Selective

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THE COMPUTER CHESS MAGAZINE

..Nigel congratulates the Risc 1Mb?

Contents

Editorial

First off, our thanks to everyone who sent back their Readership Survey from last issue; we had hoped for a good response - perhaps twenty five or so, but we now have over sixty, and one or two are still trickling in even now! This means that a full report with proper analysis simply isn't possible this time, but we can at least give some interesting snippets. Take for example the ideas on what a top-class chess computer in 2000AD should be like. These range from the engagingly modest ("board and men of wood") to features that urgently require extra-terrestial assistance if they are to be accomplished in only eight years ("..ability to imitate the styles of Capablanca, Alekhine, Fischer et al., all at the touch of a button.."). Many of the hoped-for features have in fact already appeared in computers past and present - but never all in the same one! The forthcoming Tasc R30 looks like being the nearest thing yet to your ideal Millenium Machine (especially if it were to be cross-bred with the piece-moving Phantom!), but our first consignment still hasn't reached us as we go to press - barring the unpredictable, it will be reviewed in-depth next issue. Almost unanimously though, readers want and expect CC's to have GM status by 2000. This was achieved at Blitz two years ago, and just the results in this issue are enough to show that they have now reached this standard in Rapidplay also. Personally, I don't think we will have to wait more than a couple of years before a computer consistently gains GM norms at normal tournament level, but opinions are sharply divided on this point! As a typical reader myself until recently, I confess that I share this irrational desire to own a machine that will drub me inside twenty moves - I could then relax and spend the rest of the evening watching the telly. Like many of you it seems, I will keep on upgrading until I reach this happy state... As to the three possibilities we proposed, again our expectations were far exceeded. Our idea about providing an optional premier service ('Selector') has obviously struck a chord, as we received large numbers of 'definites', 'probables', and 'possibles'; far more indeed than 'unlikelies' or 'nils'! We won't be launching it tomorrow, but it is now a central part of our future plans.

The same thing goes for the inter-S/S tournament and the 'You-and-Your-CC versus the GM' proposal; in view of the interest shown, we intend to 'go live' on these as well. As to the magazine itself, it seems you like it; or at least (and with apologies to Whiskas) a good deal more than eight out of ten S/S owners who expressed a preference did so! More importantly, there were a large number of constructive suggestions and criticisms. Naturally, some people's opinions are diametrically opposed to others, so it is impossible to please everybody. Some issues will put the emphasis on the 'chess' and others on 'computers'. This one is primarily a Chess Edition! Up to now, most correspondence from readers has concerned CvC results. These are pivotal, and we want all we are given. Lawrence Jordan, for example, has sent us the early rounds of an epic; an all-play-all, 40-in-2, between 18 computers! Good stuff, of which more when we see the games themselves. As well as results though (and we will be taking up Keith Wheeler's suggestion of a regular slot for these) we would very much like your experiences with chess computers more generally, from whatever angle you care to mention. For instance, one of our readers once found a way to beat one of the strongest computers around in 23 moves - *at queen odds!!* Or again, they say computers make mistakes, but never actually *blunder* - do you know otherwise? What is the furthest ahead you have ever known a computer see? Or the prettiest combination? Do you know a game by one of the Chess Greats which a CC can almost completely reproduce? A clear improvement on opening theory? Whatever..! Work to the principle that if something interested, amused, or surprised you, it may well have the same effect on other readers. Computers are now strong enough not to need mollycoddling. We will be happy to show them getting punched up once in a while, and the lower the human's rating the better! No-one with any sense is going to decide against buying a computer, just because it's not the Perfect Robot they thought it was. It is the prerogative of *all* players, of *whatever* standard, to have the odd Good Idea, that will win out despite lack of technique and calculation. Long may it be so!

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Aubervilliers

The following two games come from the recent Aubervilliers Open in France, a massive 12-round event with no fewer than 884 entrants! The 2500 and the Chess Genius both participated and achieved a quite amazing result, coming sixth and seventh respectively. They were only split by a hairsbreadth - 2535 Elo for the Saitek and 2530 for Genius.

This put them behind four GMs and an IM, but ahead of 8 GMs, 10 IMs, and 4 FMs from the top fifty. Two versions of the Cumulus program were also entered, and took 29th and 31st place. The Novag Diablo finished 125th with a performance of 2025. Like Kings Head, this was also a Rapidplay tournament (30 minutes a side). The winner was GM Krum Georgiev.

W: Velikov (GM, 2445) B: Saitek 2500
1.Nf3 Nf6 2.c4 c6 3.d4 d5 4.Nc3 dxc4 5.e3 b5 6.a4 b4 7.Na2 c6 8.Bxc4 Bb7 9.Bd2 This puts the 2500 out of book. ...a5 10. Nc1 c5 11.0-0 cxd4 12.Nxd4 Bd6 13.Ncb3? A careless move, of the kind so easily made in a rapidplay game; it meets with immediate punishment.
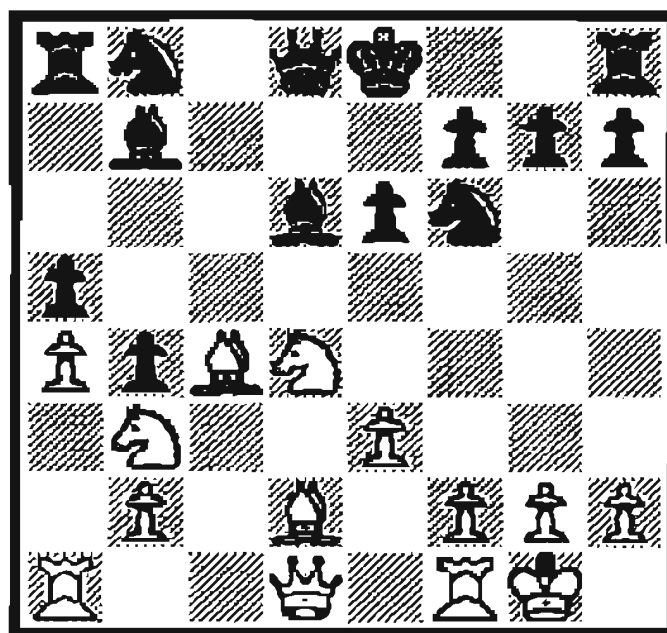
. ...Bxh2+! 14.Kxh2 Qc7+ 15.Kg1 Qxc4 16.Rc1 Qd5 17.f3 0-0 18.e4 Qd7 19.Nb5 Nc6 20.Be3 Qc8 21.Nc5 Ba6 22.Qc2 Ne5 23.Rfd1 Qb8 24.Nxa6 Rxa6 25.Qc7 Qxc7 26.Nxc7 Rc6

27.Rxc6 Nxc6 28.Rc1 Ne5 29.Bb6 Nd3 30.Rc2 b3 31.Rd2 Ne5 32.Rd4 Rc8 33.f4 Nc6 34.Rc4 Nb4 35.Bxa5 Nd3 36.Bb6 Nxb2 37.Rb4 This game follows a fairly typical pattern of computer victories over GMs; a tactical oversight by the human, followed by a spirited fightback. Velikov has found good counterplay since his blunder on move 13, and appears to have come close to equalising. However the following fine move from the Saitek is too much to cope with...
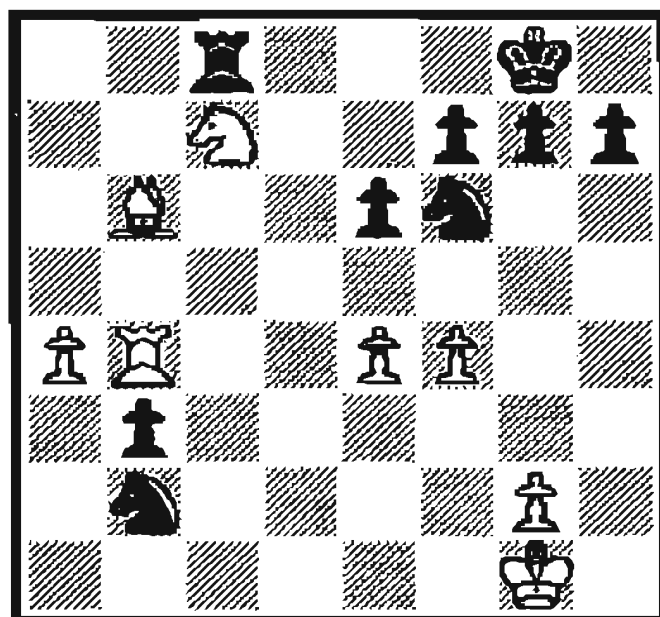
...Nxa4!

Sacrificing a piece for two pawns, eliminating the Grandmaster's Great White Hope, and with it his last chance of outright first place in the tourney. The kind of move that more than makes up for the Saitek's occasional eccentricities...

38.Rxa4 Rb8 39.Bd4 Nxe4 40.Na6 Rd8 41.Rb4 h6 42.Bb6 Rd1+ 43.Kh2 Nd2 44.Nc5 Rc1 45.Nd3 Rc3 46.Nc5 f6 47.Bd4 Rc2 48.Nd3 Nf3+ 49.Kg3 Nxd4 50.Rxd4 Rd2 51.Kg4 Rd1 52.f5 b2 53.Kh5 b1=Q 54.Kg6

...Rxd3 and a mate in 5 announcement by the Saitek to wrap up an excellent performance. (55.Rxd3 Qxd3 56.g4 h5 57.Kxh5 Qh3+ 58.Kg6 Qxg4 mate). 0-1

W: Bachar Koualty (GM, 2505)
B: Chess Genius (486/66)

1.e3 e5 2.d3 d5 The French GM seems to have rather old-fashioned ideas about chess programs. Such moves may force a computer to think for itself early on, but the CG's only thought is that white has already lost his natural advantage (-.15). If Koalty was hoping to make CG lose time, that failed as well, since it has in fact played from book! (presumably the book it keeps for patzers...)

3.g3 Nf6 4.Bg2 c6 5.Ne2 Bg4 6.h3 Bb4+ (It's not easy to see what purpose this serves, since white probably wouldn't develop his N to c3 anyway, and the inevitable retreat simply costs a tempo). 7.c3 Bxe2 8.Qxe2 Be7 9.e4 Nbd7 10.0-0 0-0 11.Nd2 Qc7 12.Nf3 dxe4 13.dxe4 Bc5 14.Nh4 Rfe8

15.Nf5 CG rates this as effectively even, but the ideally placed Knight spells danger. .. Rad8 16.Kh1 Re6 17.Bg5 h6 18.Bd2 Nf8 19.Rad1 N8d7 20.Qf3 a5 21.Bc1 a4 22.Rd3 Nf8 23.Rxd8 Qxd8 24.h4 Qb6 25.Bh3 N8h7 26.g4 Ne8 27.g5 hxg5 28.hxg5 Nf8
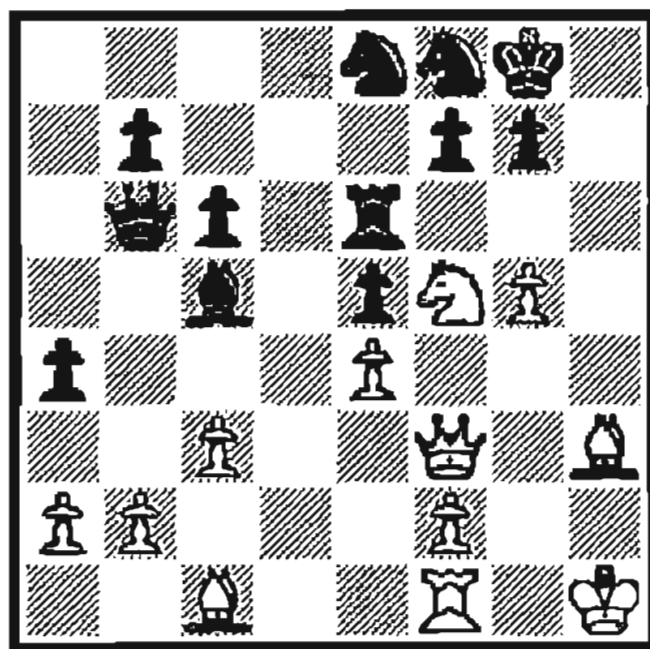
29.Nh6+!

The Frenchman tries a combination which swaps two minor pieces for rook and pawn. Not usually sufficient in itself, but here the menacing pawn on h6 and the exposed nature of black's king make it well worthwhile. Given his slight material advantage, two Knights ready at the defence, and an almost equally draughty white King, CG still considers things to be virtually all square.

...gxh6 30.Bxc6 Nxe6 31.gxh6 Qc7 32.Rg1+ Kh8 33.Qf5 Nf8. The crux of the game.
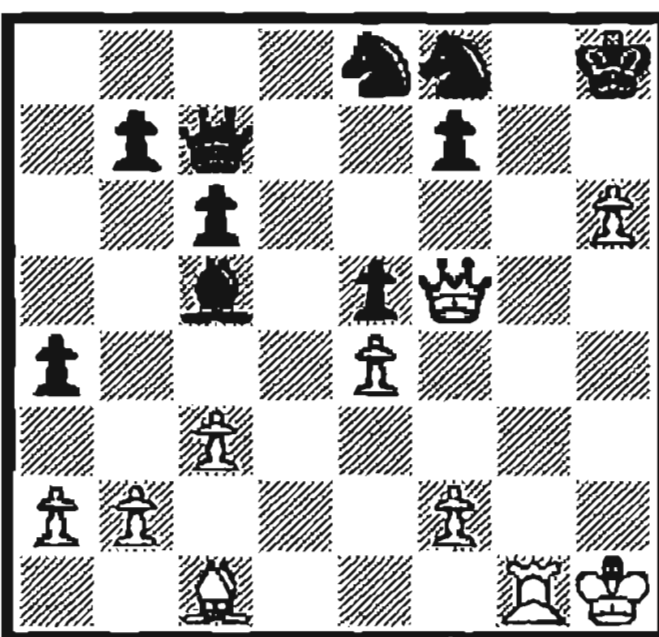
White looks home and dry after 34. Bg5! Nh7 35.Bh4 Bf8 36.Rd1 Bd6 Nf8 37.f4! exf4 38.c5, but instead his next takes the pressure off Genius, which promptly siezes its chance.

34.Rd1? Qe7 35.Bg5 f6 36.Bh4 Bb6 37.Rg1 Qe6 38.Qf3 Kh7 39.Kh2 Ng6 40.Qh5 Nf4 41.Qg4 Qxg4 42.Rxg4 Nd3 43.Kg2 Nxb2 44.Kf3 Nd1 45.c4 Nb2 46.Rg1 Nxc4 47.Rb1??

In time trouble, and with his attack having disintegrated, the Frenchman gives himself the coup de grace ..Nd2 +   0-1

Timings & Tactics

Graham White looks at the Saitek 2500 & Chess Genius

In this article I want to review some tests I've done on these two new programs. The 2500 was first obtained last November, and initial tests were slightly disappointing; a 12/10 loss against my Vancouver 68020 at quick chess - 15 seconds a move. However things improved greatly when I set them at 40 moves an hour, with the Saitek winning by a fairly convincing 40.5/27.5.

I am now reasonably certain that the 2500 is relatively weaker at faster time levels. This phenomenon greatly surprises me as I thought its power advantage would have more influence at quick chess. Perhaps this has something to do with its playing style. On active, and even more so on defensive, it is the least materialistic program I've ever seen, always ready to sacrifice its bits for the slightest initiative or attack. Perhaps therefore, it needs the extra calculating time of the longer levels to get the most from these initiatives.

After these games, I started some tests on tactical positions. I was interested to discover whether any of the Saitek's playing styles (Offensive, Active, Normal, Solid, and Defensive) were actually better than any of the others. The results of my tests were inconclusive and inconsistent. At first I thought Active and Offensive were the strongest, for example:
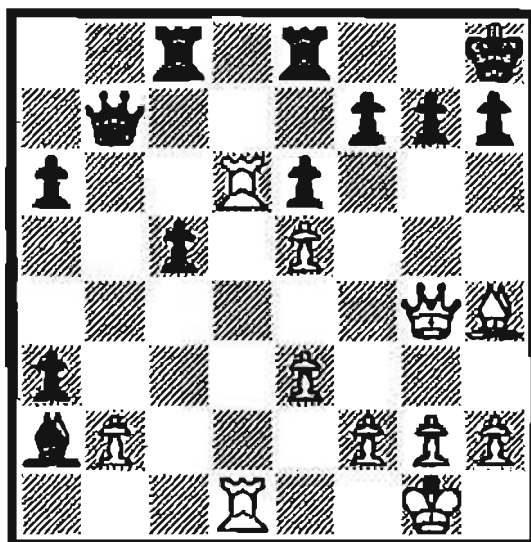
Active and Offensive find 1. Bf6! and mate in 6 in 56 secs. The others take over a minute.
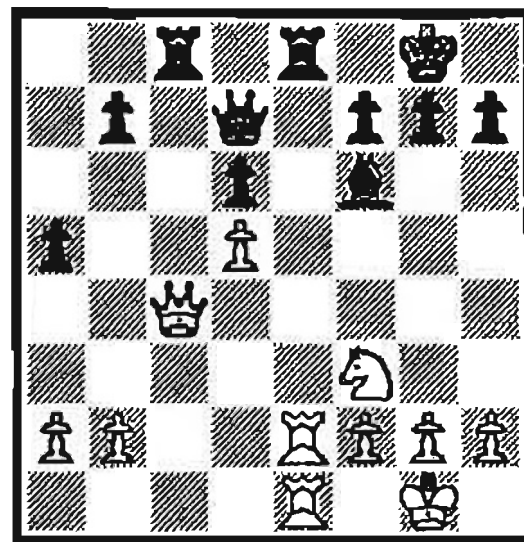
However, another example: In this famous combination white wins by 1. Qc7!! Qb5 2..a4!!, and Defensive and Normal are slightly quicker at this one. I also found another position which Defensive solved quicker than anything else!

As I say, the results were inconsistent, but of all the styles, Normal had the longest overall times! I decided to choose Active for a long series of tactical tests against my Vancouver; the Risc scored 901, and the Vancouver 833, out of a possible 1130 on a formula I invented. I estimate these purely tactical performances to be about 260 and 240BCF respectively - anyone who thinks these grades are unrealistic should play through some annotated Grandmaster games, whereupon they will see that they are often not very accurate in their tactical calculations! My next acquisition was a Chess Genius for a 486/66. I have not had a chance to do as much testing on this at present, but early results are impressive. At 30 seconds a move it beat the Vancouver 020 7/3, and the 2500 by 11.5/3.5. These results equate to 224 and 240BCF. The second grade is unrealistically high, as the Saitek is not so good at the faster levels. I expect the real tests will come when I get a chance to play some games at 40/2. I have however done some tactical tests, and Richard Lang has evidently improved the program, as some positions are solved faster than one would expect if one simply compares the hardware advantage of a 486/66 to a 12Mhz. 68020 - about eight or nine times faster I believe! For instance the mate in 8 in issue 044 was solved in ten seconds...

I conclude with a game that, to me, perfectly summarises the play of these two programs. The Saitek embarks on a speculative pawn sacrifice and regains the material with Rxe3! However Chess Genius easily outplays its opponent in the ending.

W: Chess Genius: B: Saitek 2500.1. c4 e5 2. Nc3 Nf6 3. Nf3 Nc6 4. g3 Bb4 5. Nd5 e4 6. Nh4 Bc5 7.Bg2 d6 8.0-0 Bg4 9.Nxf6+ Qxf6 10.Bxe4 0-0 11.Nf3 Rfe8 12.Qc2 Kh8 13.d3 Bxf3 14.exf3 Nd4 15.Qd1 c6 16.Be3 Rad8 17.Rc1 Bb6 18.f4 d5 19.cxd5 cxd5 20.Bg2 Rxe3! 21.fxe3 Nf5 22.Rf3 Bxe3+ 23.Rxe3 Nxe3 24.Qb3 Nxg2 25.Kxg2 Qe7 26.Rc2 f6 27.Qc3 Qd7 28.Qc5 b6 29.Qc7 Kg8 30.d4 Qxc7? 31.Rxc7 Re8 32.Kf3 Re4 33.Rxa7 Rxd4 34.Rb7 Rb4 35.b3 g5 36.Kg4 h6 37.Kf5 gxf4 38.gxf4 d4 39.Rd7 h5 40.Kxf6 d3 41.Kf5 Kf8 42.Rxd3 1-0

Keith Wheeler writes regarding GW's mating times (S/S 044) for the 2500: "I find the 'pretender to the throne' is not the fastest dedicated machine! e.g.: Position 1: 2500, 1 second, Mephisto Risc 1Mb., 1 sec. Position 2: 2500, 65 sec., 1Mb., 6 secs! Position 3: 2500, 5.30s, 1Mb, 3.44secs! On my 386DX/40Mhz + 4 megs RAM, timings were:"

Position:	1	2	3
Chess Genius:	16s	no mate in 20m*	no mate in 30m
M-Chess Pro:	1m49s	1m49s	2m53s
Fritz 2:	43s	no mate in 20m	no mate in 30m
Hiarcs Standard	15m18s	no mate in 20m*	no mate in 30m
Gideon 1Mb:	1s	5s	3m21s
King 1Mb:	4s	6s	2m50s

* = found correct move

Frank Holt has also been busy:

Risc 1l	0s	5s	4m 37s
Mephisto Risc 1Mb:	1s	10s	3m45s
Mephisto Berlin:	2m34s	no mate 1 hour	no mate in 20m
Fritz 2:	none in 6m	none in 11m	no mate 49m

Please note that Frank Holt's tests were on Infinite level, not Mate level.

How Good Is Your Chess Computer? *by Steve Maughan*

The following game has been adapted to test the playing strength of your chess computer - in one particular type of game at any rate - and is based upon the popular 'How Good Is Your Chess' feature in the magazine *Chess*. If you have not come across this type of article before, the idea is to guess the moves played by one side (in this case White) with points being awarded according to the strength of the move chosen.

This game comes from a tournament in Tallin in 1975, between Mark Taimanov, long-time Soviet Grandmaster (and concert pianist!), and Vlastimil Hort, the Czech GM. Four contestants were tested this time around. The Novag Jade (£99) is a new portable utilising the 20 MHz H8 chip. The peg style board is practical when playing in transit, although one does have to press quite hard to register a move. Moreover, the playing strength would seem to be quite good. After the few games I have played it is clear that the machine is tactically competent and on occasions was able to announce "mate in 7" after less than a minute's thought. Impressive for such a small machine!

The Mephisto Modena (£159) was also included in the test. Based on a 4 MHz 6502, the powerhouse of most chess computers produced in the last ten years, its playing strength is around 2000 ELO. The most striking feature of the Modena is the superb build quality. Compared to other machines in this price category, the Modena's quality of finish is an order of magnitude better in my opinion. The third contender was the PC program Chess Genius, (£89) by Richard Lang. This was tested on a relatively slow 16 MHz 386sx (approximately 1/9th of the speed of the fastest 486s and available from £500). All three entrants were given 3 minutes to analyse each position.

White: Taimanov. Black: Hort

English
1.c4 e5 2.Nc3 Nc6 3.g3 Nf6 4.Bg2 Bc5 5.e3 d6 6.a3 Be6

White has employed the Bremen system, in which the Bishop on g2 will strongly influence the centre and make it difficult for Black to play d5. The computers started analysing from here.

7.b4: 2 points; 1 point for d3 or b3. White has the opportunity to gain space on the queenside and begin a policy of constricting the Black pieces. Clearly this game is not going to be about deep tactical combinations but rather subtle position manoeuvres. Computers have traditionally been weak when it comes to understanding such positions. All the computers played 7. b4 apart from the Jade which chose 7. d4. *...Bb6*

8.d3: 1 Point. The only move to score and only favoured by the Jade. Chess Genius and the Modena played 8. b5, continuing the queenside push. *...Qd7*

9.h3: 4 points; 2 points for Bb2. The reason for 9. h3 is to further cramp Black's development. Black was threatening to swap off the white squared bishops with 9...Bh3, and hence 9.h3 prevents this at the expense of a slightly strange king-side pawn structure. It is this pawn structure which the computers incorrectly evaluate as too much of a liability. CG was the only one to score any points with 9. Bb2, the Jade played 9. Na4, and the Modena 9. b5 *...0-0.*

10.Nge2: 2 points; 2 points for Bb2. Again CG was the only one to score any points with 10. Bb2. The Jade played 10. Na4 and the Modena 10. b5. *...Nd8*

11.Na4: 3 points; Black's last move is preparing for 11...c6, 12...Bc7 and 13...d5, staking a claim in the centre. 11. Na4 prevents this by subtly manoeuvring to put pressure on the pawn at e5. Only the Jade scored here; Chess Genius opted for 11. Bb2 while Modena chose 11. a4. *..c6*

12.Nxb6: 1 point. The only move; found by all of the computers. *...axb6*

13.Bb2: 1 point. Chosen by all the machines as it increases pressure on e5, preventing ...d5. *...Ne8*

14.f4: 2 points. Increasing the pressure on e5. A more difficult move for computers to find since it creates two potentially weak pawns at e3 and g3. CG and the Jade chose correctly, while the Modena played Nc3 . *...f6*

15.g4: 3 points; The start of a build up of pressure on the kingside. Once again many computers will see this move as weakening to the pawn structure and hence reject it. This time the Modena and CG found the key move, while the Jade went for the direct 15. e4. *...Kh8*

16.O-O: 1 point: *minus* 1point for f5. Only the Jade wanted to play this move. CG and Modena both opted for 16. a4 16. f5 is a positional blunder as it reduces the pressure on e5 and allows black to play d5 at some stage. *...Qe7*

17.Qe1: 2 points; 2 points for Ng3. In the next few moves white aims to capitalise on the space advantage. CG and the Jade both scored with 17. Ng3 while the Modena played 17. f5. *...Bf7*

18.Ng3: 2 points. Only the Jade played this move. Modena chose 18. a4 and the CG opted for 18. Qf2. *...Bg6*

19.Rd1: 2 points; 1 point for e4 and minus 1 point for f5. The best reply against the threat on the d pawn; 19. f5 allows black breathing space in preparation for d5. Chess Genius was the only computer to find the correct move. The Jade played 19. Qd2 and unfortunately the Modena chose 19. f5. *...Nc7*

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20.Qf2!: 3 points; 2 points for h4. A deep move aimed at preventing the exchange of queens which would be better for Black. CG scored the maximum while the Jade chose 20. h4. The Modena (20. Nf5) did not score.   ...b5!?

21.c5: 4 points; *minus* 2 for cxb5. The move 21 c5 seems quite logical but was only played by the Jade. CG and Modena chose 21. fxe5.   ...exf4

22.exf4: 1 point; *minus* 3 for cxd6. White must recapture with the pawn on f4 (played by CG) if 22. cxd6 (played by the Jade and Modena) black can free himself by 22...fxg3 23. dxe7 gxf2+ 24. Rxf2 Re8. A little bit unfortunate that the dedicated machines missed this continuation, since it proves to be rather expensive to their final scores!   ..h6

23.Be4: 3 points; 1 point for cxd6. White is about to create a pawn storm to push through the king-side. Surprisingly the Jade and Modena both chose 23. Be4, while Chess Genius played cxd6. ...Bxe4

24.cxd6: 2 points; 1 point for dxe4 or Nxe4. Found by all the machines as it gains a tempo and ensures an open d-file. ...Qxd6

25.dxe4: 1 point. The only move; chosen by all three machines. ...Qe6

26.e5: 3 points; The most incisive continuation but not found by any of the machines. CG and the Jade favoured 26. Rd3 while the Modena liked 26. Rd2. Black's defences are about to crack. ...fxe5

27.Bxe5: 1 point. Chosen by all of the programmes. The pawn on g7 becomes the focus of tremendous pressure. ...Nd5

28.Qb2: 2 points; 2 points for Nh5 and 1 point for Rfe1. CG played 28. Qb2, while the dedicated machines opted for 28. Nf5. ...Qf7

29.Nh5: 1 point. The game is coming to a close. Once again Chess Genius found the best move. The other two played 29. Nf5. ...Rg8

30.f5: 1 point; 1 point also for Rfe1. The Modena and Chess Genius found this forceful move. The Jade played 30. Nxg7, which relaxes the pressure on Black. ...b6

31.Rfe1: 2 points. There are direct threats after this move - 32. Bxg7!! Rxg7 33. Rxd5 Qxd5 34.Qxg7+ Kxg7 35. f6+ Qxf6 36. Rxf6. Nb7. All three found the right move. ...Nb7

32.Qc1: 1 point. Forcing black to lose material. The threat is Qxh6+. An easy combination for all of the computers to find. ...Kh7

33.Qxc6 1 point, after which Black resigned. All the machines played this natural pawn capture.

The final scores were out of a possible maximum of 49; Chess Genius 33, Novag Jade/Zircon 27, and the Modena 15. The scale for interpreting the results is a follows; Tandority F 183 27 Cyrus II Risc2 21!

47 +	Grandmaster
42-46	International Master
35-41	Top Congress Player/ FM
29-34	County Player
22-28	Strong Club Player
15-21	Average Club Player
8-14	Hobby / Casual Player
< 8:	Needs more study!!

It is not our intention to pick and choose only HGYC games which show computers in the most favourable light, although that would be a very easy thing to do. Like any human player, every CC program has areas in which it is relatively strong, and others in which it is relatively weak. Games played to a theme, such as this one, generally tend to produce lower scores for computers than those which require only 'one good move at a time'. There is no way that, overall, the Modena is at the low end of 'average club player' - it just played like one in this particular situation! Put another way, show us the club with an average playing strength of BCF170...

Clearly this was an excellent result for the Jade, and a very good result too for Chess Genius - as the game progressed it was clear that CG was the the most in tune with the subtle and delicate characteristics that dominated the flow of play. One of the purposes behind including HGYC in Selective Search is to underscore the point that any BCF or Elo rating is only an average, and is not the be-all and end-all of playing ability. Both humans and computers will play well above their average sometimes, and well below it at others - as we all should know!

Knowing a computer's rating is one thing, but insufficient by itself to tell you what kind of opponent it will be, and whether it has the playing style you want. For that reason one should never judge a computer on the basis of a single game, except to note how it handles that particular type of situation (indeed the whole concept works best if you test yourself first!). The fact that the Jade/Zircon scored much higher than the Modena illustrates this point very well, since in reality they are in much the same strength category. Once you have averaged out at least three HGYC results however, it is fair to start drawing conclusions about absolute playing strength, as well as strong points and blind spots.

The 2500 Revisited

Not wanting to miss out on the flavour of the moment, I have now invested in a Saitek 2500 myself, saying farewell to my Diablo in the process.

The more I learn about this machine, the more I like it, as regards both play and operation. The ease with which one can access information, move back and forth around the Move List, set up and verify positions etc., is really superb. Like many others, I have waited a long time to own a CC as strong as this, but have always worried that when computers do eventually reach GM standard, their play will be highly efficient, but cold, sterile and boring nonetheless - more a Karpov than a Bronstein or Tal. The 2500 is of course nowhere near GM class at 40/2 (or Elo 2500 come to that!) but it does go a long way to allay such fears; it frequently plays by the skin of its teeth, enabling even ordinary players like myself to feel they are in with a chance sometimes, although a speedy trouncing is the more usual outcome! Perhaps the 2500 has even been designed to *entertain* - surely the ultimate purpose of a chess computer after all - rather than to eke out the last possible Elo point from the program; if so, Saitek are to be congratulated.

All that said, it does have some irritating quirks with which one has to learn to live - set the clocks differently for Black and White, say, and you have to do it all over again next game. The evaluations too, are frequently somewhat meaningless - the side the 2500 happens to be playing for is, as often as not, the side it thinks is winning, and sometimes by a mile! Also, the so-called 'autoplay' function requires you to be there to register the moves!

One thing this machine offers in abundance is versatility; five styles and four strengths allow you the choice - in theory at least - of twenty different opponents, from a defensive expert, through to an aggressive beginner!

Better still, the time settings are independent of the strength level. If you set it to play, say, 40 moves an hour it will do so, even on the 'Moderate' or 'Novice' grades.

One might think it does this by giving the position a microsecond's thought, and then twiddling its chips for a bit, but by watching its thought processes, one sees this isn't so, and it must have a more sophisticated way of playing weaker! When other machines are told to 'play down', they reply near-instantaneously, which is not only condescending and unlike a real game, it also has the psychological effect of making the human rush his own moves!

Since Graham White has been doing sterling work on the style settings as regards speed, I thought I would try to amplify this by some experiments using the HGYC format. I am pleased to see that several other readers have been trying out chess computers in this way for years; I can think of no better objective comparative test when it comes to illuminating the way in which they play. I started off trying each of the style settings at '5 ply' level, using Leonard Barden's excellent 'How Good is Your Chess' (Dover). Those of you who have this book will know that the games are divided up into categories: 'Attacking Games', 'Positional', 'Combinational', 'Endings', 'Centre Control' and 'Defensive Play'.

For the preliminary test I used one game each from the first four categories mentioned. The time taken to go five plies deep was only around 12 seconds on average, but a Risc processor can get a lot done in 12 seconds, and there was indeed a pleasing amount of variety in the moves made, and in general, once could discern a pattern of play consistent with the name of the style; Defensive and to a lesser extent Solid, were prone to occasional passive moves; Active, and especially 'Offensive' (an unfortunate Americanism!) were liable to over-optimism.

Overall, there was around a 30% chance that at least one of the other styles would play a move at variance from that found by 'Normal' (after excluding recaptures, openings and forced/obvious moves). Active and Defensive (in that order) completed the test with a slight but definite edge over the other three styles, equivalent to about 3BCF. I therefore decided to eliminate these three (and especially Normal, which came last!) from further consideration.

Next, I wanted to see how much improvement Active could make to its best-scoring game (31 points) when allowed an average of 2 minutes a move. In the event, it contrived to finish with 30! Anyone who has tried computers on HGYC will know the frustration of seeing them contemplate a scoring move, only to go out the other side again given long enough! More surprising still, Defensive improved by 7 points in this game to 36!

Four more games at 60s av. failed to separate Active and Defensive, so I consigned a weekend to a more thorough test, putting both styles through six games at an average of 2 minutes a move (a seventh game - 'Superior Development' - I had to abandon, as the Saitek kept making better moves than it was supposed to, thus making scoring impossible!). Results in BCF equivalents were:

Category	Active	Defensive
Centre Control	218	199
Defence	183	203
Combinations	203	203
Endgame	183	187
Positional	175	175
Attacking	169	169
Average	188	189

So again, the result was too close to call really, and although the average grade achieved is lower than might be expected, one should bear in mind that the test is geared around 40 in 2, not 2 minutes a move, and also that a computer does not have the benefit of the helpful little clues contained in the text! The confirmed tournament grade of the 2500 at Kings Head, by the way, (see last issue) turned out to be 211BCF - not 199.5!

Those planning tournaments involving the 2500 will have to decide for themselves how much weight to give to these results, but there is one thing you should know - I learned from a Larry Kaufman report (*after* doing the tests!) that programmer Johan de Koenig - and he should know - has recently changed his mind about which style he thinks is strongest; from Normal to ...*Offensive!* I hope this does prove to be right - it would be rather a shame if a machine as enterprising as this is best on the boring-sounding 'defensive' setting...

As to the Saitek's struggle with the Berlin, both are selling very well, taking some sales from the very top end of the market admittedly, but equally, encouraging others to aim higher than they originally intended. I said last time that 'neither of these superb machines is likely to disappoint' but in fact owners of the 2500 have shown a wide variety of reactions, from unbridled delight at one end, to annoyance at its lapses and foibles at the other. The Mephisto, on the other hand, is more of a known quantity. People expect it to be a very high class product, and are therefore not surprised to find that indeed it is. 'Pride of ownership' may well be higher amongst Berlin clients, even while they acknowledge that objectively, it is not as strong as the 2500. A telling remark came from one Berlin customer (an experienced chess computer purchaser) who simply called to say that he was having the most enjoyable series of games against a computer he had ever played, and that therefore considerations relating to speed, features, bells and whistles, had become rather marginal as far as he was concerned.

The upgrade for the 2500 should be available round about the time of the next S/S. The feeling here is that only the R30 will then keep the 2500 off the top of the dedicated rating list - we shall see! The jack-up will be to 512k RAM, from the present 128k. According to the Saitek's spec, it is ultimately expandable up to a maximum of 2048k, but when and if such a 2mb monster might appear is anybody's guess. I shall run through the same HGYC games with the Berlin for next issue, to allow direct comparison between the two, and again when the 2500 upgrade appears.

Having talked about the 2500 and the Berlin this issue and last, here are some games featuring the two. The good players amongst you have three C v GM contests this issue, so the following game is for those of you who put on your survey that you are just average clubbers who like 'computer versus players of your own standard'! It is, I promise, the first and last effort to appear in S/S from this particular editor (best of BCF157), because emphatically, what we want are *your* contests, not ours; but as we haven't asked you before, you haven't sent us any...

So, matching pairs please - your finest hour *and* your computer's most brilliant win against you. Annotated games will have priority, and there will be a Christmas-time prize for the best of all, as judged by GM Murray Chandler.

W: 2500 (defensive, 60s/move avge) B: SK:
1.b3 Enough to put me out of book already, but I should mug up on it, as the 2500 plays it around one time in ten. Chessbase classifies this game as a 'Zukertort', Fritz 2 as a 'Larsen', whilst the Saitek itself thinks it is a Nimzovitch! ..d5 2.Nf3 Nf6 3.Bb2 ...Bf5 I hoped this would eventually lead to an open h-file and it did.. 4.e3 e6 5.Be2 Bd6 6.Nh4 Bg6 7.0-0 Nbd7 8.Nxg6 hxg6 9.f4?! allows black to swap off his only weakness and maybe open the g-file as well. g5 10.d3 gxf4 11.exf4 Qe7 12.Nc3(?) The Knight seems to have no particular future here after black's next; Genius would simply play h3) c6 13.d4 0-0-0 14.Qe1 g5 15.Bc1 When you have to un-Zukertort yourself on move 15, presumably something has gone a bit awry.. g4 16.Qd1 Rdg8 17.Be3 (Given a little longer the Risc plays Bd2, spoiling everything, and proceeds to carve me up as per usual; not because it sees black's next, but from a growing lack of enthusiasm about 17..Bb4) 17...e5! It really seems that white is now sunk whatever he does; if the Knight is taken on move 19, then either B or Qxe are crushing. 18.dxe5 Nxe5! 19.Qd4 Nf3+! (again not anticipated) 20.Bxf3 gxf3 21.Rxf3 Ng4 22.Qxa7 Nxe3 23.Qa8+ Kc7 24.Qa5+ Kb8 25.g3 Qh4 26.Kf2 Qxh2+! 27.Kxe3 Qxc2 28.Rd1 Re8+ 29.Kd4 Rh2 30.Rdd3 Rd2 0-1

Here though, are two games when the Saitek is being serious; first its win over a 215BCF player at the Kings Head Rapidplay tournament last January, and then its quickest victory against the Berlin in our ten-game match. This is followed by one of the games which earned the Berlin a BCF209 performance and joint first placing at the last Bury St Edmunds Tourney.

W: 2500 (normal) B: G Wall (30 minutes each)

1.d4 f5 2.g3 Nf6 3.Bg2 e6 4.Nf3 Be7 5.0-0 0-0 6.c4 d5 7.b3 c6 8.a4 c5 9.e3 Nc6 10.Ba3 Ne4 11.cxd5 Qxd5 12.Nfd2 cxd4 13.Bxe7 Nxe7 14.Nxe4 fxe4 15.exd4 e5 16.Nc3 Qxd4 17.Nxe4 Qxd1 18.Rfxd1 Bg4 19.Rd6 Rad8 20.h3 Rxd6 21.Nxd6 Be6 22.b4 b6 23.Re1 Rd8 24.Nb7 Rd7 25.Rxe5 Bxh3 26.Bxh3 Rxb7 27.a5 bxa5 28.bxa5 Kf7 29.Kg2 Nc6 30.Rc5 Ne7 31.Bg4 Kf6 32.Bf3 Rd7 33.Be4 g6 34.g4 Ke6 35.f4 Kd6 36.Rb5 Ke6 37.Kf3 Kf6 38.Bb7 Rd3+ 39.Ke4 Rg3 40.g5+ Ke6 41.Re5+ Kd6 42.Bd5 Nxd5 43.Rxd5+ Kc6 44.Re5 a6 45.Re7 Ra3 46.Rxh7 Rxa5 47.Rg7 Ra4+ 48.Kf3 Ra3+ 49.Kg4 1-0

W: 2500 (normal): B:Berlin (40 in 2 hours each)

1.e4 d6 2.d4 Nf6 3.Nc3 g6 4.f4 Bg7 5.Nf3 0-0 6.Bd3 Nc6 7.0-0 e5 8.fxe5 dxe5 9.d5 Nd4 10.Nxe5 Nxe4 11.Bxe4 Bxe5 12.Bf4 Qd6 13.Bxe5 Qxe5 14.Qd2 f5 15.Rae1! Qf6 16.Rd1 Nb5 17.Nxb5 Qb6+ 18.Nd4 fxe4 19.Rxf8+ Kxf8 20.Qf4+ Kg8 21.Qxe4 Qxb2 22.Qe8+ Kg7 23.Qe7+ Kh6 24.Qh4+ Kg7 25.Re1 Be6 26. Nxe6+ 1-0

W: K McEwan (184BCF) B: Berlin (30 mins each, Bury Congress (40moves/90 mins)

1.e4 e5 2.Nf3 Nc6 3.Bc4 Nf6 4.d3 Be7 5.0-0 0-0 6.Re1 d6 7.c3 Na5 8.Bb5 Bg4 9.Nbd2 c6 10.Ba4 b5 11.Bc2 Qc7 12.Nf1 d5 13.exd5 cxd5 14.Ng3 b4 15.Bd2 bxc3 16.bxc3 Rab8 17.Rb1 Rxb1 18.Bxb1 Rb8 19.h3 Bxf3 20.Qxf3 Rb2 21.Qd1 Nc6 22.Nf5 Bc5 23.Qc1 Qb7 24.d4 exd4 25.Bg5 d3 26.Bxf6 d2 27.Re8+ Bf8 28.Qxb2 Qxb2 0-1

New Model Review

Last issue we commented on the re-emergence of Saitek; this time there are two brand new models from Novag to report - the table-top Zircon and the portable Jade. Both share the same program and features, and in view of the asking price, the specifications are rather impressive, to wit: H8 processor ('New H8 Risc-style processor', according to Novag), 20Mhz., 32Kbyte program, 12,000 ply opening book, up to mate in 8.

Features are also pretty good for the money: referee function and autoplay (full marks for this); four-stage Sound control, four degrees of randomness, plus alternative move - also a very important ability in my view, and a glaring omission on many a higher-priced machine. The Zircon/Jade naturally has an evaluation system as well. After watching the scores of the Saitek 2500 leaping around wildly, it was a relief to see the Novag's consistent - if rather materialistic - assessments. 'Take-back' will retract 148 ply, but one cannot go back to the beginning in one fell swoop and replay the game. Levels are plentiful enough (48 in fact), but consistent with the asking price, these are pre-sets rather than user-variable.

Neither machine has any buttons, using only press-sensors flush to the board.I have always liked Novag's styling, and both machines are very attractive in my view; however this has not been the reaction of everyone who has seen them. In a nutshell, White is slightly grey, and Black is very grey - both as regards the pieces and the squares.

My main design criticism concerns the displays. Both computers have twin LCDs, probably because it looks a good selling feature on the outside of the box. However they are extremely small, and a single decent-sized one would have been far better. That said, it isn't bad to get a display of any kind on a £125 table-top...

I haven't used the Jade on the move, but Steve Maughan has, and in that most testing of real-world situations - a BR commuter cattle-train. He says it works very well; there is a sensible storage compartment, and the pieces really do stay in place when he stops and resumes later. Like me though, he did find that the peg pieces need a little persuasion to register in their holes, and the controls also need rather more force than one would hope for.

The Jade / Zircon program is by Dave Kittinger, Novag's principal programmer. Kittinger is perhaps regarded as a good middle-order batsman in the programming world; his programs of the mid-eighties (such as the Super Constellation) had a reputation for being pugnacious little fighters, but in more recent years some people have criticised the Novag style as being too cautious, depending overly on counter-attack and ingenious defence, rather than initiating play.

However that is not the whole story. Novag programs do seem to have purple patches, when they string together very fine sequences of moves that far more expensive machines overlook.

A recent review of the Scorpio/Diablo program in The British Chess Magazine said:"(The Novag) is like an enormously gifted junior who may lack positional experience...yet on occasion shows flashes of extraordinary brilliance..."

We have played too few games to determine how well this applies to the J/Z; on the one hand, programmers' house styles don't tend to change dramatically from one program to the next; on the other, the J/Z doesn't pretend to be as strong as the Scorpio/Diablo. Novag rate the program at around BCF175; my guess would be nearer 170BCF at most, but time will tell.

The only games I have been involved in have been against the Mega IV / Monte Carlo 4, but this particular Mephisto program seems to have the Indian Sign over the J/Z; from seven games at G60 up to 40 in 2, the Novag went down -5, =1,+1, hence its rather low entry figure of 161 on our rating list.

At £99, the Jade is pitched directly at the Travelmaster and Travel Champion, with which it shares this price point. It may lack the sheer design innovation of the Travelmaster, but certainly has a good speed advantage over both its rivals. The Travel Champion is likely to suffer more from the arrival of the Jade we feel, since the TC is also a press-sensory, but is bulkier than the Novag portable, and has an irritating detachable lid compared to the Jade's neat hinged device and rounded edges. The Zircon, however, has no direct price rivals at all; at £125, it is £34 cheaper than the Modena, Mephisto's base laptop Model, and £21 cheaper than the Mega IV.

Build quality is not quite in the Mephisto class, and both machines carry a one-year guarantee compared to Mephisto's two. However the J/Z has done very well in this issue's HGYC, whereas the Modena never really got to grips with this particular game. Additionally, Steve Maughan has played three G60 games versus the Modena, which the J/Z won by two draws and a win. It is therefore not surprising that he is more positive about these new arrivals than I am! Having bought Novags myself for years, I cannot fairly be accused of bias, but the endgame play and back-rank shuffling of the J/Z has not impressed me greatly. I hope to be less lukewarm about the Ruby and Emerald, said to be around 10BCF stronger. While both these new computers are welcome additions to the market nonetheless, and undoubtedly represent good value for money, the Jade is likely to make a bigger impact in my view.

Unless £125 represents the absolute limit of your budget, the extra £21 for the Mega IV would seem to be a good investment.

Of the two other models in Novag's new line-up, the Emerald is out now, but too late for review here, whilst the Ruby (claimed to be the world's strongest and most expensive portable) should be available within a week or two of your reading this. A balanced review would show a win and a loss of course, but unfortunately we have to hand no publishable wins by the J/Z so far (its only victory over the Mega 4 was a marathon). However we promise to show the first one that comes our way - I did spend a whole day trying for one!

The first of the following two games does at least show a near-win for the Jade, but it goes astray toward the end. The second game went on another 20 moves before the Mega 4 converted the extra pawn. Neither game is likely to have you hanging on to your Zimmer frame with excitement, but they do give some insight into the J/Z's style of play.

W: Jade/Zircon B: Mega 4/Monte Carlo 4
1.d4 Nf6 2.c4 e6 3.Nf3 c5 4.d5 exd5 5.cxd5 d6 6.Nc3 g6 7.Bf4 a6 8.e4 Bg7 9.e5 dxe5 10.Bxe5 0-0 11.Bc2 Nbd7 12.Bf4 Re8 13.0-0 Nb6 14.d6 Ne4 15.Nxe4 Rxe4 16.Bg5 Qe8 17.Bd3 Re6 18.Qc2 Na4 19.b3 Bxa1 20.Rxa1 Nb6 21.Qxc5 Qc6 22.Qxc6 bxc6 23.Be7 Bb7 24.Rc1 c5 25.Ng5 Re5 26.Bf6 Ree8 27.Rxc5 Re1+ 28.Bf1 Nd5 29.Rxd5 Bxd5 30.d7 Bc6 31.d8Q+ Rxd8 32.Bxd8 Bb5 0-1

W: Jade/Zircon B: Mega 4/Monte Carlo 4
1.e4 c5 2.Nf3 d6 3.d4 cxd4 4.Nxd4 Nf6 5.Nc3 g6 6.Be3 Bg7 7.f3 a6 8.Qd2 Nbd7 9.Bc4 b5 10Be2 Bb7 11.0-0 0-0 12.a3 Rc8 13.Rad1 Ne5 14.Qe1 Qc7 15.Qg3 e6 16.Kh1 Rfe8 17.Rfe1 Nc4 18.Bxc4 Nh5 19.Qg4 Qxc4 20.Nde2 b4 21.axb4 Qxb4 22.Bc1 Be5 23.Qg5 f5 24.exf5 exf5 25.h3 d5 26.Qd2 d4 27.Na2 Qxd2 28.Bxd2 Bf6 29.Nec1 Rxe1+ 30.Bxe1 Rxc2 0-1

Short v Mephisto Risc 1Mb

Nigel goes down to the 1 Meg in a simul in Spain - the only game he lost out of 25! It should be pointed out that this six-hour marathon was held only a few days after his exhausting victory over Timman. **John Wareing** *of the BCM's Chess Shop annotates...*

W: Nigel Short (GM 2655) B: Risc 1Mb

1.e4 c5 2.Nf3 Nc6 3.d4 cd 4.Nxd4 e5 The Lowenthal Variation, which dates back to 1836. 5.Nb5 a6

This moves remains true to the Lowenthal whereas these days many players would have played 5...d6, a la Sveshnikov, in an attempt to transpose into a favourable line of the Pelikan. Both 6.N1c3 and 6.c4 in response to this are examined in John Nunn's "Beating the Sicilian 2" (Batsford) - a must for any aspiring 1.e4 player!!

6.Nd6 Bxd6 7.Qxd6 Qf6 8.Qxf6 This is an interesting and intelligent choice by Short. Had he been playing a human player I suspect that either 8.Qd1, 8.Qc7 or 8.Qa3 would have been played. However, by swapping off the Queens and choosing a "safe" line Short keeps the tactics (the computer's forte) to a minimum. 8...NxQ Black is ahead in development but has a backward d pawn. Also White has the Bishop pair, though this is only temporary in this opening.

9.Nc3 Nb4 10.Bd3 NxB 11.cxd3 h6 12.b3 In this position John Nunn says White has an edge. MCO's twelfth edition gives 12.Be3 d6 13.d4 Be6 14.0-0-0 Rc8 as equal.

12. Ke7 13.Ba3+ d6 14.Rd1 It seems that Short is attempting to rid himself of his weak pawn on d3 and at the same time pressurise Black's weak d6 pawn. 14. Bg4 15.f3 Rac8 16.Kd2 Be6 17.d4 ed 18.Ne2 Nd7 19.Nxd4 Rhe8 20.Rc1 g5 21.Rhd1 Ne5

22.Ke3 Short now threatens to win the d pawn with 23.Bxd6 as Mephisto is unable to capture the Bishop with it's King due to 24.Nf5++. Thus Mephisto nullifies the danger with an exchange of material.

22. Rxc1 23.Rxc1 Rc8 24.Rd1 Rd8 The struggle for the c and d files and in particular d6 has been a constant theme throughout the game. Now Short advances his Kingside pawns into the fray at the expense of allowing Mephisto's Bishop extra freedom. 25.g3 h5 26.Rd2 Bh3 27.f4 gxf4+ 28.gxf4 Ng4+ 29.Kf3 Nf6
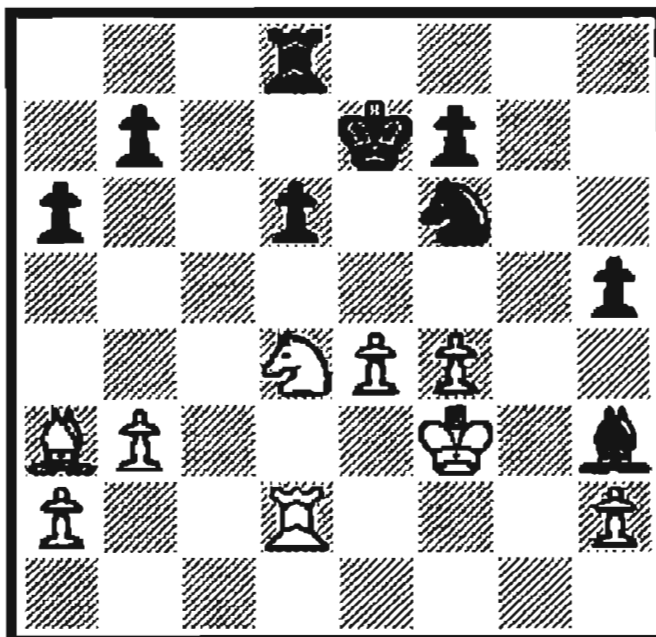
30.f5?! This move does not agree with the plan of hitting d6 and after this Short nver looks like winning. The immediate 30.e5 looks good as Mephisto has no better square than e8 for the Knight because if now 30...Nd5? then 31.Ke4 Nc3 32.Kd3 Nb1? 33.Bxd6 and White is winning. Now Mephisto starts to improve its position. 30. Ke8 31.Kf4 Rd7 32.Rd3 Bf1 33.Rg3 Re7 34.Re3 Kd7 35.Nf3 Ng4 36.Re1 Bb5 37.Kg5 Bc6 Mephisto has homed in on the e4 pawn and White's disharmonised pieces can offer little protection. 38.Nd2 Nf2 39.Kxh5 Nxe4 40.Nxe4 Bxe4 41.Kh4 (If 41.Kg5 then 41...Re5 42.Kf4 RxP) 41. Bxf5 42.Rxe7+ Kxe7 Apart from the material deficit Short has two problems i.e. the position of his King and also his a and b pawns are on light squares. These factors result in a loss of time which proves critical in the ensuing pawn race. 43.Bb2 Bb1 44.a3 Ke6 45.Kg5 Bc2 46.b4 Kd5 47.h4 Kc4 48.h5 d5 49.Kf4 d4 50.h6 Bh7 51.Kf3 d3 52.Ke3 Kb3 53.Bc1 Kc2 54.Bd2 b5 55.Be1 f5 White resigned.

For most of the game Mephisto was subjected to a thorough test and indeed was losing until Short's strategic error at move 30. However, I was impressed with the way Black then turned the tables and gained the upper hand. This game highlights the fact that in order to beat the top computers these days you need to play with clinical accuracy the whole game through.....or else!

Cowabunga!

Following on from last month's introduction to local prodigy Siobhan O'Neill (UK Under 9 Girl's Champion), her Dad now reports on how her Mephisto Lyon was made to explore one of those little-known alleyways of chess...

After two months working with the Mephisto Lyon 32 bit, one of the advantages which my daughter Siobhan has found, is the incredible insight into opening variations which such a powerful machine can provide.

The Lyon has a programmable opening book and also the option of storing finished or unfinished games. Both of these qualities allied to the tactical nature of the beast make the 32-bit an ideal companion for researching either those thorny lines which give chessplayers trouble, or indeed those pet lines which you trot out regularly against weaker opponents but 'would never work against a good player...'.

Enter the Cowabunga. This is Siobhan's pet versus the Kings Indian. She devised it herself but didn't realise that she wasn't the first to dream up this attack - chess butchers the length and breadth of the country are using it. But this didn't stop her christening it with one of the catchphrases from her favourite cartoon - the Ninja Turtles!

The Cowabunga (Ne8/f5) breaks all the rules of normal development; the kingside pawns go walkabout; the kingside pieces remain undeveloped into the middlegame. Nonetheless the Cowabunga is a fearful weapon, as can be seen from the following miniature at this year's Cambridge Rapidplay.

W: Siobhan O'Neill. B: P.R

1.d4 Nf6 2.c4 g6 3.Nc3 Bg7 4.e4 d6 5.f3 0-0 6.Be3 c5 7.d5 Nh5 8.Qd2 Na6 9.0-0-0 Bd7 10.g4 Nf6 11.h4 c6 12.Bh6 Qc7
(12...Bh6 13.Qxh6 Nc5 14.h5) 13.Bxg7 Kxg7 14.h5 gxh5?? 15.Qg5+ Kh8 16.Qxf6+ Kg8 17.Rxh5 Black resigns.
Do I hear the words 'Ah yes, but it wouldn't work against a prepared/strong player...'? Siobhan decided to put the Lyon to the test. This and the two following games are at 30 moves in 30 minutes each.

The Lyon is beating her on a ratio of about five to one at the moment, but given its grade of BCF204, this is not too bad for a seven-year old..

W: Siobhan O'Neill. B: Mephisto Lyon
1.d4 Nf6 2.c4 g6 3.Nc3 Bg7 4.e4 d6 5.f3 0-0 6.Be3 e5 7.d5 Ne8 8.Qd2 f5 9.exf5
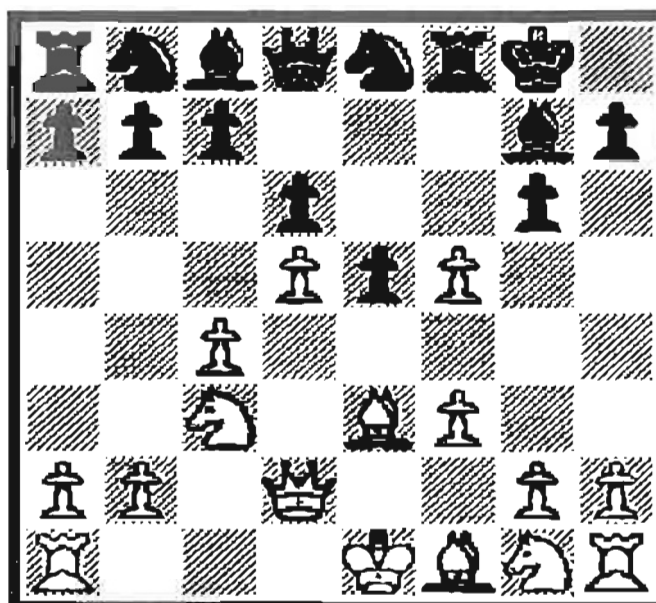
Bxf5?! This just hastens the attack. In the same position Diez del Corral played 9...gf5 against Timman in Lucerne, 1982. Although Timman won in 26 moves 9...gf5 seems preferable.
10.g4 Bd7   1.0-0-0 b6 [11...Qh4 12.Bg5]
12.Bd3 a6 13.h4 b5 14.h5 bxc4 15.Bxc4 Nf6
16.Bh6 Qe7 17.hxg6 hxg6 18.Bxg7 Qxg7
19.Nh3 Nh7   20.Qg2 Qh6+ 21.Kb1 Qe3
22.Rd3 Qc5 23.Bb3 Rf7 24.Ne4 Qb6 25. Nhg5
Nxg5 26.Nxg5 Bb5 [26...Rf8 27.Qh2 Kg7
28.Qh7+ Kf6 29.Ne4+] 27.Rd2 Qa5 28.Nxf7
Kxf7 29.Rh7+ Ke8 30.Rh8+ Ke7 31.Qh2 Be8
32.Qh7+ Kd8 33.Qxg6 Qb5 [33...Qxd2
34.Qxe8+] 34.Qf6+ Kc8 [34...Kd7 35.a4
Qf1+ 36.Rd1 Qe2 37.Qe6+ Kd8 38.Rxe8+]
35.Qe7 Kb7 36.Qxe8 Qxe8 37.Rxe8 a5 The next few moves are a typical Siobhan finishing-off sequence. 38.Ba4 Ka7 39.Bc6 Nxc6 40.Rxa8+ Kxa8 41.dxc6 1-0

Surprisingly, Siobhan walked to an easy victory. I say surprisingly since in most other openings she has been mercilessly crunched. But the story doesn't end there. The Lyon rarely offers the same line.

Although the middlegames may be similar it is constantly teasing its opponent with variations on a theme. As such it has given her terrific practice in resulting positions. The following final two games (selected from many such training games) show exactly how the Lyon will vary moves in similar positions.

W: Siobhan O'Neill. B: Mephisto Lyon

1.d4 Nf6 2.c4 g6 3.Nc3 Bg7 4.e4 d6 5.f3 0-0 6.Be3 e5 7.d5 Ne8 8.Qd2 f5 9.exf5 Bxf5 10.g4 Bd7 11.h4[11.Bd3 Qh4+]11...Na6 12.Bd3 Nb4 13.h5 Nxd3+ 14.Qxd3 Qf6 15.Ne4 Qd8
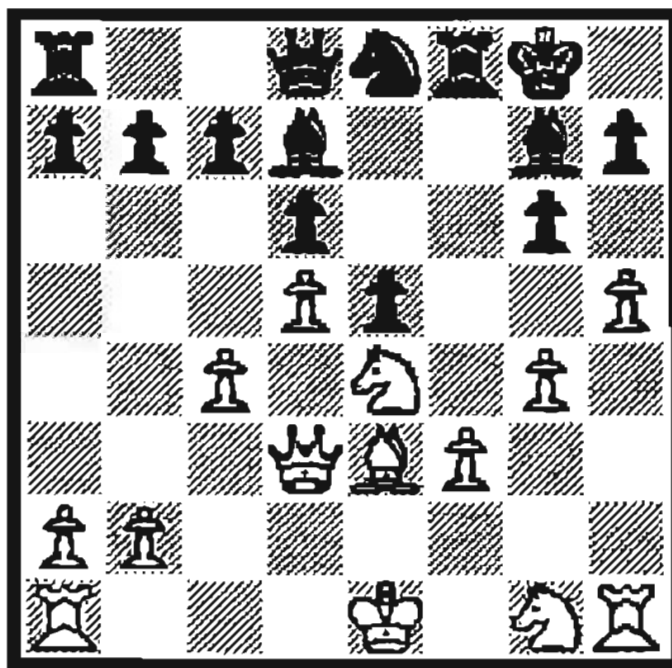
Surprisingly, in the next game the Lyon plays 15...Qe7 yet still reaches almost the same position by m24 that this game reaches after m25, *and then plays something different!*

16.hxg6 hxg6 17.Bh6 Qe7 18.0-0-0 Bxh6+ 19.Rxh6 Qg7 20.Qe3 [20.Qd2 Rf4 21.Qh2 Bxg4] 20...Rf4 21.Rh3 Ba4 22.b3 Bd7 23.Ne2 Rf8 24.Rdh1 Rf7 25.N2g3

Compare this position with that after White's 24th in the next game. 25...Nf6 26.Nxf6+ Rxf6 [26...Qxf6 27.Qh6 Re8 28.Ne4 Qg7 29.Qh8+ Qxh8 30.Rxh8+ Kg7 31.R1h7+] 27.Ne4 Rf4 28.Ng5 Qf6

29.Ne4 Qg7 30.Qc1 Bc8 31.Qh4 Bxg4 32.Qh8+ Kf7 [32...Qxh8 33.Rxh8+ Kf7 34.R1h7+] 33.Qxg7+ Kxg7 34.Rh7+ Kf8 35.Rh8+ Ke7 36.R1h7+ Rf7 37.Rxf7+ Kxf7 38.Rxa8 1-0

Siobhan - Lyon:1.d4 Nf6 2.c4 g6 3.Nc3 Bg7 4.e4 d6 5.f3 0-0 6.Be3 e5 7.d5 Ne8 8.Qd2 f5 9.exf5 Bxf5 10.g4 Bd7 11.h4 Na6 12.Bd3 Nb4 13.h5 Nxd3+ 14.Qxd3 Qf6 15.Ne4 Qe7 16.hxg6 hxg6 17.Bh6 bxh6 18.Rxh6 Kg7 19.Qe3 Rf4 20.Rh3 Kg8 21.Ne2 Rf8 22.0-0-0 Qg7 23.Rdh1 Rf7 24.N2g3 Compare this position with that of the previous game.

24...Rf4 25.b3 a6 26.Ng5 Qf6 27.N3e4 Rxe4 28.Nxe4 Qg7 Now White can win by force. 29.Rh8+ Qxh8 30.Rxh8+ Kxh8 31.Qh6+ Kg8 32.Ng5 Ng7 33.Qh7+ Kf8 34.Qh8+ Ke7 35. Qxa8 1-0

The Lyon is a powerful machine and I have to say that it has proved to be an invaluable training aid for a young and ambitious player. But that isn't the moral of this story...

No, this is an ode to all those pet variations everywhere. Don't be fooled into thinking they'll never work against strong players...

Witness the Cowabunga!

Sean O'Neill

You Write...

Thank you for the opportunity to comment on Selective Search. The physical layout of the magazine, diagram printing and text are much improved, and a lot easier on the eye. I am also encouraged by the more realistic comments in the articles. I was always annoyed by the previous attitude of "If I cannot say anything good, at least I will not say anything bad...". I am also pleased to see a dedicated section for PCs. Whilst having respect for Steve Maughan's opinions, I do hope comments from other interested parties will be considered for publication. As I often try my computers on the 'How Good is Your Chess' articles, I am delighted to learn that these are to be a regular feature. I hope too that you will have a regular 'Readers Results' column which will include games played at all time controls. It is no good asking people to send in contributions if you do not publish them! *(quite so! - Ed)*

Regarding the rating list, I am disappointed that only games of 2 mins per move or more will be included. As FIDE rules allow 60 minute games to be graded in the regular list, I believe this time limit should be the minimum considered acceptable. I doubt if subscribers play most of their games at the time limit you propose, so the input to S/S may be reduced. I believe also that the inclusion of games at a number of time limits would actually assist in your declared aim of providing an 'honest and useful estimate' of playing strength. The inclusion of the Ply list does of course provide the ultimate benchmark for games at 40 in 2, and is to be welcomed. However, in my opinion, there is no point in trying to emulate it, as it is the recognised standard; far better to keep the time limits established in S/S over many issues, and provide a comparison between the lists.

Turning to the PC list, I believe the adoption of a standard based on the 486/33 is misconceived. I doubt whether many of your readers possess such fast hardware, therefore - again - input to the rating list may be reduced. In fact either a 40Mhz 386DX, or a 486SX/25 would more closely mirror the Chess Mhz appertaining to the RISC processors fitted to current commercial chess computers. They would thus provide a better measure of the relative strengths of the programs employed.

The situation is becoming even more confused with the introduction of programs such as M-Chess Pro and Fritz 2, both of which are able to use additional RAM for hash tables. I therefore hope you will not only revert to the format of the previous PC list, but will consider expanding and separating it from that of the dedicated machines.

Sincerely, K J Wheeler

We find your arguments on game timings persuasive. Firstly, your prediction that fewer games would be sent in by readers has been borne out - more correspondence of other kinds than ever before, but not quite as many results! Secondly, I have found out for myself that playing two computers against each other at 40/90 or less is a pleasure, but at 40/120 it is simply a chore, so I can appreciate that it may dampen other people's enthusiasm as well...

From the questionnaire, very few people play computers at this setting, so perhaps 40/2 does not greatly help the stated aim of providing a practical guide to playing strength - i.e. the strength real purchasers will encounter when they actually buy and use the machine.

Besides which, as you say, the Ply list is already the final word on tournament standards, and hopefully this will placate all those who favour - often strongly - 40 in 2.

Add all this to the FIDE argument, and we are convinced! - game in 60 it is. As to the PC ratings, please see PC Corner next issue...

PC Corner *by Steve Maughan*

After the flurry of activity in the PC world things have quietened down after Christmas. Only one new programme to be released shortly - Kasparov's Gambit for the IBM PCs. This will be published by Electronic Arts as a mass market product and will contain a programme written by Larry Kaufman (an International Master) and Don Dailey, who wrote Rex Chess. Rex was a state of the art programme back in early 1990 and played a very unique and attractive game. It was, (and still is arguably) one of the most balanced chess programmes available.

Since then Larry Kaufman and Don Dailey have done a massive amount of work and experimentation, including a "C" programme and various 386 assembler programmes. Their aim was to produce a programme capable of beating M-Chess. The task has been tough but it would seem that the latest version of their programme (given the experimental name Socrates II) may indeed be stronger, since it was the outright winner of this years International Chess Computer Championship held in Indiana. The programme, running on a 50 MHz 486, scored 4 out of 5, ahead of Cray Blitz, B* Hitech, Zarkov, M-Chess, Chess Machine and Bebe. Unfortunately Chess Genius and Deep Blue (IBM's successor to Deep Thought) were not entered. This is an amazing result and the first time that a PC programme or a micro has won the tournament - quite an achievement. It is not clear that the ACM winning programme will be the one included in the Kasparov's Gambit package, it may be that a "pro" version is released with the stronger programme at a later stage. It is expected that the new programme may well take the accolade from Chessmaster 3000 of being the most popular chess programme available; we shall have to see. Here is one of the better games from the ACM in which Socrates refutes a pawn sacrifice by the Chess Machine.

White: Socrates II (486dx 50 MHz)
Black: Chess Machine (32 MHz RISC)

1.d4 d5 2.c4 c6 3.Nc3 Nf6 4.e3 e6 5.Nf3 Nbd7 6.b3 Bb4 7.Bd2 O-O 8.Bd3 dxc4 9.bxc4 Nc5 10.Be2 Bxc3 11.Bxc3 Nce4 12.Bb4 c5! (Black sacrifices a pawn for adequate positional compensation) 13.dxc5 Qc7 14.Qd4 a5 15.Ba3 Rd8 16.Qe5 Qb8 17.Qxb8 Rxb8 18.Ne5 Bd7 19.f3 Nc3 20.Bb2 Na4 21.Bd4 Rbc8 22.Nd3 Bc6 23.O-O Nd7 24.Rac1 f6 25.e4 e5 26.Be3 Nf8 27.Rfd1 Ne6 28.Rc2 Nd4 29.Bxd4 Rxd4 (the

position is balanced but Socrates plays the next ten moves very accurately and wins another pawn) 30.Rb1 Rcd8 31.Rb3 h5 32.Kf2 Kf8 33.Ra3 Kf7 34.Ke3 g5 35.Rc1 Kc6 36.Bd1 Ke7 37.Bxa4 Bxa4 38.Rcc3 Bc6 39.Rxa5 (two pawns up and white has a clear advantage) Kf7 40.Ra7 Kg6 41.a4 g4 42.a5 h4 43.Nb4 Rd2 44.Rd3 R8xd3+ 45.Nxd3 gxf3 46.gxf3 Ra2 47.f4 exf4+ 48.Nxf4+ Kf7 49.Nd5 Ra3+ 50.Kd4 Ra4 51.h3 Kf8 52.Nxf6 Ra3 53.Nd5 Rxh3 54.a6 bxa6 55.Rxa6 Be8 56.c6 Rh1 57.Ra8 Kf7 58.Ra7+ Kf8 59.c7 Bd7 60.Kc5 Rg1 61.Kd6 Bg4 62.Ra8+ Black resigns 1-0. A fine positional game

In the three months since its launch, Chess Genius has affirmed itself as the top PC programme when it comes to strength of play. Here is one of the games from the King's Head Rapidplay Tournament in which Chess Genius manages to outmanoeuvre and trap its opponent.

White: Chess Genius (50 MHz 486)
Black: S Visochin (2320 ELO)

1.d4 Nf6 2.c4 c6 3.Nf3 d5 4.Nc3 dxc4 5.a4 Bf5 6.e3 e6 7.Bxc4 Bb4 8.O-O Nbd7 9.Nh4 Bg4 10.f3 Bh5 11.g4 Bg6 12.e4 Qa5 13.Qb3 Nb6 14.Bd3 O-O 15.Bf4 Rad8 16.Nxg6 hxg6 17.Ne2 Rd7 18.Qc2 Rfd8 19.Nc1! (a crafty move which is difficult to spot, especially for a human) Bf8 20.Bd2 Bb4 21.Nb3 Bxd2 22.Nxa5 Bxa5 23.b4 Bxb4 24.a5 Nc8 (black is clearly lost, but puts up a strong fight for the next twenty moves) 25.a6 b6 26.Qxc6 Rxd4 27.Be2 Ne7 28.Qc7 Bc5 29.Kh1 R4d7 30.Qf4 Bd4 31.Rac1 e5 32.Qg5 Nh7 33.Qd2 Bc5 34.Qc3 Rd4 35.Rcd1 Ng5 36.Rxd4 exd4 37.Qb3 Nc6 38.Bb5 Nb4 39.h4 Ne6 40.Bc4 Rd6 41.e5 Rc6 42.f4 Nd8 43.Rd1 Ne6 44.Kh2 Nxf4 45.Bxf7+ Kh7 46.Qf3 g5 47.hxg5 Ng6 48.Qh3+ Resigns 1-0

The Complete Chess System

Oxford Softworks of Chess Champion fame have released "The Complete Chess System" for PCs at around £35. The package contains the latest version of Chris Whittington's chess programme, linked into a 15,000 game database. Out of all of the chess programmes available, Chris's are probably the most difficult to grade. They have such an idiosyncratic playing style, which is excellent at handling some positions, but can be prone to falling down in others. However, the latest programme does seem to be his best by far. The whole system works very well, with an excellent user interface allowing the user to easily access the myriad of features on offer. The database even reads ChessBase files. Of the numerous mass market packages "The Complete Chess System" does indeed seem to offer the most comprehensive solution to the chess enthusiast on a tight budget.

Crisis Management!

Elsewhere in this issue we make a plea for your proudest wins, your most abject losses, plus any oddities or surprises in any way connected with chess-computers. This broad appeal to our readers spans from the purely chess-related, through results and games, and then right out to the Twilight Zone, such as the bizarre tale of woe narrated here. After 12 years in the business, Mike Healey of Countrywide has had more such experiences than most, and is therefore well placed to start the ball rolling. Maybe one day we'll even bring out a book...

This is a story of man's initiative in the face of acute stress. The event occurred about four years ago, and only the name of the person has been changed, in order to protect the guilty. Readers who are generally of nervous disposition should pass over this article and go on to the next section of the magazine.

It had all seemed so innocent at the time. Bill had wanted to upgrade his computer from a Novag Super Expert to one of the latest Mephistos, and I motored over to see him on the appointed day and hour. As to the hour, he had been very specific.

Bill is a long distance lorry driver, a customer we'd met two or three times before. He is as tough a merchant as you would ever wish not to run into on a dark night (him, that is - not just his lorry). One cannot blame Bill for being aggressive, assertive and demanding - these are no doubt standard qualities required for any ambitious chess player.

He was on his own when I arrived at his upstairs flat, and after we had shaken hands and I had checked for digital damage, we got down to business. He was clearly impressed by the computer I had brought along, but I could not help but notice that he seemed strangely edgy. Before long, he confided that he had asked me to come along at the specified time, as his wife was at work and it was essential that she did not know he was buying a new computer. She was not due back for at least another hour. He asked if he could pay cash.

Mixed reactions are very hard to summarise - sympathy for the poor fellow obviously tyrannised by a fiend of a wife, but then an equal measure of feeling for a lady whose hubby was secretly spending fistfuls of money. However, practical to the last, I said "But surely, Bill, she will see the new computer when she comes in?" "No", he said, "I invariably keep it covered up, and in any case she would not recognise one wooden board from another."

This was logic that couldn't be faulted, so we proceeded to go through all the features of the new beastie, and although he was still a little bit twitched, I remained fairly relaxed. Until suddenly there was a faint metallic sound from downstairs. Bill stiffened, and as the sound became ominously recognisable as a key turning in the front door, his eyes took on that kind of wild, hunted look that you usually only see in Mafia movies.

Never before or since have I seen a human being generating what can only be described as "wheel spin". To be more precise, he must have executed at least half a dozen three point turns whilst still rooted to the spot, as his mind told him urgent action was called for, but the body would not respond. Bill was, nevertheless, made of sterner stuff and even whilst a heavy tread sounded on the stairs, he had located what appeared to be an old sheet, thrown it over both computers and informed me that I was a friend from his chess club come to review a recent game. Who was I to spurn such an offer of comradeship..?

With the footsteps getting ever nearer, there was hardly time to consider my guilt by association or indeed whether the pair of us would be pitched headlong out of the window by a lookalike of the all-England ladies shot-put champion when Bill visibly relaxed - the footsteps told him it was the cleaning lady, who did his flat and the other three in the building.

A story without a violent ending is maybe unfashionable these days, but one can only relate it how it happened. Unquestionably Bill and I felt very pleased with ourselves that we had panicked so calmly...

Eric Two, a long-time S/S reader, has annotated and sent us this fine game from his ongoing match between the Risc 1Mb and the Lyon 68000 at 3 minutes a move. Current score is 38/14 to the Risc. (+31,=14, -7)

W:Risc B: Lyon 1. d4 Nf6   2. c4 e6 3. Nc3 Bb4   4. e3 d5   5. Bd3 0-0   6. Nf3 b6 White was expecting 6..c5 here, and so Risc is now out of book.

7. Bd2 Ba6   8. Ne2 Black was expecting 8. Ne5, and so Lyon too is now "thinking for itself". 8., Bxd2+   9. Nxd2 c5   10. Rc1 .Black now initiates an exchange of centre pawns to set up a good diagonal for its remaining bishop and to leave White with an isolated d-pawn.

10. ..cxd4   11. exd4 dxc4   12. Nxc4 Bb7 White appears to be slightly better developed at this stage, but Black now has its good queen's bishop, and its position looks solid. The immediate, and obvious, threat is Bxg2, to which mugs like me naturally castle or play Ne3, but White considers that the loss of one pawn together with a slightly exposed king is amply compensated for by two active rooks and a nicely centred knight. Hence White now offers the pawn.

13. Ne5 With hindsight perhaps Black's next move is brash; by snatching the g-pawn Black practically invites the king-side attack with White's king's rook moving to the half-open g-file and its minor pieces all well-placed. Perhaps 13. Nbd7 is more mature to challenge White's central knight and to enable Black to place like for like on the open c-file.
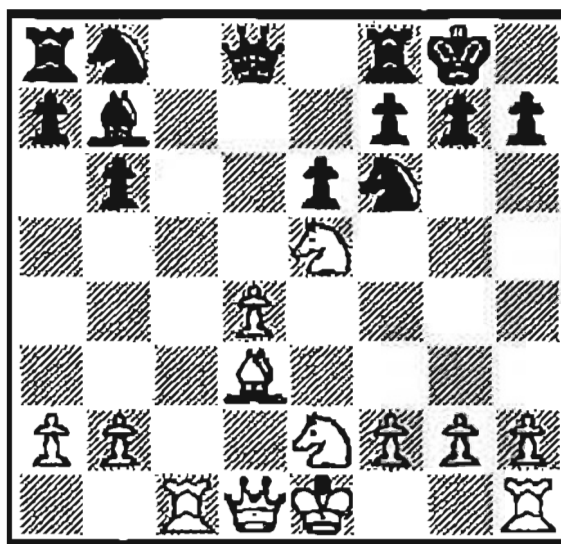
Take a look at the position as it stands after White's 13th move: The transition from opening to middle-game has hardly begun and yet in seven moves the game will effectively be over when White announces mate-in-seven! Amazing. 13. Bxg2   14. Rg1 Bd5 The stage is set: Can black now ride the king-side storm that is bound to come and then counter with an attack on White's rather exposed king?   15. Qd2 The bishop is invited to another pawn as White continues to place its pieces.   15. g6 This pawn looks well protected now, but after White's next move it is attacked no less than four times.   16. Qh6 Qe7 If this position isn't ripe for sacrifice then my name's G Kasparov!.. White now offers two pieces!   17. Bxg6 fxg6.   18 Nxg6 The position is now extremely unpleasant for Black: 18. hxg6 leads to mate any number of ways and is out of the question. The queen must move but must maintain her guard on the rook at f8 else Qxf8 is mate.   18. Qb4+ This counter is completely impotent for lack of ammunition and time.   19. Kf1 Kf7 The attempt at flight is futile and with its next move White announces mate-in-7 in 3 seconds.   20. Ne5+ Ke7   21. Qg7+ Kd8   22. Qc7+ Ke8   23. Qc8+ Ke7 How sick Black's queen's knight looks still sitting there.   24. Rg7+ Rf7   25. Rc7+ Complete infiltration of Black's position.   25. Nfd7 26. Rxf7+ Kd6 27. Rfxd7+ Nxd7 The ignoble knight's only gesture, and one that is immediately dismissed with the final move of the game. 28. Rxd7 Mate.

The S/S Rating Guide

For the benefit of new readers, the hieroglyphics on the back cover are explained, whilst regulars may be interested in the news from Ply...

The internationally recognised standard for assessing the strength of chessplayers is called the Elo Rating System, after its inventor Professor Arpad Elo. For UK players, there is also the system operated by the British Chess Federation. Both express strength in the form of a score based on results. The Elo figure can be translated into BCF by the formula 'Elo minus 600, divided by 8'. Our back cover has two rating lists, both of which have been built up over many years. The Selective Search list (abbreviated to 'S/S') contains games played at 'Game in 60 minutes' or longer, whilst the Ply list only has games played at 40 moves in 2 hours, the most frequently used time setting in international tournaments. 'Ply' is the name of a Swedish magazine devoted to chess computers, and their rating list is run as an ongoing university project. It is therefore free of commercial considerations of any kind. They kindly allow Selective Search to make use of their data. Unfortunately Elo figures are not identical from one country to the next, so one should add 100 points to the Ply figures to arrive at an 'English translation'; i.e. a Swedish player with an Elo of 2259 would be regarded as around 2359 over here. Beware of manufacturer's claims regarding 'USCF' grades. This is the American system, and runs at another 100 points higher than the UK, or 200 higher than Ply! All the computers are ranked in strength order according to the S/S list, which just shows 'name, rank and number' plus the quantity of games on which the grade is based. The Ply list shows the Elo rating (*without* the 'add 100' adjustment mentioned above), the BCF equivalent, the number of games taken into account, plus another column, marked '+/- Elo'. This indicates the margin of error. For example, a computer graded at 2259 on the basis of 250 games has a margin of error of 59 Elo; i.e. the figure of 2259 might actually be as low as 2200, or as high as 2318; however the median figure is more likely to be correct than those at the extremes. The higher the number of games played, the more reliable is the grade, so this 'plus or minus' figure comes down progressively as more and more games are played. Fortunately, the ratings of humans are not subjected to such rigours - your grade is your grade, for a whole year at a time!

To put the figures into context, 1000Elo (BCF50) is beginner standard. From here to 1400 (BCF100) is good hobby / weak club player territory. 1600 (125) would be regarded as a slightly better than average club player, and 2000 (175BCF) a very good one. Anyone over 2200 (BCF 200) is seriously strong by most standards, very likely playing for his county or in the top section of weekend congresses. A 2350 (219BCF) player might well hold a title (perhaps FIDE Master, abbreviated to FM); a 2400 (BCF225) player could be an IM (International Master), and 2500 (BCF237) is Grandmaster (GM) standard. World Champion Gary Kasparov is Elo 2805 at the moment, or 275BCF - the highest rating of all time.

Rating News

Ply have done some pruning since our last issue. Twenty two older models have been excised, and the minimum number of games required has been increased from forty to one hundred, causing yet more computers and programs to disappear, at least temporarily. The Chess Machine 30Mhz King 2.0 (what snappy names these CM's have) set to 'aggressive' still holds first place in Ply, but has descended to a more realistic rating of 2343 (=2443 in the UK). The Saitek 2500 has also dropped, with 2216 after 299 games. The two top PC programs still have about the same grade on a 486/33, but M-Chess Pro takes a 5-point lead this time. Seven chess computers haven't reached 100 games yet. Apparently the CM Schroeder 3.1 would take first place, but with an enormous error margin from only 27 games.

Brute Force has started clearly better than its predecessor GK-2000, with a rating of over 2000 after 40 games. Fritz 2 (486/33) has gone down somewhat to 2130 after nearly 100 games. On a 486/50-66, Chess Genius has started better than M-Chess Pro. Ply are hoping to start tests shortly on the Spracklens' SPARC-module and the Socrates 2 PC program.

S/S — Ply

Rank	Computer	BCF	Games	Elo	BCF equiv. Elo	+/-	Games
1	Meph Lyon 68030	218	374	2259	207	59	250
2	Meph Vanc. 68030	216	359	2245	205	42	346
3	Meph Risc 1MB	216	1046	2232	204	33	521
4	Meph Port 68030	214	460	-	-	-	-
5	Saitek Risc 2500	212	426	2216	202	43	299
6	Meph Vanc. 68020/12	205	1481	2153	194	30	621
7	Meph Lyon 68020/12	204	2492	2155	194	24	932
8	Meph Berlin	203	334	2139	192	42	335
9	Meph Port. 68020	200	1713	-	-	-	-
10	Fid Elite 68030 V9	200	599	2128	191	44	324
11	Meph Lyon 68000	197	1325	2107	188	25	806
12	Meph Almeria 68020	196	1003	-	-	-	-
13	Meph Port. 68000	193	1478	-	-	-	-
14	Fid Mach 4/Elite V7	193	1396	2080	185	26	760
15	Fid El. 68000 x2 V5	188	258	-	-	-	-
16	Meph Roma 68020	186	1043	-	-	-	-
17	Meph Polgar 10	186	609	-	-	-	-
18	Novag Diablo/Scorpio	186	1202	2001	175	26	713
19	Meph Almeria 68000	184	1025	-	-	-	-
20	Meph Dallas 68020	184	996	-	-	-	-
21	Fid Mach 3 68000 v2	181	5009	1997	175	15	2049
22	Meph MM5	180	1292	1979	173	22	967
23	Meph Polgar 5	179	2060	1971	172	19	1314
24	Meph Dall./Mon.Dall	178	2283	-	-	-	-
25	Meph Milano	177	596	1955	169	31	490
26	Nov S.Forte/Exp. 6C	176	2371	1954	169	19	1242
27	Meph Roma 68000	176	2267	-	-	-	-
28	Meph Academy	175	2000	-	-	-	-
29	Meph Modena	170	164	-	-	-	-
30	Meph Amsterdam	173	2373	1886	160	41	305
31	Nov S.Forte/Exp . 6B	173	1343	1924	165	22	1020
32	Meph Mega 4	172	2435	-	-	-	-
33	Fid Mach 2B/C 68000	172	2909	-	-	-	-
34	Saitek Gal-Ren D10	172	1209	-	-	-	-
35	Fid Travelmaster	170	505	-	-	-	-
36	Meph S.Mon2/MC4	170	224	1902	163	79	123
37	Meph MM4	169	2866	-	-	-	-
38	Saitek Travel Champ	168	28	-	-	-	-
39	Nov S.Forte /Exp. 6A	168	1155	-	-	-	-
40	Meph MonteCarlo	166	262	-	-	-	-
41	Saitek Gal. / Ren. C8	166	313	-	-	-	-
42	CXG Sphinx Galaxy	165	2047	-	-	-	-
43	Conchess Ply.Vict.S.5	165	697	1875	159	19	1293
44	Saitek Turbo King II	165	798	1862	158	27	657
45	Saitek GK2000	165	103	1871	159	25	752
46	Fid Mach 2A 68000	164	338	1904	163	48	223
47	Novag Expert 5/6	161	532	-	-	-	-
48	Fid Club 68000	161	1459	-	-	-	-
49	Novag Jade / Zircon	161	18	-	-	-	-
50	Novag Forte B	159	1917	-	-	-	-
51	Meph Rebell	159	2121	-	-	-	-
52	Fid Avant Garde 5	159	1721	-	-	-	-
53	Fid Par E./Des. 2100	158	2538	1829	154	23	912
54	Saitek Stratos /Corona	158	3053	-	-	-	-
55	Novag Forte A	157	2202	-	-	-	-
56	Meph S.Mondial 1	157	1420	-	-	-	-
57	Conchess Plymate 5.5	157	2169	-	-	-	-
58	Saitek Simultano	157	364	-	-	-	-
59	Saitek Gal./Ren. B6	157	976	-	-	-	-
60	Conchess 6	155	107	-	-	-	-
61	Fid Excellence 4	155	1740	-	-	-	-
62	Novag Expert 4	155	962	-	-	-	-
63	Conchess Plymate 4	153	372	-	-	-	-
64	Saitek Turbo Kasp 4	153	512	-	-	-	-
65	Fid Elite C	152	182	-	-	-	-
66	Fid Elegance	151	685	-	-	-	-
67	Saitek TurboStar 432	151	1337	-	-	-	-
68	Mephisto MM2	151	781	-	-	-	-
69	Saitek Gal. / Ren. B4	151	37	-	-	-	-
70	Fid Exc./ Des. 2000	150	1646	-	-	-	-
71	Saitek Prisma / Blitz	149	305	1735	141	50	202
72	Conchess 4	148	509	-	-	-	-
73	Novag Super Const.	147	3669	1728	141	18	1569
74	Novag Super Nova	147	411	1732	141	38	350
75	Novag Supremo	144	28	-	-	-	-
76	Novag Super VIP	143	335	-	-	-	-
77	Fid Prestige / Elite A	142	856	-	-	-	-
78	Fid Sensory 12	141	1340	-	-	-	-
79	Meph Europa/M.Polo	143	240	1684	135	54	170
80	Saitek Superstar 36K	139	997	-	-	-	-
81	Conchess 2	139	1096	-	-	-	-
82	Novag Const. 3.6	137	825	-	-	-	-
83	Novag Quattro	137	585	-	-	-	-
84	Novag Primo / VIP	137	354	-	-	-	-
85	Meph Mondial 2	136	31	-	-	-	-
86	Fid Elite B / Original	133	236	-	-	-	-
87	Meph Mondial 1	131	247	-	-	-	-
88	Novag Const. 2.0	130	1289	-	-	-	-
89	CXG S.Ent/Adv.Star	128	922	1559	120	39	386
90	CXG 3000	123	17	-	-	-	-
91	Fid Sensory 9	121	1114	-	-	-	-
92	Saitek Ast/Conq/Cavl	121	61	-	-	-	-
93	Nov Mentor16/Amigo	118	22	-	-	-	-
94	GGM + Steinitz	117	287	-	-	-	-
95	CXG 2001	116	84	-	-	-	-
96	Mephisto 3	115	633	-	-	-	-
97	Saitek T'bo/S.Star 24k	115	346	-	-	-	-

PC Programs

Rank	Computer	BCF	Games	Elo	BCF equiv. Elo	+/-	Games
1	ChessMachine 30Mhz (King 2.0, aggressive)	-	-	2343	218	70	140
2	ChessMachine 30Mhz (Schroeder 3.0)	-	-	2281	210	68	149
3	M-Chess Pro 486/33	-	-	2281	210	67	133
4	Chess Genius 486/33	-	-	2276	209	69	120
5	ChessMachine 16Mhz (Schr. 512k ARM2)	-	-	2216	202	33	528
6	ChessMachine 16Mhz (King 512k ARM2)	-	-	2209	201	45	288
7	M Chess 1.1-1.71 (on 486/33)	-	-	2198	200	43	326
8	M Chess 1.1 - 1.66 (on 386/25-33)	-	-	2129	191	37	396
9	Rex Chess 2.3 (on 386/25-33)	-	-	2030	179	64	126
10	Fritz 1.0 486/33	-	-	2021	178	63	128
11	Zarkov 2.5 386/25-33	-	-	2018	177	56	168
12	Fritz 1.0 386/33	-	-	2009	176	67	113
13	Rex Chess 2.3 (on 386/16-20)	-	-	1928	166	53	174
14	Prism Atari 68000/8	-	-	1880	160	18	1453
15	Chessplayer 2150 (Atari/Amiga)	-	-	1709	139	67	126
16	The Final Chesscard (6502 5Mhz.)	-	-	1694	137	65	149
17	Chessmaster 2100 (Amiga 68000)	-	-	1676	134	85	100
18	Chess Champion 2175 (Atari/Amiga)	-	-	1670	134	62	157