for the specific purpose of beating Kasparov. It will have a database full of his games and favourite openings. It has to be daunting to face an opponent with such a background, even if Kasparov did win 4-2 last time. 15 months is a long time in terms of computer

progress in the 1990's!

But what of Kasparov? His results in 1997 suggest he is back to playing at the top of his form - even old arch-rival Karpov, whilst in Monte Carlo in April 1997 for the Melody Amber Tournament, said "It is clear that Kasparov will win easily. The score is unimportant".

He is "well prepared", we are told... but can one prepare so fully for an opponent one knows next to nothing about?!

The Popular View: 'GK will win'!

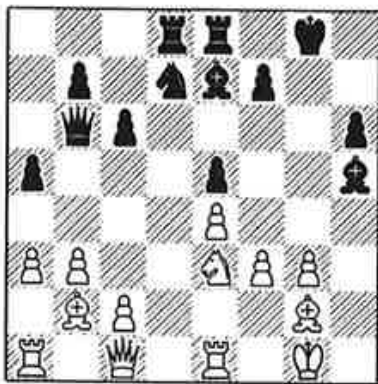
I scoured my Internet pages during the 10 days of anticipation, leading up to game one. 95% agreed with Karpov, though a handful went for a draw. The favourite forecast was that Kasparov would "toy with it" for the first 3-4 games, to make it look close and guarantee another rematch (plus pay cheque)... then he'd clean up at the end. Pretty much like, er, last time.

The first game made it appear there would be few problems! Gary completely and cleverly outplayed DB2, and left it looking little different to the 1996 pre-decessor which had lost the last two games in match 1.

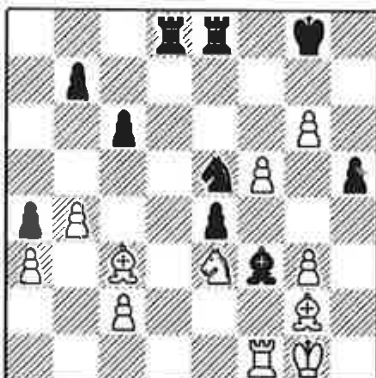
Game 1: Kasparov - Deep Blue2. [A07]

1.♠f3 d5 2.g3 ♘g4 3.b3!? ♠d7 4.♘b2 e6
5.♘g2 We will have to get used to these quiet strategy, anti-computer openings, which Kasparov uses in 4 of the 6 games. 5...♠gf6 6.0-0 c6 7.d3 ♘d6 8.♠bd2 0-0 9.h3 ♘h5 10.e3?! 10.e4 is normally the strategic aim in this type of position, so Kasparov appears to be losing a tempo here. 10...h6? The waiting strategy earns its early reward. DB's h6 is not only pointless, but weakens the Black ♖-side, as we will see shortly. 11.♖e1 ♖a5?! 12.a3 ♘c7 13.♠h4 g5? DB2 is scattering moves, first on this side, then on that. Those on its ♖-side look more likely to help White! 14.♠hf3 e5 15.e4 This makes f5 a strong square if White can get a ♠ there. GK can aim for this with ♠f3-h2-e3-f5 but DB2, having offered the outpost, now defends against its occupation extremely well! 15...♠fe8 16.♠h2 ♖b6 17.♖c1 a5 18.♖e1 ♘d6 19.♠df1 dxe4 20.dxe4 ♘c5 An interesting concept: neither White ♠ can avoid being exchanged en route to the f5

outpost! Also Black has created heavy pressure against f2. 21.♖e3 ♖ad8 Here Black doesn't need to play ♖xf2. 22.♗hf1 22.♗f5?? ♖xf2+ ouch. 22...g4?! 23.hxg4 ♗xg4 24.f3 ♗xe3 25.♗xe3 ♖e7



Please take a look at Kasparov's ♖'s on the f and g files – these, plus his ♗ raking across the board from b2, will win the game. 26.♗h1 ♗g5 27.♖e2 a4 28.b4 f5!? Generally viewed as a strong effort by DB2 which creates temporary piece activity. Indeed its attack begins to look quite dangerous, but the long-term strategic weaknesses on its ♗-side won't go away. 29.exf5 e4 30.f4! ♗xe2 30...♖xf4 would be too greedy: 31.gxf4 ♗xe2 32.♖d2! ♗h5 33.♖c3!+. 31.fxg5 ♗e5 Desperately blocking the long b2–h8 diagonal. Remember the b2/♗ and those f and g ♖'s! 32.g6 ♗f3 33.♗c3 John Nunn pointed out that this is prophylactic – White will want to move his ♖ and doesn't wish to allow ♖d2. 33...♖b5? DB2, along with many fast-search programs, sees that this should lead to the exchange of ♖'s, which it favours in view of its material advantage. Game 5 Hiarcs6–Hergott saw a similar theme and misunderstood. In fact Hiarcs is not amongst those playing this move here, and quite rightly... because of White's dangerously advanced ♖'s, this exchange is NOT good for Black! 34.♖f1 ♖xf1+ 35.♖xf1 h5 36.♗g1



A check round Black's position reveals that most of its pieces can't move easily, as they're already tied to key duties. Thus Kasparov has time to prepare the g4 push which will enable his advanced ♖'s to press forward. 36...♗f8 37.♗h3 b5 38.♗f2 ♗g7 39.g4 ♗h6 40.♖g1 hxg4 41.♗xg4 ♗xg4 42.♗xg4+ ♗xg4+ 43.♗xg4 ♖d5 44.f6 ♖d1 45.g7. Black resigns 1–0

The criticism of DB2 by some of the all-knowing Internetters knew no bounds! It was slammed as a "pathetic", "hopeless" and "clueless" to use some of the printable expressions. "We've been deceived! Bring on Hiarcs or Rebel" was another cry.

Kasparov felt so encouraged by this early success, that he reverted to a normal opening in game 2, though there is still a surprise in his choosing 1...e5 (when did he last play that?), rather than his beloved 1...c5.

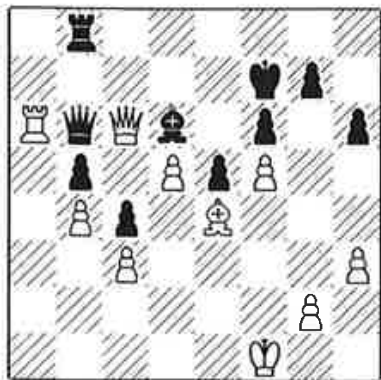
Game 2: Deep Blue2 – Kasparov. [C93]

1.e4 e5 2.♗f3 ♗c6 3.♗b5 a6 4.♗a4 ♗f6 5.0–0 ♗e7 6.♖e1 b5 7.♗b3 d6 8.c3 0–0 9.h3 h6 The Smyslov Variation is a somewhat antiquated and passive defence. 9...♗b7, the Zaitsev System, is best. 10.d4 ♖e8 11.♗bd2 ♗f8 12.♗f1 ♗d7 13.♗g3 DB2's set-up, achieved without difficulty, is just about ideal. 13...♗a5 14.♗c2 c5 15.b3 ♗c6 16.d5!? Most PC-workers are trying to dissuade their programs from ending up with blocked centres against humans, but DB2 shows that it can handle these positions pretty well! 16...♗e7 17.♗e3 ♗g6 18.♖d2 ♗h7?! 19.a4 ♗h4 20.♗xh4 ♖xh4 21.♖e2 ♖d8 22.b4 ♖c7 23.♖ec1 c4 24.♖a3 ♖ec8 25.♖ca1 ♖d8 26.f4!



A unique find by DB2, putting Kasparov under enormous pressure. 26...♗f6 27.fxe5 dxe5 28.♖f1 ♗e8 29.♖f2 ♗d6 30.♗b6 ♖e8

31.♖3a2 ♕e7 32.♕c5 ♕f8 33.♖f5 ♕xf5
 34.exf5 f6 *Desperately trying to stop White from making further inroads by playing f6 him[it]self.* 35.♕xd6! *A simple solution, found by many PC-programs. H6 has +217 with this, for example.* 35...♕xd6 36.axb5?! *See note to White's next move.* 36...axb5
 37.♕e4! *Both here and at move 36, all tested PC-programs choose ♖b6, which might well have been better than White's actual 36th. But here ♕e4 deserves the ! as it successfully stops Kasparov playing 37...e4! activating his own ♕.* 37...♖xa2?! 38.♖xa2 ♖d7 39.♖a7 ♖c7
 40.♖b6 ♖b7 41.♖a8+ ♖f7 42.♖a6 ♖c7
 43.♖c6 ♖b6+ 44.♖f1? *Readers will think it strange to question DB2's penultimate move in the game, and just before Kasparov resigns! However 44.♖h1 was correct, to remove any chance of a perpetual check.* 44...♖b8 45.♖a6



Black resigns? 1-0. But within the hour the analysis was appearing on the Net, suggesting that Kasparov had definite perpetual check drawing chances. Here it is:-

45...♖e3! 46.♖xd6 (46.♖d7+ ♖g8 47.♖xd6 ♖f8 will be a draw) 46...♖e8!

Now analysis of 47.h4, 47.♕f3 and 47.♖c5 has all been tried, and indications are that it would end up a draw. SS readers may still see a decent + for White on their computers, but that's the horizon effect, and the figure will drop move-by-move.

By the next morning informed opinion was definite - Gary had resigned too soon. "The tough part", said Frederic Friedel, "was knowing how to tell him!"

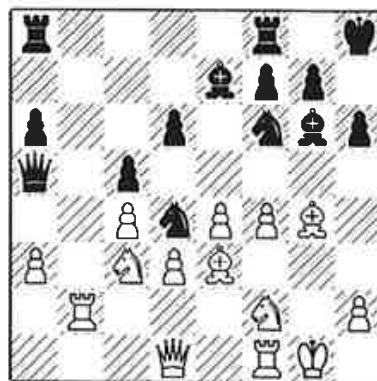
They broke the news gently after breakfast, and it was obvious he'd never thought about it at all... DB2 had been on top for quite some moves, and he'd relied on it's tactical ability to finish him off. "How could it miss a perpetual?" was about all he could ask, apparently blaming Deep Blue that he'd missed it as well!

The next question was to Dr. Tan, IBM's project manager: "Had DB2 seen the draw?" "No!", was the reply, "It was blissfully playing for, and expecting, a win".

Of course, whether even Kasparov could have found absolutely every needed move over-the-board and under pressure, when he'd missed ♖e3, is probably another matter!

Game 3: Kasparov - Deep Blue2. [A00]

1.d3?! e5 2.♖f3 ♖c6 3.c4 ♖f6 4.a3 d6 5.♖c3 ♕e7 6.g3 0-0 7.♕g2 ♕e6 8.0-0 ♖d7 9.♖g5 ♕f5 10.e4 ♕g4 11.f3 ♕h5 12.♖h3 ♖d4 13.♖f2 h6 14.♕e3 c5 15.b4 b6 16.♖b1 ♖h8 17.♖b2 a6 18.bxc5 bxc5 19.♕h3 ♖c7 20.♕g4 ♕g6 21.f4 exf4 22.gxf4 ♖a5



The game is nicely balanced, but Kasparov does not want to retreat with ♖b1. He therefore decides to sacrifice a ♖, after which he gets considerable positional pressure. But will it be enough.... 23.♕d2!? ♖xa3 24.♖a2?! *A slightly surprisingly choice, forcing the exchange of ♖'s.* 24.♖b7 ♖xg4 25.♖xg4 is Nunn's (and H6's) suggestion, though the latter's sneaky 25...♕h4!? looks interesting. 24...♖b3 25.f5 ♖xd1 26.♕xd1 ♕h7 27.♖h3 ♖fb8 28.♖f4 ♕d8 29.♖fd5 ♖c6 30.♕f4 ♕e5 31.♕a4 ♖xd5 32.♖xd5 a5 33.♖b5 ♖a7 34.♕g2 g5! 35.♕xe5+ dxe5 36.f6 ♕g6 37.h4 gxf4 38.♖h3 ♕g8 39.♖xh4 ♖h7 40.♕g4 ♕c7! *Neatly clearing the back rank for ♖ action.* 41.♖xc7 *Winning back his ♖, but acceding to the draw.* ♕e7 or ♖h1 were ways to pursue the full point, but Gary counted them as too dangerous. The last few moves have been very tense and time consuming, so he was possibly happy to get this draw after the events of game 2. 41...♖xc7 42.♖xa5 ♖d8 43.♖f3 ♖h8 44.♖h4 ♕g8 45.♖a3 ♖h8 46.♖a6 ♖h7 47.♖a3 ♖h8 48.♖a6. ½-½

After this game Kasparov, in interviews, was

confessing that his confidence was shaken. He had not got over the shock of being generally outplayed in game 2, and finally missing a drawing chance. Now DB2's fine defence under pressure in this game, culminating in 40...♙c7, had equally surprised him.

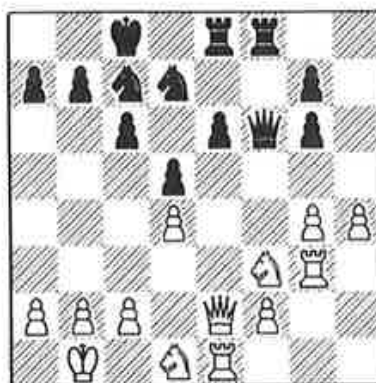
These remarks went down like a lead balloon on the Net's "Critics Corner". To them he'd "thrown" game 2 - (that would be a first for Kasparov, but they just couldn't believe he'd miss ♖e3) - and now they were sure he was only making these latest remarks to heighten public and commercial interest.

Personally I got the feeling he was finding it a lot tougher than he'd expected, and the next 2 games included, in my view, some of the most exciting spectator moments of the Match!

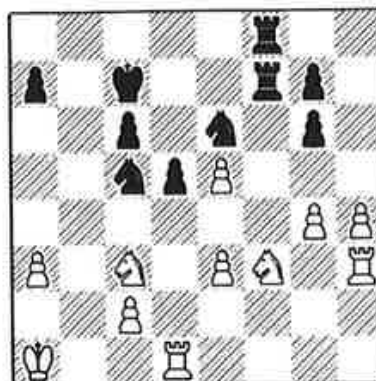
Game 4: Deep Blue2 – Kasparov [B12]

1.e4 c6!? 2.d4 d6?! So, not a Caro Kann – an opening which Kasparov 'only' plays from the White side – it's another anti-computer job. Thus both program and player are soon out of their normal books, but in all of these situations Kasparov is [1] in foreign territory, [2] in a 'poor' line, and [3] having to work everything out for himself from the very beginning. An exhausting choice for a player with his encyclopaedic knowledge and understanding, in my view! 3.♘f3! Compared with its over-exuberant play in game 1, this is downright passive from DB2! Have they adjusted it's solid-aggressive setting?... the rumour was that they HAD! 3.c4 or 3.f4 was more positive in this now Pirc-type opening. 3...♘f6 4.♘c3 ♙g4 5.h3 ♘h5 6.♙d3 e6 7.♖e2 d5 Neat strategy by GK! With his white-squared ♙ outside the chain, he offers a blocked centre, after which he will exchange said h5-♙ and be left with his good one. He counts this as worth the lost tempo. 8.♙g5 New! White aims to exchange off Black's good ♙ as well! 8.exd5 ♙xf3 9.♖xf3 cxd5 10.0-0 is known. 8...♙e7 9.e5 ♘fd7 10.♙xe7 ♖xe7 11.g4 ♙g6 12.♙xg6?! Strange, because it releases the h8-♖ against White's backward h3-♖. Probably 12.0-0-0 was better. 12...hxc6 13.h4! This advance was apparently the point behind White's 12th, and is an interesting idea. 13...♙a6 14.0-0-0 0-0-0 15.♖dg1 ♘c7 To support e6, so that f6 can be played. The alternative was to commence a ♖-side attack with ♘b6. 16.♙b1 f6 17.exf6 ♖xf6! 17...gxf6?! 18.g5! opening up the ♙-side for the benefit of his ♖'s! 18.♖g3

♖de8 19.♖e1 ♖hf8 20.♘d1!



A good response to the build-up of pressure down the e and f-files; also protects f2 so that the f3-♘ is freed. What is wrong with Black's position? Well, [1] its e6-♖ is backward, and [2] the c7-♘ is poorly placed and difficult to centralise. Kasparov's remedy is amazing! 20...♘e5!? 21.dxe5 ♖f4 22.a3?! Condemned as mediocre by many, but the suggested alternative 22.♖e3 ♖xe3 23.♖xe3 ♘e6! also gives Kasparov good compensation for the ♖. 22...♘e6 23.♘c3? The ♘ was correct on d1. 23.♖e3 was certainly best here. 23...♘dc5 24.b4?! Kicks the ♘ out of c5, but classed as reckless by many. I believe it is the later advance to b5 which is the real cause of White's troubles. However have readers noticed how often DB2 does advance the ♖ in front of its ♘?! 24...♘d7 25.♖d3 ♖f7 26.b5? Crazy letting the ♘ back in! 26...♘dc5 27.♖e3 ♖f4 28.bxc6? Kasparov must have rubbed his hands with glee at the sight of the file being opened for him against his opponent's ♘! 28...bxc6 29.♖d1 ♘c7! 30.♙a1 ♖xe3 The strong-looking 30...♖c4 followed by ♖b8, initiating a direct attack against the White ♘, was what we'd expected, watching the game on the 'Net. But GK's choice also presents good opportunities of a win later. 31.fxe3 ♖f7 32.♖h3? ♖ef8



It really does look as if Black should win from here. 33.♖d4 ♖f2 34.♗b1 ♗g2 35.♜ce2 ♗xg4 Played almost automatically. However, the surprising 35...♗ff2! 36.♜c1 (36.♜xe6+ ♜xe6 is also good for Black) 36...♜d7 37.g5 ♜a4 38.♗b7+ ♜c8 39.♗xa7 ♜xd4 40.exd4 (40.♗xa4 ♗xc2+) 40...♗xc2 41.♜b1 ♜c3+ 42.♗xc3 ♗xc3 43.♗xg7 ♗g1 seems as if it should win for Black! 36.♜xe6+ ♜xe6 Do stop here for a moment, and compare each side's piece activity – also White's bedraggled ♗'s! 37.♜d4 ♜xd4 38.exd4 ♗xd4 39.♗g1 ♗c4 40.♗xg6 ♗xc2 41.♗xg7+ ♜b6 42.♗b3+ ♜c5 43.♗xa7 From here Black's win should still surely come through his connected passed ♗'s, and the far superior scope of his ♜. 43...♗f1+?! Here 43...♜c4! 44.♗ab7 c5 45.♗b2 ♗xb2 and Black wins, according to Nunn. 44.♗b1 ♗ff2 45.♗b4! Out-of-the blue DB2 threatens mate next move! Probably Kasparov overlooked this sudden strike, as he spent some time considering his reply which involves exchanging one pair of ♗'s and a relieving of much of the pressure he had. 45...♗c1+ 46.♗b1 ♗cc2 47.♗b4 ♗c1+ Whilst I was waiting for Kasparov's move on the 'Net, Hiarcs6 came up with 47...♗a2+ 48.♜b1 ♗xa3 49.♗xa3 ♜xb4 50.♗e3 d4 as +200 for Black. We think it is good, though given time over White's 50th. H6 preferred ♗h3 which may get White the draw (though GK would still have some good over-the-board chances). 48.♗b1 ♗xb1+ 49.♜xb1 The DB2 team offered a draw here, but Kasparov laughed it off as he "is winning". 49...♗e2 50.♗e7 ♗h2 51.♗h7 ♜c4? 51...d4! 52.e6 ♗e2 53.e7 ♜c4! 54.♜c1 d3 wins for Black, according to most experts, though I was less convinced here than I had been by some of the earlier 'winning' lines. 52.♗c7! Excellent. Pushing e5–e6–e7 with the ♗ still on h7 only blocked it off from getting behind the ♗'s. Now the advance becomes possible and Kasparov will have to take the draw. 52...c5 53.e6 ♗xh4 54.e7 ♗e4 55.a4 ♜b3 56.♜c1 ½–½

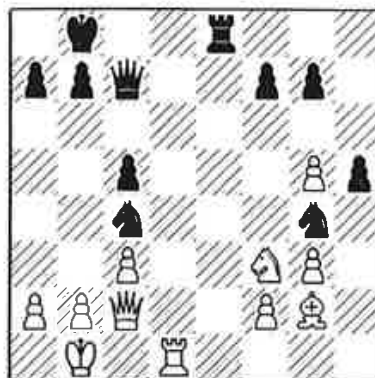
Of course there was great disappointment in the audience and, especially, in the Kasparov camp over the missed opportunities. Gary himself had appeared convinced he would win during the game, and had even spent time strolling around at one point, looking very relaxed and sure of himself - 'the old Gary'.

Of course, there was an over-noisy minority claiming again that Kasparov had allowed the draw "on purpose", to maintain the excitement. Personally I half-felt Kasparov had to win the

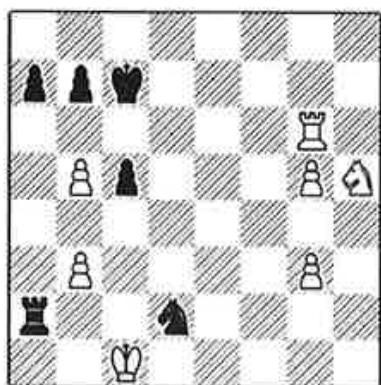
next game, if he was to win the match!

Game 5: Kasparov – Deep Blue2 [A07]

1.♜f3 d5 2.g3 ♗g4 3.♗g2 ♜d7 4.h3 ♗xf3 5.♗xf3 c6 6.d3 e6 7.e4 ♜e5 8.♗g2 dxe4 9.♗xe4 ♜f6 10.♗g2 ♜b4+ 11.♜d2 h5!? Kasparov frowned, almost smirked, at this. Yet it opposes well the slight weakness in White's position from the 4.h3 move. 12.♗e2 ♗c7 13.c3 ♗e7 14.d4 ♗g6 15.h4 e5! Black's typical freeing move in this type of position, played early and well by DB2. 16.♜f3 exd4 17.♜xd4 0–0–0 18.♗g5 ♜g4 19.0–0–0 ♗he8 19...♗xg5+?! 20.hxg5 ♗a5? 21.♗xh5 20.♗c2 ♜b8 21.♜b1 ♗xg5 22.hxg5 ♜6e5 23.♗he1 23.♗xh5? c5 24.♜b3 ♗xd1+ 25.♗xd1 ♜xf2+ 23...c5 24.♜f3 ♗xd1+ 25.♗xd1 ♜c4



The position looks equal, though with enough play for things to change. Right now Kasparov wants to drive the ♜ out of c4, which he does neatly. 26.♗a4 ♗d8 27.♗e1 ♜b6 28.♗c2 ♗d6 29.c4 ♗g6? A mistake which gives Kasparov his chance. The ♗ Black wins he can keep only briefly. If a ♗–exchange was wanted, then Hiarcs6 had 29...♗d3 (Black +47) 30.♗xd3 ♗xd3 "Definitely better", says Nunn, "but drawish". 30.♗xg6 fxe6 31.b3 ♜xf2 32.♗e6 Best. 32.♜h4?! was preferred by such as Hiarcs6. Then 32...♜d3 33.♗d1 ♗d7 34.♜xg6 But after 34...♜e5 35.♗xd7 ♜bxd7 it looks drawn. 32...♜c7 33.♗xg6 ♗d7 34.♜h4 ♜c8! Meeting the threat of 35.♜f5 which can now be answered with ♜e7. 35.♗d5 ♜d6 36.♗e6 ♜b5! A clever little move, the sort which computers are good at finding. 37.cxb5 ♗xd5 38.♗g6 ♗d7! 38...♜e4? was a popular choice of the PC programs according to various operators on the 'Net, during the game. But it is a move too soon here as, after 39.♗xg7+ ♜b6 40.g6 ♗d2 41.♗e7 the g–♗ is very strong, and should win for White. 39.♜f5 ♜e4 40.♜xg7 ♗d1+ 41.♜c2 ♗d2+ 42.♜c1 ♗xa2 43.♜xh5 ♜d2



Worth a diagram: we think Kasparov may have missed a win here. **44.♖f4?!** If **44.♖f6! ♜xb3+ 45.♜b1 ♜h2! 46.♜f4 c4 47.g6 ♜d7 (47...♜d2+ 48.♜c1 ♜b3+ 49.♜d1 wins) 48.♜d5 ♜d2+ 49.♜a2! ♜e4+ 50.♜a3** and Black is in trouble, again from the g-♜. **44...♜xb3+ 45.♜b1 ♜d2 46.♜e6 c4!** As in the previous games, DB2 has again conjured-up mate threats, which immediately outweigh the force of White's g-♜. **47.♜e3 47...c3** HAD to be stopped. **47.♜e4** also works, according to Hiarcs6 and Fritz3, as **47...c3** allows **48.♜c4+** of course. **47...♜b6! 48.g6 ♜xb5 49.g7 ♜b4 50.♜d3+ cxd3 51.g8♗ ♜d1+ 52.♜b2 ♜d2+ etc. 1/2-1/2**

Kasparov was pretty unhappy after this game, making noises which suggested he wondered where DB2 was getting its moves from. Did he think they had a human over-riding DB2's own choices? Is there a human 'guiding-hand' that could thus beat Kasparov? Whatever, he demanded to see the computer printouts from this and game 2, so something underhand would seem to be the implication.

After Kasparov had had his say, the Deep Blue team appeared on stage briefly... and were booed!

Suddenly the awareness that Gary had to play all the games in pairs on consecutive days, and the 2nd. always as Black, seemed to count heavily against him. It was not so much now, 'Could he win it?', as 'Could he save it?' Was there the energy and self-belief to do it?

Game 6: Deep Blue2 – Kasparov [B17]

1.e4 c6?! Simply because, as said before, the Caro Kann as Black is "not Kasparov". **2.d4 d5 3.♜c3 dxe4 4.♜xe4 ♜d7 5.♜g5 ♜gf6 6.♜d3 e6 7.♜1f3 h6?** Currently a '0' line in Hiarcs and, indeed, most other programs! **7...♜d6** is usual. **8.♜xe6** No '!' as it's played immediately from DB2's book. Kasparov's head drops into his hands, as he realises he must

have fallen into a known (to Caro Kann regulars!) Gambit! *Not* what he wants, against the mighty tactician, in the deciding game!

8...♗e7?! This has a score of 13/14.... for White!.... in the databases! **8...fxe6 9.♜g6+ ♜e7 10.0-0 ♗c7 11.♜e1 ♜d8** gives White a useful, but not conclusive, attack. **9.0-0 fxe6 10.♜g6+ ♜d8 11.♜f4 b5** A new move, apparently to stop the recently popular c4. But White has plenty of good alternatives.. **11...♜d5** may be the only slight chance, then **12.♜g3 ♗b4**. Though Nunn says either **13.♜e1** or **13.♗e2** win easily enough for White, I think this is closer to playable! **12.a4 ♜b7 13.♜e1 ♜d5 14.♜g3 ♜c8 15.axb5 cxb5 16.♗d3**



How is Black to defend against the immediate loss of his b-♜, and then the invasion?

16...♜c6 16...♜c7 17.♗c3 ♗d8 18.♜xe6 ♜f6 19.♜f5!; **16...a6** gets the same response as in the game. **17.♜f5!** More head-in-hands stuff from Kasparov, before he finally accepts the loss of his ♗ for ♜ and ♜. **17...exf5 17...♜b4** might be best, though after **18.♗c3** White has too many threats. **17...♜c7? 18.♜xc7 ♜xc7 19.♜xe6** is an easy win. **18.♜xe7 ♜xe7 18...♜xe7 19.♗c3 ♜b8 20.♜e5** also gives White a winning attack. **19.c4** Black resigns. **19...♜b4 20.♗xf5 ♜f8 21.♗e6 ♜d8 22.cxb5 ♜xb5 23.♜c1+** is one possible finish. **1-0**

A sad end for Kasparov, indeed. Overall I think **Deep[er] Blue2** probably plays quite a bit better than DB[1].... but also I think Kasparov played somewhat worse in this Match, and that was the real key. It was almost as if the computer psyched him out when he missed, first a draw in Game 2, and then probably 2 possible wins... in part at least due to some excellent chess by the machine, it should also be said.

Kasparov did not take the defeat well, at the final ceremonies, but we'll not go into that here! Since then, he's brightened up, and offered **Deep Blue** a 10 game Match... for his **Title!**

GAMES SELECTION

TOP programs display some new SKILLS... and old weaknesses!

We start with a game between two highly rated programs, on fast hardware, and playing at Tournament 40/2. Nevertheless one succumbs to an old style series of 'sucker-punches', the sort of thing humans liked to do to our beloved charges, but now being done by some of the programs themselves! As you'll see for yourselves...

King2.5 P/90 (2450) - MCPPro6 486/166 (2500) [B45. Sicilian, Classical] 40/2, 1997

1.e4 c5 2.♘f3 e6 3.d4 cxd4 4.♗xd4 ♘f6
5.♗c3 ♗c6 6.♗xc6 bxc6 7.e5 ♗d5 8.♗e4 ♖c7
9.f4 ♖b6 10.a3

10 ♗d3 is Book.

10...♗e7

MCP showed +60 here, which I consider over-optimistic... and not just because it lost!

11.c4! ♗e3 12.♖d3 ♗xf1 13.♗xf1

The potential danger for Black, from ♖c1, ♗f1-f3, ♗c1 and K-side pawn push, is there for all to see – but MCP castles right into it.

13...0-0?! 14.b4 a5

Black shows +140 here, but can it really be winning? King has +66.... and there I agree!

15.♗e3 ♖b8?

♗d8 had to be better, over-protecting the f6 square for future necessity.

16.♗f3! axb4 17.♗h3!



17...h6

17...g6? 18.♗c5! and the ♗ cannot be taken – it allows the ♗ into f6 for mate!

18.♗f6+!!

And the ♗ goes there anyway – a great move! Test your computer/program and see how long it takes to get this.

18...♗xf6

Not 18...gxf6 19.♗xh6!

19.exf6 ♗xa3

Here Black's eval drops from +156 on the previous move, to -159.

20.♗xa3 bxa3 21.fxg7 ♗xg7 22.♗d4+ f6

23.♗g3+ ♗f7 24.♗c5 f5 and the game was resigned by Black after a few more moves. An excellent demonstration of a de Koning program at its attacking best. 1-0

The next Section is an Article which Bill REID sent me, after venturing again into **'The Veiled Attack'.**

"One of the joys of owning a dedicated chess computer, or running a top level PC program, is the challenge of searching for some blind spot in the performance of what is, otherwise, at the very least an awesome calculating machine.

In early 1993, after some experiments with the Kasparov RISC 2500, then new on the market, I noticed that in spite of its overall strength, it had problems with attacking manoeuvres which unfold at a slow pace.

In spite of my lowly grading of only about 150 BCF, I was often able to make use of this idea to upset the machine when I was on the Black side of a King's Indian. For example:

RISC 2500 (2250) - Bill REID (1800) [B92] 60/30, 1997

1.d4 ♗f6 2.c4 g6 3.♗c3 ♗g7 4.e4 d6 5.♗f3 0-0 6.♗e2 e5 7.♗e3 ♗c6 8.d5 ♗e7 9.0-0 ♗e8 10.♖b3?!

This ♖d1-b3xb7 'threat' is a great temptation to many programs in such positions, but it is actually one of the moves which help the plan work.

10...h6 11.♗ac1 f5 12.♗d3 f4 13.♗d2 g5 14.♗e2 ♗g6
DIAGRAM.

The attack almost plays



itself.

15.♖fd1 g4 16.♗e1 ♜f7 17.f3 h5 18.♗d3
♜h4 19.fxg4 hxg4 20.♜b5 ♗f6 21.c5

The program shows signs of evaluating attacks on either wing as equal, regardless of where the ♗'s are. [Going through the game on Fritz/ChessBase I noticed it also wanted to play c5, reading only -.03: Eric].
21...♗f8 22.♗e1 g3 23.h3 ♗xh3!

You don't need to be Gary Kasparov to play this, but I'll give myself an exclamation mark anyway!
24.gxh3 ♜xh3 25.♗xg3 fxg3 and the RISC 2500 resigned. 0-1

"When I discussed this weakness in the computer's play with Eric, we came up with a name for my strategy – "The Veiled Attack" – hence the title of this little Article.

Recently I acquired Rebel8 to run on my Pentium/150MHz... a program a year or four beyond the RISC 2500 in development and, running on fast hardware, probably at least 200 Elo ahead in strength.

So I was keen to see whether the 'Veiled Attack' could upset it, or whether the on-ward march of programming and power technology had rendered the strategy obsolete.

First I tried my dependable King's Indian:

REBEL8 P/150 (2500) – Bill REID (1800) [E98] G/30, 1997

1.d4 ♗f6 2.c4 g6 3.♗c3 ♗g7 4.e4 d6 5.♗f3
0-0 6.♗e2 e5 7.0-0 ♗c6 8.d5 ♗e7 9.♗e1
♗e8

9...♗d7 is also played.

10.♗e3 f5 11.f3 f4 12.♗f2 g5 13.c5 ♗g6
14.♜c1 h5



The attack preparation is hardly unfolding "at a slow pace" this time! However Rebel8 will still place its ♜ on the wrong side of the board.

15.cxd6 cxd6 16.♜b3?! g4 17.fxg4 hxg4
18.♗b5 ♜f7

Giving up the ♜-side altogether, to speed-up the ♗-side attack. Presumably many strong (i.e. "known") players would hesitate to do this, because a loss to a computer might look foolish. But for the weaker player who can expect to lose, it's not a bad gamble!

19.♗xa7 ♜xa7 20.♗xa7

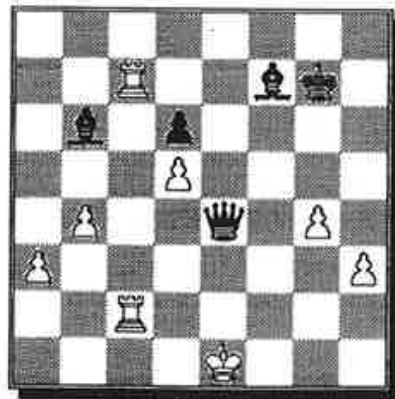
Rebel now has a big plus evaluation!
20...♗d7 21.♜xb7 ♜h4 22.♜c3 f3 23.♗a6
♗f4 24.b3?!



I imagine SS readers can see what I'm going to play now!?

24...♗f8 25.♗e3 ♜h7 26.♗xf4 exf4 27.h3
♗f6 28.♜a8 ♗xe4 29.♗xf3 gxf3 30.♜cxf3
♜f7 31.♜d3 ♗h7 32.a3 ♗g7 33.♜a7 ♗c5!
34.♜df3 ♗d4+ 35.♗h1 ♗g7 36.♜b6 ♗e5
37.b4 ♗e4 38.♜c1 ♗g3+ 39.♗h2
39.♗g1 ♗xh3 40.gxh3 ♜xh3
39...♗g4 40.♜f2 ♗e4 41.♗g1 ♗h5 42.♜c7
♜f6 43.♜c4 ♗g3 44.♜d2 f3 45.♜f2 ♜g6
46.♜c1 ♗e2+ 47.♗xe2 fxe2 48.g4 ♜xf2
49.♗xf2 ♜e4 50.♜c7+ ♗f7 51.♜xe2 ♗d4+
52.♗e1 ♗e3 53.♜ec2 ♗b6+ 1-0!

"What!" I almost hear you shout. "Shouldn't that be 0-1?" You'll certainly think so when you look at the Diagram.



Unfortunately Rebel doesn't resign Blitz games just because it's in a lost position, and I went down on time at move 69. It was

my own fault – I foolishly exchanged Queen for Rook to go into a 'simple', winning, but *long-winded*, endgame! I'm sure Rebel would have killed itself off quite quickly, but I couldn't click my dear old mouse fast enough!

However, despite Rebel's stouter resistance, in the long run it seemed to be having the same problem as RISC 2500 in dealing with the 'Veiled Attack'. In particular moves like 24.b3 and 32.a3 are puzzling, given that they were played when pieces were threatening to invade the White King's side.

Finally I was able to chalk up a win, this time with a Sicilian. Once again I am Black. I suppose as White one can mount 'Veiled Attacks', but it never seems to work in quite the same way!

REBEL8 P/150 (2500) – Bill REID (1800) [B20] G/30, 1997

1.e4 c5 2.b3 e5 3.♖b2 ♖c6 4.g3 d6 5.♗c3 ♗d4 6.♗d5 ♗f6 7.c3 ♗xd5 8.exd5 ♗f5 9.♖b5+ ♖d7 10.♗xd7+ ♗xd7 11.♗f3 g6 12.0-0 h5 13.♗e2



The critical moment. Nasty threats are developing against e5. Black must either dig in with f6, or go for active play with 0-0-0. Castling rather invites b4, but maybe White's immediate initiative can be held up with a little pawn sacrifice?! 13...0-0-0!? 14.b4 c4!? 15.♗xc4+ ♖b8 16.♗b3 h4 17.c4 hxc3 18.fxc3 ♖g7 19.♗ae1 ♗xg3!?

Did our faithful SS readers see this coming?!

20.hxc3 ♗h3 21.♖f2 ♗f5 22.♖a1

An altogether mysterious move, at least to me, played after a long think.

22...♗h2+ 23.♖g1

23.♖e3?? allows 23...♖h6+ 24.♗g5

♖xg5+ 25.♗f4 exf4+ and m/3 from here. 23...♗h3 24.♗xe5

Rebel remains perfectly content with a high + evaluation as yet. 24...♗g5 25.♖g2 ♗dh8!

Of course!

26.♗d7+

The only move which offers Computer-thinking a plus evaluation.

26...♖c7 27.♖xg7 ♗h2+ 28.♖g1 ♗8h3

29.♗e3 ♗h1+ 30.♖f2

I noticed Fritz within ChessBase announced mate against itself here, but presumably Rebel said nothing.... or, if it did, Bill decided to take no notice!: Eric!

30...♗3h2+ 31.♖e1 ♗f5 32.♗ef3 ♗e4+

33.♖d1 ♗e2+ 34.♖c2 ♗xd2+ 35.♖b1 ♗e1+

36.♗xe1 ♗xe1+ 37.♗d1 ♗xd1#

"And for once I was really glad that Rebel doesn't resign Blitz games! I enjoyed that. 0-1

Eric shares a HIARCS6 Endgame demo!

I've played so many H5+6 games over the past 2/3 months, it's a good job I love the program or I'd.... well, maybe I wouldn't!

But here's 'proof' of its high-class endgame technique, against another program respected as being one of the top 2 Computer endgame players.

GENIUS5 P/100 (2490) – HIARCS6 P/133 (2580) [B02. Alekhine's] 60/15, 1997

1.e4 ♗f6 2.e5 ♗d5 3.c4 ♗b6 4.d4 d6 5.f4 dxe5 6.fxe5 ♗c6 7.♖e3 ♗f5 8.♗f3 e6 9.♗c3 ♗d7 10.♖e2 0-0-0 11.0-0 ♖g4 12.c5 ♗d5 13.♗xd5 ♗xd5 14.♗g5 ♖xe2 15.♗xe2 ♗xd4 16.♖xd4 ♗xd4+ 17.♖h1 ♗d2 18.♗xd2 ♗xd2

Both programs, well-endowed in the Alekhine's it seems, have now left their Books. H6 shows +54, whilst G5 has it as equal.

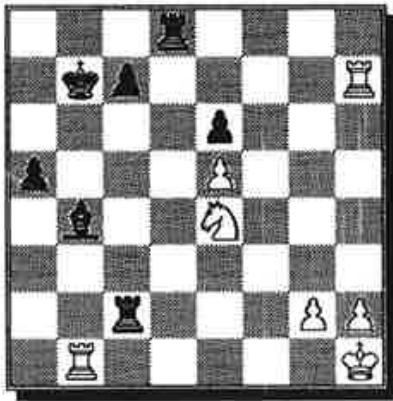
19.c6 ♖e7 20.cxb7+ ♖xb7 21.♗e4 ♗xb2

22.♗xf7 ♖b4 23.♗xg7 ♗d8 24.♗xh7?!

24.♗cl ♗c2 25.♗b1 looks better for White, as H6 starts having fun with back-rank mate threats. 24...♗xa2 25.♗cl ♗c2 26.♗b1 a5!

See DIAGRAM at the top of the next page.

This ♗ clearly poses a serious threat, and Hiarcs6 evaluates its chances at +134. However Genius5 remains very relaxed at close to '=' for a few more moves!



27. ♖g5 ♜d5
28. ♖xe6 ♜xe5
29. ♖d4 ♜b2
30. ♜c1 ♜c5
31. ♜f1 ♜c4
32. ♖f3 ♜cc2!

H6's domination of the 7th rank with his ♜'s spells doom for Genius.

33. g3 ♖d6

34. ♜d1?!

Why, as it's not a threat! Yes, the c7/♜ is pinned, but ♜xd6 unfortunately allows ♜b1 gaining a big advantage, as we show in a moment.

34...a4 35. ♖e1

Okay then, if 35. ♜xd6 ♜b1+ 36. ♖g1 and now a3 is a big +.

35...♜d2 36. ♜a1 a3 37. ♖f3 ♜f2 38. ♖g1 a2!

It is just becoming impossible for White to cope with everything at once!

39. ♜h3?!

A slightly strange positioning of the ♜, which could have gone to h5 for more scope, or h6 to play ♜xd6 and maybe relieve pressure on g3 and h2. Whatever, H6's endgame skills have already guaranteed the point is in the bag.

39...♜b1 40. ♜xa2 ♜xa2 41. ♜h5 ♜aa1

42. ♖g2 ♜xg1+ 43. ♖f2 ♜h1 44. ♖f3 ♜a2

45. h4 ♜f1+ 46. ♖g4 ♜a3 47. ♜b5+ ♖c6

48. ♜g5 ♜xg3+ 0-1

We close with a couple of PC Blitz wins against exalted opposition!

FRITZ4 P/90 (2400) - Shabalov (2630)
[A40] Internet G/10, 1997[Eric]

1. d4 e6 2. c4 b6 3. ♖c3 ♖b7 4. ♖f3 ♖b4
5. ♜b3 ♜e7 6. ♖f4 ♖xc3+ 7. ♜xc3 d6 8. c5
bxc5?!

8...dxc5 9. dxc5 ♖f6 looks slightly better for Black, I think.

9. dxc5 e5 10. ♜b3 ♖c6 11. cxd6 cxd6
12. ♖g3 ♖f6 13. ♜d1 0-0?!

This runs into trouble. I suggest
13...♖bd7 14. ♜a3 ♖e4 (14...♖c5 15. ♜c1!)
15. ♖h4 ♖df6
14. ♜a3 ♖xf3?!

14...♖d5 seems better, then Fritz would have gone 15. ♖h4 so maybe 15...♜d8
16. ♖f5 ♜c7 17. e4 which still looks good for White. So I believe 13...0-0 was the culprit!

15. gxf3 ♜d8 16. f4 e4 17. ♖h4 ♜e6 18. ♖h3



What a wonderful pair of bishops!
18...♜e7 19. ♜g1! ♖h8 20. ♖f5 h6 21. ♜g3
♜f8?

21...♜g8 was the last hope, though
22. ♖xf6 ♜xf6 23. ♖xe4 should still be enough to win.

22. ♖xf6 1-0

Seirawan Y (2620) - MCPRO6 P/166
(2500) [A67] G/5, 1997[Eric]

1. d4 ♖f6 2. c4 c5 3. d5 e6 4. ♖c3 exd5
5. cxd5 d6 6. e4 g6 7. f4 ♖g7 8. ♖b5+ ♖fd7
9. ♖f3 0-0 10. 0-0 a6 11. ♖d3 b5 12. ♖h1 c4
13. ♖c2 b4 14. ♖a4 ♖f6 15. ♖e3 ♖bd7 16. ♖d4
♜e8 17. ♜e1 ♖h6 18. f5?

White doesn't like the look of the pin resulting from protecting the f4/♜ by ♜d2 (or ♜c1). Nevertheless either of those is better than moving the pawn, as we soon see.

18...gxf5 19. exf5 ♖b7!



An excellent crossfire attack by MCP – perfect for Blitz chess!

20. ♖xf6?

20. ♜xe8+ ♖xe8 21. ♜e1 was best.
20...♜xf6 21. b3 c3 22. ♜d3 ♜ac8 23. ♜xe8+
♜xe8 24. ♜c4 ♖g7 25. ♜c7 ♖c8 26. ♜e1 ♖e5
27. ♖xe5 dxe5 28. ♖e4

28. d6!? might still have been rather interesting to see over the board!

28...♖xf5 29. ♜f1 ♜c8!! 30. ♜b7 c2! 0-1

The FUTURE of Computer Chess

By Graham Laight

Hello Eric,

I would like to submit the following as an article for your magazine. I believe it will be of great interest if Kasparov beats DB again, as people look for alternative technologies for beating grandmasters at chess.

Thoughts On The Future Of Computer Chess

I think there is a growing consensus that as computers become faster, knowledge in position evaluation (and search extension choice) becomes more significant than search depth.

The evidence for this comes, for example, by comparing Fritz with Hiarc. Fritz used to be very competitive by doing very deep searches with light evaluation. The GK2100 computer (which is also programmed by Franz Morsch, and which I have) is famous for winning by creating tactical mayhem in the middle game.

Hiarc, on the other hand, is reputed to have more accurate knowledge of how good a position really is - which undoubtedly takes more time to work out. With modern, faster PCs, this seems to give better results than very quick searching.

For many people, there does seem to be a definite trend of nodes per second yielding less and less extra benefit, while knowledge yields more and more.

The reasons for this include things like: long term positional weaknesses, trapped pieces, inaccurate piece placement etc., which deep searching simply does not find.

I think it is fair to assume that from now on, as computers continue to get faster, programmers will find that to improve play, they need to apply more knowledge to position evaluation and search extension choices.

At the moment, this extra knowledge is probably being written into the program. This is likely to lead to large, unwieldy programs in the long term, with additional

problems in terms of adjusting the big evaluation function for one type of position, and not understanding why it is affecting play in other types of position. Several programmers have recently complained about this problem.

In the field of Expert Systems (a branch of Artificial Intelligence), the latest fashion is for CBR (Case Based Reasoning). The essence of CBR is that, in a given domain of expertise, when presented with a problem, you select the closest problem to it from the case base (a database of situations that have occurred in the domain), and adapt the solution to your new situation.

I have been giving some thought as to how this principle might be applied to chess.

What I think would be an elegant solution would be a database of chess positions, and, for each of these positions, an evaluation function.

In play, the computer would generate an alpha-beta search tree in the usual way. Then, to evaluate a leaf in the tree, the computer would find the nearest position to the current one in the database, and use the matching evaluation function to score the leaf position.

This simple system gives us the means to implement cleanly and easily as much knowledge as we like in a chess system.

It has been said that such a system would be slow - especially if a large case base is used. Here again, CBR has the answer.

There are basically two ways of finding the best match in CBR. The first is called "*Nearest Neighbour*" retrieval. Under this method, every case in the database is compared with the current case, and is scored for "closeness" using whatever measurements you like. If the database is large, this will be time consuming - and time is something one cannot spare in a game tree scenario, given the large number of leaves (or "nodes") which must be examined.

However, there is also a method called "*retrieval by induction*". Under this system,

the case base is split up into categories, in a binary tree.

To find your best match, you ask a question which divides your case into two. You then ask another question which divides it into two again, and so on.

We can easily see that the size of database which can be addressed with n questions is 2^n . For example, 16 questions could select the closest match from a database of 2^{16} , = 65536. Thus, the closest match to a position, from a database of 65536 positions, could be found by asking just 16 questions. This is certainly feasible - even in the short time available in a big game tree search.

Nothing is for free, of course. The price you pay for the speed of induction reasoning is that the entire case base has to be reclassified (induction indexes rebuilt) whenever any changes are made to it. However, this process could probably be automated, so it's not an insurmountable problem.

I think that a major benefit of such a system would be that a program could be set up for Chess players who do not enjoy C++ to easily produce their own computer chess player.

If the system would provide alpha-beta search, hash tables, and components for making position evaluation functions (the fundamental building blocks of modern chess programs), then all the chess player would need to do is to provide chess positions, and build an evaluation function (from the ready made components) for assessing this type of position. Some control over the inductive reasoning process would also be desirable.

I believe that this system, with today's top PCs, would be able to stand up to strong players with as little as 1,000 cases. With 50,000 cases or more, there's no reason why it shouldn't be able to beat grandmasters. (The magic number 50000 comes from the book *"Chess Skill In Man And Machine"*, where studies are cited showing that grandmasters have expert knowledge of 50,000 types of chess position).

As PCs get faster and faster, this system will simply get stronger and stronger - much more so than the typical programs of

today will be able to.

Above all, it answers the question, posed many times in the above-mentioned book, *"Why can't a computer play more like a human?"*

Editor's note: Additional or alternative ideas, or responses to Graham's article, especially from the programming fraternity, would be very welcome.

MINI-ADVERT!

Regular Readers will have noticed that, in this issue, I have sacrificed my **'BEST BUY GUIDE'** ADVERT for COMPUTER CHESS PRODUCTS, which normally appears on the inside front cover. This was to maximise the room available for the important Deep Blue-Kasparov and Hiarcs-Hergott matches.

However my part-time work and selling of **Chess Computers and Programs with Countrywide** is a vital part of my income - simply publishing Selective Search on its own would not be financially viable. I include the advert because Countrywide supports Selective Search, and Selective Search supports Countrywide, if you know what I mean!

Therefore can I invite readers "in the market" for any Computer Chess product, to ring me at Countrywide - **01853 740323**, most afternoons - if you are thinking of buying and want either a free copy of our CATALOGUE, or any help, advice... or encouragement!

Thanks..... *Eric*

RATING LIST NOTES:

Congratulations to the HIARCS team, especially Mark Uniacke, for finally achieving their long-time ambition of making it to the top of both the *SS* and *SSDF* (Ply) Rating Lists. Since completing the **News & Results** section, I have added later HIARCS6 results which came in from Frank Holt, Harald Faber and Sylvanus McLeod, helping to confirm its **no.1** status.

The 1997 AEGON gradings are also now included, with PPro/200 figures converted to P/100-133 level by deducting 60 Elo.

RATING LISTS and NOTES

A brief guide to the purpose of each of the HEADINGS should prove helpful for everybody.

BCF. These are British Chess Federation ratings.

They can be calculated from Elo figures by $(\text{Elo} - 600) / 8$, or from USCF figures by $(\text{USCF} - 720) / 8$.

Elo. This is the Rating figure which is in popular use Worldwide. The BCF and Elo figures shown in SELECTIVE SEARCH are calculated by combining each Computer's results v computers with its results v humans. This determines the ranking order and, we believe, makes our Rating List the most accurate available anywhere for computers and programs.

+/-. The maximum likely future rating movement, up or down, for that particular machine. The figure is determined from the number of games played and calculated on precise standard deviation principles.

Games. The total number of Games on which the computer or program's rating is based.

Human/Games. The Rating obtained and the total no. of Games played in Tournaments v rated humans.

A guide to PC Program Gradings:

386-PC represents the program running on an 80386 at approx. 33MHz with 4MB RAM.

486-PC represents the program running on an 80486 at between 50-66MHz with 4-8MB RAM.

Pent-PC represents programs on a Pentium at approx. 100-133MHz, with 8-16MB RAM.

PPro-PC represents programs on Pentium Pro/200, or a Pentium/200 MMX.

Users will get slightly more (or less!) in each case, if the speed of their PC is significantly different. A doubling or halving in MHz speed = approx. 50 Elo; a doubling or halving in MB RAM = approx. 5-10 Elo.

Approx. guide if Pentium/100 = 0

Pentium Pro/200	+60	Pentium/166	+40
Pentium/133	+20	486DX4/100	-60
486DX2/66	-80	486DX/50	-100
486DX-SX/33	-100	386DX/33	-200

SELECTIVE SEARCH

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ARTICLES, RESULTS, GAMES and SUBSCRIPTIONS should be sent direct to Eric, please!

RATING LIST (c) Eric Hallsworth. PC PROGS									
BCF Computer	Elo	+/-	Games	Pos	Human/Games	BCF Computer	Elo	+/-	Games
243 HIARCS6 PENT-PC	2546	21	457	1	2383	243 HIARCS6 PENT-PC	2546	21	457
238 REBEL8 PENT-PC	2506	12	1388	2		238 REBEL8 PENT-PC	2506	12	1388
238 HIARCS5 PENT-PC	2505	19	563	3		238 HIARCS5 PENT-PC	2505	19	563
236 M CHES PRO6 PENT-PC	2492	15	893	4		236 M CHES PRO6 PENT-PC	2492	15	893
234 CHES GENIUS5 PENT-PC	2479	17	742	5		234 CHES GENIUS5 PENT-PC	2479	17	742
234 CHES GENIUS3 PENT-PC	2476	15	870	6		234 CHES GENIUS3 PENT-PC	2476	15	870
233 CHES GENIUS4 PENT-PC	2471	14	983	7		233 CHES GENIUS4 PENT-PC	2471	14	983
233 HIARCS4 PENT-PC	2467	15	926	8		233 HIARCS4 PENT-PC	2467	15	926
232 REBEL6 PENT-PC	2462	19	574	9		232 REBEL6 PENT-PC	2462	19	574
232 REBEL7 PENT-PC	2460	14	1007	10		232 REBEL7 PENT-PC	2460	14	1007
232 M CHES PRO5 PENT-PC	2459	15	869	11		232 M CHES PRO5 PENT-PC	2459	15	869
231 CHESMASTER 5000 PENT-PC	2450	29	246	12		231 CHESMASTER 5000 PENT-PC	2450	29	246
230 NINJ03.0 PENT-PC	2443	18	811	13		230 NINJ03.0 PENT-PC	2443	18	811
230 CHES GENIUS4 486-PC	2440	16	663	14		230 CHES GENIUS4 486-PC	2440	16	663
229 NINJ03.5 PENT-PC	2439	26	303	15		229 NINJ03.5 PENT-PC	2439	26	303
229 HIARCS3 PENT-PC	2438	18	608	16		229 HIARCS3 PENT-PC	2438	18	608
229 JUNI0R3.5 PENT-PC	2433	23	396	17		229 JUNI0R3.5 PENT-PC	2433	23	396
227 M CHES PRO4 PENT-PC	2416	19	577	18		227 M CHES PRO4 PENT-PC	2416	19	577
226 CHES GENIUS3 486-PC	2414	12	1362	19		226 CHES GENIUS3 486-PC	2414	12	1362
226 CHESMASTER 4000 PENT-PC	2412	51	80	20		226 CHESMASTER 4000 PENT-PC	2412	51	80
226 FRITZ3 PENT-PC	2409	16	839	21		226 FRITZ3 PENT-PC	2409	16	839
225 FRITZ4 PENT-PC	2401	21	467	22		225 FRITZ4 PENT-PC	2401	21	467
224 MEH GENIUS2 486-PC	2393	11	1606	23		224 MEH GENIUS2 486-PC	2393	11	1606
224 REBEL7 486-PC	2392	17	727	24		224 REBEL7 486-PC	2392	17	727
223 M CHES PRO5 486-PC	2391	17	708	25		223 M CHES PRO5 486-PC	2391	17	708
223 KALLIST01.98 PENT-PC	2385	18	641	26		223 KALLIST01.98 PENT-PC	2385	18	641
222 M CHES PENT-PC	2382	17	745	27		222 M CHES PENT-PC	2382	17	745
221 HIARCS3 486-PC	2368	12	1340	28		221 HIARCS3 486-PC	2368	12	1340
220 MACHINE GIDEON3.1/30-PC	2360	17	712	29		220 MACHINE GIDEON3.1/30-PC	2360	17	712
219 REBEL6 486-PC	2359	14	1030	30		219 REBEL6 486-PC	2359	14	1030
219 MACHINE THE KING2/30-PC	2358	12	1418	31		219 MACHINE THE KING2/30-PC	2358	12	1418
219 M CHES PRO4 486-PC	2357	14	1103	32		219 M CHES PRO4 486-PC	2357	14	1103
218 M CHES 486-PC	2349	17	738	33		218 M CHES 486-PC	2349	17	738
216 CHES GENIUS1 486-PC	2334	10	2120	34		216 CHES GENIUS1 486-PC	2334	10	2120
215 FRITZ3 486-PC	2330	12	1385	35		215 FRITZ3 486-PC	2330	12	1385
215 CHESMASTER 4000 486-PC	2323	17	728	36		215 CHESMASTER 4000 486-PC	2323	17	728
215 M CHES PRO3.5 486-PC	2323	13	1157	37		215 M CHES PRO3.5 486-PC	2323	13	1157
214 MEH GIDEON PRO 486-PC	2316	20	537	38		214 MEH GIDEON PRO 486-PC	2316	20	537
213 MACHINE GIDEON3.0/30-PC	2310	25	326	39		213 MACHINE GIDEON3.0/30-PC	2310	25	326
213 M CHES PRO3.1 486-PC	2308	12	1332	40		213 M CHES PRO3.1 486-PC	2308	12	1332
211 HIARCS2.1 486-PC	2291	18	650	41		211 HIARCS2.1 486-PC	2291	18	650
209 COMET32 PENT-PC	2279	21	474	42		209 COMET32 PENT-PC	2279	21	474
209 CHES GENIUS1 386-PC	2277	25	323	43		209 CHES GENIUS1 386-PC	2277	25	323
208 KALLIST01.8 486-PC	2265	13	1133	44		208 KALLIST01.8 486-PC	2265	13	1133
206 MACHINE GIDEON2/15-PC	2248	13	1217	45		206 MACHINE GIDEON2/15-PC	2248	13	1217
204 M CHES 486-PC	2232	16	753	46		204 M CHES 486-PC	2232	16	753
202 HIARCS2.1 386-PC	2223	48	93	47		202 HIARCS2.1 386-PC	2223	48	93
202 FRITZ2 486-PC	2221	13	1228	48		202 FRITZ2 486-PC	2221	13	1228

RATING LIST (c) Eric Hallsworth. ss_70 Jun 1997

	Elo	+/-	Games	Pos	Human/Games
BCF Computer					
225 TASC R30-1995	2402	19	592	1	2276 18
224 MEPH LONDON 68030	2392	51	80	2	
219 TASC R30-1993	2353	12	1346	3	2336 66
219 MEPH GENIUS2 68030	2353	18	630	4	2300 29
218 MEPH LONDON PRO 68020/24	2351	68	46	5	
215 MEPH RISC2 1MB	2326	25	327	6	2237 6
214 MEPH LYON 68030	2313	15	868	7	2392 51
212 KASP RISC 2500-512K	2299	26	313	8	2384 10
212 MEPH PORTOROSE 68030	2297	20	525	9	2340 82
212 MEPH BERLIN PRO 68020/24	2296	13	1173	10	2217 29
211 MEPH VANCOUVER 68030	2291	18	656	11	2347 54
211 MEPH LYON-VANC 68020/20	2288	27	266	12	2327 10
210 MEPH LONDON 68020/12	2285	82	32	13	
209 MEPH RISC1 1MB	2276	9	2478	14	2232 95
208 KASPAROV SPARC/20	2267	15	945	15	2251 24
205 MEPH MONTREUX	2246	17	721	16	2288 54
205 KASP RISC 2500-128K	2245	9	2489	17	2270 67
204 MEPH LONDON 68000	2243	80	33	18	
202 FID ELITE 68040-V10	2216	53	75	19	2215 21
201 MEPH VANCOUVER 68020/12	2211	9	2341	20	2121 33
200 MEPH LYON 68020/12	2205	8	3289	21	2250 80
197 MEPH PORTOROSE 68020	2179	10	1865	22	2240 188
196 FID ELITE 68030-V9	2175	15	849	23	2169 13
196 MEPH BERLIN 68000	2175	13	1274	24	2221 25
195 MEPH MILANO PRO	2162	36	165	25	2169 10
195 MEPH LYON 68000	2162	11	1682	26	2083 33
195 MEPH VANCOUVER 68000	2161	12	1318	27	2126 23
194 MEPH ALMERIA 68020	2154	14	1053	28	2172 215
192 NOVAG SAPPHIRE-DIAMOND	2143	13	1247	29	2152 77
191 MEPH PORTOROSE 68000	2128	11	1683	30	2111 25
190 FID MACH3-DES2325 68020-V7	2124	10	2101	31	2179 130
186 FID ELITE 2x6800-V5	2095	27	290	32	1888 2
185 MEPH POLGAR/10	2083	17	698	33	2080 54
185 KASPAROV BRUTE FORCE	2083	14	1074	34	2182 42
183 MEPH ROMA 68020	2081	14	1083	35	2041 64
183 MEPH DALLAS 68020	2071	14	996	36	2069 197
183 MEPH ALMERIA 68000	2067	14	1025	37	2093 31
182 NOVAG SCORPIO-DIABLO	2061	10	2085	38	2132 129
180 NOVAG JADE2-ZIRCON2	2042	45	104	39	2032 48
180 KASP PRESIDENT-TC+6K2100	2040	17	701	40	2072 65
179 MEPH NIGEL SHORT	2036	27	282	41	2136 5
177 FID MACH3-DES2265 68000-V2	2031	6	5742	42	2105 230
177 MEPH DALLAS 68000	2022	11	1593	43	1988 50
177 MEPH MMS/5	2022	11	1741	44	1902 11
177 MEPH MILANO	2018	13	1123	45	2063 13
177 MEPH POLGAR/5	2018	8	2783	46	2076 17
177 NOV SUPER FORTE-EXP C/6	2016	8	2799	47	2000 24
176 MEPH MONDIAL 68000XL	2008	15	873	48	2049 77

175 MEPH MONTREAL-ROMA 68000	2001	9	2625	49	1968	56
173 MEPH ACADEMY/5	1991	9	2361	50	2024	109
173 MEPH AMSTERDAM	1987	9	2373	51	2054	182
172 NOV SUPER FORTE-EXP B/6	1976	12	1464	52	2017	84
171 MEPH MEGA4/5	1973	8	2711	53	2029	169
171 KASPAROV MAESTRO D/10	1970	12	1319	54	1956	109
171 FID MACH2C	1968	8	2704	55	2059	127
171 FID MACH2B	1968	26	302	56	1960	25
170 KASP 6K2000-EXECUTIVE	1967	14	792	57	1862	20
169 MEPH MODENA	1958	16	773	58		
169 MEPH M4/5	1953	8	2928	59	2006	97
168 FID TRAVELMASTER	1951	18	648	60	1917	83
167 NOVAG RUBI-EMERALD	1943	16	752	61	1981	48
167 MEPH SUPERMOND2-MCARLO4	1939	27	287	62	2024	8
167 NOV SUPER FORTE-EXP A/6	1937	12	1473	63	2021	176
167 KASPAROV MAESTRO C/8	1937	29	257	64	1862	22
166 KASP TRAVEL CHAMPION	1928	26	313	65	1999	98
165 MEPH MONTE CARLO	1925	28	262	66	2046	10
165 CONCH PLY-VICTORIA/5.5	1920	16	814	67	1870	15
165 C66 SPHINX/4	1920	9	2426	68	1943	155
164 KASP TURBOKING2	1918	14	1055	69		
164 FID MACH2A	1916	25	338	70	1912	35
162 NOV EXPERT/6	1900	31	222	71	2026	22
161 NOV SUPER FORTE-EXP A/5	1890	11	1548	72	1825	29
161 FID CLUB B	1888	12	1459	73	1827	18
160 NOV EXPERT/5	1885	26	316	74	2012	68
159 FID PAR E-ELITE+DES2100	1878	9	2645	75	1916	220
159 NOV FORTE B	1877	10	1917	76	1965	208
159 MEPH REBEL	1876	9	2333	77	1940	69
159 FID AVANT GARDE/5	1874	11	1738	78	1852	80
158 KASP STRATOS-CORONA	1868	9	2186	79	1890	48
158 NOV FORTE A	1867	9	2251	80	1921	134
157 MEPH SUPERMONDIAL1	1862	11	1611	81	1990	6
157 FID CLUB A	1858	29	242	82	1767	6
157 KASPAROV MAESTRO A/6	1856	14	1023	83	1864	131
157 CONCH PLYMATE/5.5	1856	9	2353	84	1923	55
156 KASP SIMULTANO	1855	13	1149	85	1824	36
156 KASP TURBOKING1	1853	24	364	86	1900	61
155 CONCHESS/6	1851	45	106	87	2017	8
155 FID EXCELLENCE/4	1841	11	1756	88		
155 NOV EXPERT/4	1840	14	1059	89	1960	43
155 NOVAG JADE1-ZIRCON1	1840	106	19	90		
154 CONCH PLYMATE/4	1833	24	372	91	2007	6
153 SCI TURBO KASP/4	1831	20	524	92	1933	64
153 FIDELITY ELITE C	1826	34	182	93	1869	11
152 FID ELEGANCE	1818	17	702	94	1852	40
151 MEPHISTO MM2	1812	16	791	95	1776	8
151 SCI TURBOSTAR 432	1811	12	1407	96	1872	67
150 FID EXCELLENCE-DES2000	1807	11	1664	97	1852	52
148 CONCHESS/4	1790	20	515	98	1875	28