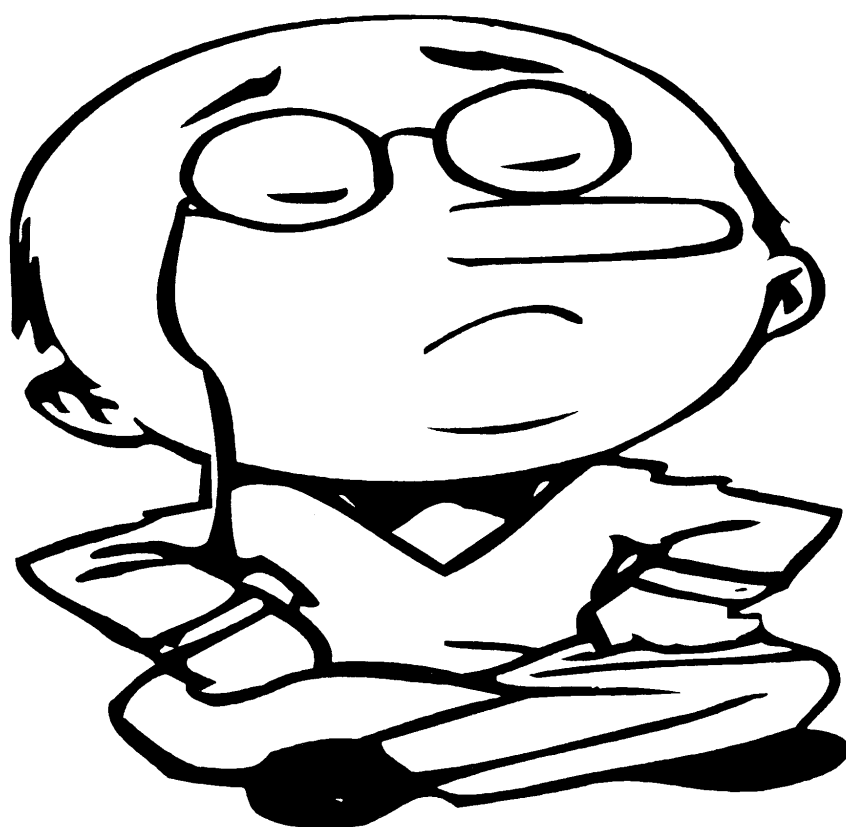


Computer Chess Reports

Volume 5 Numbers 3 + 4

\$18.00 (U.S.)

The New Chess Software



A Grandmaster in Every Home

This Issue: Volume 5, Numbers 3 & 4

1996 Review	Larry Kaufman	4
1995 Harvard Cup	Larry Kaufman	4
Selected Games from the Harvard Cup	Staff	5
Final Results of the Harvard Cup	Staff	7
Human vs. Computer Match, Finland	Eric Hallsworth	7
Human vs. Computer Action Chess Match, Finland	Jouni Uski	8
3rd French Computer Chess Championship	Joel Rivat	12
13th World Microcomputer Chess Championship	Larry Kaufman	14
Selected Games : World Microcomputer Chess Championships	Staff	15
Final Results from the 8th WCCC	Staff	20
The 8th WCCC - A Perspective	Robert Hyatt	21
Automated Communication for Computer Chess Events	Steven Edwards	22
ICCA Rules	Steven Edwards	23
Novag Review	Larry Kaufman	24
Hyperbole in Ratings	Don Getkey	24
Greed and Exaggeration in Ratings	Peter Noehrenberg	24
Mephisto Nigel Short vs. Travel Champion 2100	Alastair Scott	25
Fidelity vs. Rocky the Parrot	Tom Masters	27
FIDE vs. USCF Computer Ratings	Geoffrey Wyatt	28
Rating the Chess Computers	Larry Kaufman	30
The Ratings Debate	Eric Hallsworth	31
More C.R.A. Tests	Larry Kaufman	32
A Trip Down Chess Computer Memory Lane	Truman Collins	33
More Chess Computer Memories	Steven Schwartz	34
Still More Chess Computer Memories	Bruce Moreland	34
Chess Life as Consumer Reports??	Bruce Moreland	34
FIDE Computer Registration	Steven Edwards	35
Can Machine be Champion?	David Battle	35
Deep Blue Beats Kasparov but Loses the Match	Larry Kaufman	36
The Best Humans vs. The Best Computers	Jim Glanville	38
Is Cyber-Gamesmanship a Good Thing?	Scott Schneider	39
The State of Computer Chess	Aaron Dingus	40
Human vs. Machine - Some Thoughts	Prakash Das	41
Deep Blue vs. Kasparov - Betting on the Human	Brian Sheppard	41
A Suggestion	Dr. Ingo Althoefer	42
Man vs. Machine - Annotated	Roger LaFlair	42
Deep Blue - Deep Thought 2	Paul Hsieh	45
PC Software Reviews	Nick Schoonmaker	46
M-Chess Professional 5.0 Review	Nick Schoonmaker	47
Chess Genius 4.0 for Windows Review	Nick Schoonmaker	47
Rebel 7.0 Review	Nick Schoonmaker	49
Chess Master 4000 - Windows 95 Review	Nick Schoonmaker	49
Grandmaster Championship Chess for Windows Review	Nick Schoonmaker	50
Rebel Decade Review	Nick Schoonmaker	51
Fritz 4 Review	Larry Kaufman	51
Hiarcs 4 Review	Larry Kaufman	52
New Software Reviews	Larry Kaufman	52
Chess Playing Software Comparison Chart	Staff	54
Updated One-Hour CCR Test Results - PC Software	Nick Schoonmaker	56
Evaluations of Chess Software - A Personal View	Dr. Ingo Althoefer	56
Evaluating the Commercial Chess Playing Programs	Mike Leahy	57
Macintosh Chess Playing Software Review	Richard A. Fowell	58
Macintosh Software Comparisons - A Chart	Staff	61
Computers' Evaluation Speed	Don Getkey	62
An Interview with Richard Lang	Staff	63
Protecting Protection	Carlos Tillotson	64
Chess Computers as Teachers	Simon Read	64
Startup Files	Tim Mirabile	65
Learning from Chess Computers?	Benjamin Tilly	65
Computers and Operators	Mark Uniacke	65
Perfect Chess?	Patrick Leung	66
Autoplayers	Mark Uniacke	66
How to Choose the Top Computer Program	Randy Schmidt	67
My Personal Evaluations	Michael Byrne	67
Maresch Problem Set Corrections	Larry Kaufman	68
The Computer's Strengths and Weaknesses	Bruce Moreland	69
Tactical Abilities of the Program Node Searches	Robert Hyatt	69
The Art of Tweaking	Bruce Moreland	69
Early Human - Computer Games	Alastair Scott	70
The Value of Computer vs. Computer Results	Bruce Moreland	71
Windows 95 and Computer Chess	Halibut	72

CM 4000 Personalities	Al Cargill	72
Technical Review of Fritz 4	Andreas Toenne	74
Fritz at the WCCC	Goren Grotting	75
Fritz 4 - The In-Your-Face Chess Trainer	Don Maddox	75
Just How Good is Fritz Anyway?	Steven Rix	78
A Small Bug is Found in Fritz 4	Birger Boyens	79
Kasparov Beats Fritz 4	Paul Hodges	79
Chess Genius 4	Richard Lang	80
Genius 4.0 - A Personal View	Mark Rawlings	80
The Effect of Windows on Computer Chess	Halibut	81
Personal Hiarc for Mac Results	William Wright	82
Hiarc for Mac vs. IBM's Top Chess Playing Guns	Michael Byrne	84
Opening Books and Increased Ratings	Alexander Fuchs	85
MChess Pro 5.0 Book Learning Feature	Michael Byrne	85
Computer Problem Solving	Bruce Moreland	86
MChess Pro 5.0 "Hidden Book"	Michael Byrne	86
Killer Opening Books - MChess 5.0	Geoff Wyatt	87
Rebel 7.0 Review	Steve Pribut	87
Rebel 7 on P6 @ 200 Mhz	Ed Schroder	89
MChess Pro 5.0 - A Features List	Staff	90
Genius 4.0 - A Features List	Staff	91
Rebel 7.0 - A Features List	Staff	92
Hiarc 4.0 - A Features List	Staff	93
Fritz 4.0 - A Features List	Staff	94
Chessmaster 4000 for Windows 95 - A Features List	Staff	96
Chessica - A Features List	Staff	97
Virtual Chess - A Features List	Staff	97
PC Ratings	Nick Schoonmaker	98
PC Speed Adjustment Chart	Larry Kaufman	98
Ratings Chart (40/2) for PC Software Programs	SSDF	99
Ratings Chart (Blitz) for PC Software Programs	SSDF	100
Problem Test Results	Larry Kaufman	100
Routines Prior to Main Search	Bruce C. Wright	102
Internet Chess Club Computer Ratings	Larry Kaufman	102
Book Openings Test	Larry Kaufman	102
Computers in Postal Chess	Larry Kaufman	103
Rigging of Opening Books	Larry Kaufman	104
Autotesting	Larry Kaufman	104
Knods and milliKnods	Chris Whittington	106
Latest Selective Search Ratings	Eric Hallsworth	107
MAC FAQ	Matthew Householder	108
Why Study Chess Any More?	Tim Kadom	114
Hash Table Test	Robert Hyatt	115
Piece Evaluation	Peter Gillgasch	115
Beating Chess Computers	Halibut	116
Chess Computers & Human Style	Robert Hyatt	116
Why Computers Are Not Perfect	Robert Hyatt	117
A Professional Programmer	Brian Sheppard	117
Crafty and Endgame Databases	Robert Hyatt	118
Beating Chess Computers	Ed Trice	118
Depth Search & Strength	Robert Hyatt	119
A Prediction	Steven Edwards	119
Search Depth and Ratings	Robert Hyatt	119
The Fatal Computer Flaw	Robert Hyatt	120
Laws of Chess & Computer	Steve Rix	120
Move Generation Experiments	Peter W. Gillgasch	121
I Beat the Computer with 1.g4	Sam Sloan	121
The Age-Old Computer Debate	Robert Hyatt	122
Evaluation Functions	Robert Hyatt	122
Computers & Operators	Robert Hyatt	123
If Computers Were Human	Don Getkey	123
Computer Judgment	Walter Ravenek	124
Lessons on Using Your Computer	Ron Moskovitz	125
Bar the Computers!	Bluejack	125
Why Bother with Chess Software?	Timothy Hanke	125
Computer That Thinks Like a Human??	Kevin Begley	126
TASBase 2.0	Marc Derksen	127
Chess Mentor by Aficionado	Sharon Barker	128
ChessBase for Windows 1.1 & Macintosh	Don Maddox	129
Chess Assistant	Ralph Dubisch	132
Chess Computer as Complex Database	Robert Hyatt	133
The Current Crop - Portable Chess Computers	Staff	133
The Current Crop - Table-Top Chess Computers	Staff	135
Bits & Pieces - Questions & Answers	Larry Kaufman	138
The Latest Swedish Ratings List	SSDF	142
Individual Contests	SSDF	145

1996 REVIEW

by Larry Kaufman

We had hoped to be able to publish CCR more frequently, but there were hardly any new programs (either dedicated or PC) all year to write about until the last couple months of the year, when most of the top programs came out with upgrades. The only important new model in the dedicated arena is the Mephisto Montreaux, which was written up in our last issue but is now available and has received the highest C.R.A. Action rating to date, 2495. Some other Saitek models already for sale (President, GK 2100, Kasparov Travel Champion 2100 a.k.a. Palm Top) received C.R.A. Action ratings well above expectations at 2334.

There were some interesting computer events since our last issue, such as the World Micro, won by MChess Pro 5.0 after a playoff game with Chess Genius with which it was tied. Another was the Harvard Cup, an annual computers vs. grandmasters match won this year by the GMs, with the computers scoring 35%. Top computer was Virtual Chess, a rather new entrant into the wars.

As for the SuperComputers, Deep Blue, IBM's monster chess playing device, has played a six game 40/2 match with the PCA World Champion Garry Kasparov. The machine won the first game but lost three and drew two of the remaining games. Based on this result Deep Blue would be rated about 2655 FIDE or 2740 USCF, better than all American players but Kamsky. It is reported that Deep Blue utilized 256 specially made "chess chips" in parallel to reach speeds of 200,000,000 positions analyzed per second. M.I.T. has hired Don Dailey to work full time on Star-Socrates, which runs on over 1800 standard processors in parallel, but it will be a while before Star-Socrates is ready to challenge top GMs. It did defeat GM Sagalchik in two games, one fast (20') and one slow (40/2).

As for the PC upgrades, Rebel 7 is running 31 points over Rebel 6 (if we average "Ply" results on Pentium and 486 machines), while MChess Pro 5.0 has so far shown an amazing 55 point jump over its predecessor 4.0, though there is evidence that this may be partly due to a new opening book with long computer-killer lines in it. Genius 4, for Windows, so far is only an insignificant two points above Genius 3, while Hiarcs 4 is at this writing an insignificant 8 points behind its predecessor. Fritz 4 has yet to be rated. Chessmaster 5000 has been delayed and its gain over 4000 is unknown. The top three rated PC programs, MChess Pro 5.0, Genius

4, and Rebel 7 are too close to call in strength but have opened up a fair margin over the rest of the pack.

On a personal note, I wish to congratulate co-editor Nick Schoonmaker on his recent marriage to former Chess Life editor Julie Anne Desch.

1995 HARVARD CUP

by Larry Kaufman

The 1995 Harvard Cup was held in New York during the last week of the year. Six PC programs, all running on identically configured 133 MHz "Pentium Pro" computers, played against six of America's top grandmasters at a time limit of 25' per side. Each program played each grandmaster once. This was the sixth Harvard Cup. In the past years the percentage scored by the programs had risen from 9% the first year through 25-28% in the next three years, to 38.5% last year. Although this year's hardware was faster than last, it seems that the Pentium Pro (the chip that would be called the 80686 if Intel had stuck to its old number system) is not faster, and may be a bit slower, than a regular Pentium at the same clock speed, except for software written especially to take advantage of the new chip. Since this was not the case with the programs in this event, and since several of the top programs (Genius 4, Rebel 7, Hiarcs 4) did not participate, this year's result, 12.5 out of 36 or 34.7%, was actually worse than last year's. The replacement of last year's poorest scoring grandmaster (Shabalov, replaced by Kaidanov) and the added experience of the grandmasters in playing computers both made things more difficult for the computers.

Top scoring program, with 3.5 out of 6, was the little known "Virtual Chess", the commercial version of "Virtua Chess", which finished just a half point behind the winners at the '95 World Microcomputer Championships. Second place at 3 was Chessmaster 4000 for Windows '95, which is said to have a program close to the one that will appear in Chessmaster 5000. MChess Pro 5.0, the World Microcomputer Champion, took third at 2.5, and last year's winner of the Harvard Cup, WChess, was fourth this time with 1.5. Trailing with 1 point each were Socrates '95 (a version dating back to January '95 since we have been working on the Supercomputer version "Star-Socrates" since then) and "Junior", an Israeli program with some notable successes in human competition in Europe and a 12th place finish (out of 34) in the World Micro. Oddly, in one game Junior as black advanced its king to e7

in the opening for no apparent reason, and of course lost badly. I don't know if this was due to a program bug or to a typo in the opening book (perhaps ...Be7 was intended). As for the grandmasters, Joel Benjamin and Michael Rohde shared first with 4.5, Benjamin gaining the right (via tiebreaks) to play a ten minutes per side match with the winning program. Just before the Cup Patrick Wolff was defeated 3-1 by Chessmaster 4000 Windows '95 at this ten minute speed. Last year the blitz playoff was between Benjamin and WChess, but because it was at a time limit of 5' per side with no operator time WChess kept losing on time. Since the organizers of the Cup are opposed to giving any operator time, it was decided to switch to 10' for the playoff this year; presumably the program will be set internally to 6' (as was Chessmaster vs. Wolff). Third place this year went to the 1994 U.S. Champion Boris Gulko with four points. Patrick Wolff, the 1995 U.S. Champion, Ilya Gurevich (former World Junior Champion), and Gregory Kaidanov (winner of many top open titles) shared fourth at 3.5. I hope that next year's event can attract more of the top PC programs, as I'm getting tired of seeing the computers lose each year! Considering that Genius is 2-2 against the World Champion at the same time limit as used in the Harvard Cup, it would seem reasonable to think that the very strongest PC programs should at least hold their own against a team of grandmasters rated nearly 200 points below the World Champion on average.

SELECTED GAMES FROM THE HARVARD CUP

Ilya Gurevich (2535)-CM 4000 Win95 [B31]
Sixth Harvard Cup December 27, 1995

1.e4 c5 2.Nf3 Nc6 3.Nc3 g6 4.Bb5 Bg7 5.O-0 Nf6 6.e5 Ng4 7.Bxc6 dxc6 8.Re1 O-0 9.d3 Qb6 10.h3 Nh6 11.b3 Nf5 12.Na4 Qb5 13.c4 Qa5 14.Bb2 b6 15.g4 Nd4 16.Nxd4 cxd4 17.Bxd4 c5 18.Bb2 Bd7 19.Nc3 Bc6 20.Qe2 Rad8 21.f4 Rd7 22.f5 Kh8 23.Kf2 e6 24.f6 Bh6 25.Kg3 Rfd8 26.Rad1 b5 27.Ba1 bxc4 28.bxc4 Rd4 29.Ne4 Rxd3+ 30.Rxd3 Rxd3+ 0-1

Gregory Kaidanov (2585) - MChess Pro [A57]

Sixth Harvard Cup December 27, 1995

Computer Chess Reports

1.d4 Nf6 2.c4 c5 3.d5 b5 4.Nf3 bxc4 5.Nc3 d6 6.e4 Qa5 7.Nd2 Ba6 8.Qc2 Qb4 9.a3 Qb7 10.Nxc4 g6 11.Be2 Bg7 12.O-O O-O 13.h3 Bxc4 14.Bxc4 Nbd7 15.Be3 Ne5 16.Be2 Rfb8 17.f4 Ned7 18.Bb5 Rc8 19.Bc6 Rxc6 20.dxc6 Qxc6 21.Rad1 Rb8 22.Rd2 Nb6 23.b3 Nh5 24.Nd5 Nxd5 25.exd5 Qa6 26.a4 Qb7 27.Rb1 Qb4 28.f5 c4 29.Bxa7 cxb3 30.Qd1 Rb7 31.Bd4 Qxa4 32.fxg6 hxg6 33.Bxg7 Kxg7 34.Rdb2 Nf4 35.Rxb3 Ne2+ 36.Kf2 Nc1 37.Qxc1 Rxb3 38.Rxb3 Qxb3 39.Qa1+ Kg8 40.Qa8+ Kh7 41.Kg1 Qe3+ 42.Kh1 e6 43.dxe6 fxe6 44.Qf8 Qe1+ 45.Kh2 Qe5+ 46.Kh1 g5 47.Qf7+ Kh6 48.g4 d5 49.Qf8+ Qg7 50.Qd8 Qa1+ 51.Kg2 Qb2+ 52.Kh1 Qc1+ 53.Kg2 Qd2+ 54.Kh1 Qe1+ 55.Kg2 Qe2+ 56.Kg1 Qe3+ 57.Kg2 Qe4+ 58.Kg1 Qf4 59.Kg2 Kg6 60.Qg8+ Kf6 61.Qd8+ Ke5 62.Qc7+ Ke4 63.Qc2+ Kd4 64.Qa4+ Ke5 65.Qd7 Qd2+ 66.Kg3 Qe3+ 67.Kg2 Qe2+ 68.Kg3 Qe1+ 69.Kg2 Qe4+ 70.Kg3 Qd3+ 71.Kg2 Qc2+ 72.Kg3 Qb3+ 73.Kg2 Qa2+ 74.Kg3 Qa3+ 75.Kg2 Qb2+ 76.Kg3 Qc1 77.Qg7+ Ke4 78.Qg6+ Kd4 79.Qg7+ e5 80.Kg2 Qc2+ 81.Kg3 Qd3+ 82.Kg2 Qe2+ 83.Kg3 Qe3+ 84.Kg2 Kd3 85.Qb7 Qe2+ 86.Kg1 d4 87.Qb5+ Kd2 88.Qa5+ Ke3 89.Qxe5+ Kf3 90.Qd5+ Kg3 91.Qd6+ Kxh3 92.Qh6+ Kxg4 93.Qc6 Qe1+ 94.Kg2 Qg3+ 95.Kf1 Qf3+ 96.Qxf3+ Kxf3 97.Ke1 Ke3 98.Kd1 d3 99.Kc1 g4 100.Kb2 d2 101.Kc2 Ke2 102.Kc3 d1Q 103.Kc4 Ke3 104.Kc5 g3 105.Kc4 Qa1 106.Kd5 g2 107.Kc4 Qa5 108.Kb3 g1Q 109.Kc4 Qg8# 0-1

WChess - Michael Rohde (2585) [C03]

Sixth Harvard Cup December 27, 1995

1.e4 e6 2.d4 d5 3.Nd2 Be7 4.c3 Nf6 5.e5 Nfd7 6.Ngf3 c5 7.Bb5 Nc6 8.Qa4 Nb6 9.Qc2 Bd7 10.dxc5 Bxc5 11.Nb3 Be7 12.Bd3 Rc8 13.Qe2 O-O 14.O-O f6 15.exf6 Bxf6 16.Nc5 e5 17.Nd2 e4 18.Bb5 Bf5 19.Nxb7 Qe7 20.Bxc6 Rxc6 21.Na5 Re6 22.Ndb3 Qf7 23.Bf4 Qg6 24.Nc5 Ree8 25.Qb5 h5 26.Nc6 h4 27.Kh1 h3 28.g3 Qh5 29.f3 exf3 30.Rf2 Re2 31.Raf1 Rfe8 32.Nd3 Bxd3 33.Qxd3 Rxf2 34.Ne7+ Rxe7 35.Rg1 Ree2 36.g4 Qg5 37.Qf5 Qxf5 38.gxf5 Be5 39.Bxe5 Rxe5 40.f6 Rg2 41.f7+ Kxf7 42.Rf1 f2 43.Rxf2+ Rxf2 0-1

Joel Benjamin (2555) - CM 4000 for Win95 [A11]

Sixth Harvard Cup December 27, 1995

1.c4 c6 2.Nf3 d5 3.Qc2 e6 4.g3 Bb4 5.Bg2 Nf6 6.O-O Nbd7 7.d4 O-O 8.Bf4 dxc4 9.Qxc4 Nd5 10.Bd2 a5 11.e4 N5b6 12.Qc2 f5 13.Qb3 fxe4 14.Qxe6+ Kh8 15.Qxe4 Nf6 16.Qc2 Nfd5 17.Bg5 Qe8 18.Ne5 Qh5 19.h4 Bf5 20.Be4 Bxe4

Volume 5, Number 3+4

21.Qxe4 a4 22.a3 Be7 23.Bxe7 Nxe7 24.Nd2
Rad8 25.Ndf3 Nf5 26.Rae1 Nd6 27.Qd3 Nd5
28.Ng5 Rf6 29.f4 Kg8 30.Re2 Re8 31.Rff2 Rd8
32.Qf3 Qxf3 33.Ngxf3 Nf5 34.Kh2 Nb6 35.Re4
Rfd6 36.Nd3 Nd7 37.Nc5 Nf6 38.Ree2 Ng4 +
39.Kg2 Nxf2 40.Kxf2 Rg6 41.Nxb7 Rf8 42.Ng5
h6 43.Re6 Rxe6 44.Nxe6 Rb8 45.Nec5 Nxd4
46.Ke3 Ne6 47.f5 Nxc5 48.Nxc5 Rxb2 49.Nxa4
Rb3+ 50.Kf4 Rxa3 51.Nc5 Kf7 52.g4 Rc3
53.Ne4 Rh3 54.h5 Rd3 55.g5 hxg5+ 56.Nxg5 +
Kf6 57.Ne4 + Ke7 58.Ng5 c5 59.Ke4 c4 60.Ne6
Rh3 61.Kd4 c3 0-1

Gregory Kaidanov (2585) - WChess [C42]
Sixth Harvard Cup December 27, 1995

1.e4 e5 2.Nf3 Nf6 3.Nxe5 d6 4.Nf3 Nxe4
5.d3 Nf6 6.d4 d5 7.Bg5 Be7 8.Bd3 0-0 9.0-0 h6
10.Bh4 Re8 11.Re1 Bg4 12.Nbd2 Nbd7 13.c3 c5
14.Qc2 c4 15.Bf5 Bxf5 16.Qxf5 Qc7 17.Ne5
Bd6 18.Bg3 Re6 19.Nxf7 Rxe1+ 20.Rxe1 Bxg3
21.Nxh6+ Kh8 22.Nf7+ Kg8 23.Nh6+ Kh8
24.hxg3 gxh6 25.Qg6 Ng8 26.Qf7 Qc6 27.Re6
Rf8 28.Qg6 Qa4 29.Qb1 Ndf6 30.Nf3 Ne4 31.a3
Qd7 32.Re5 Ne7 33.Qc1 Kg7 34.Rh5 Rf6
35.Rh4 Qe6 36.Rf4 Ng6 37.Rxf6 Qxf6 38.Qe3
h5 39.Qe2 Qf5 40.Qe3 Qg4 41.Qc1 h4 42.Nxh4
Qe2 43.Qe3 Qxb2 44.Nf5+ Kf6 45.g4 Nxc3
46.Qe8 Qc1+ 47.Kh2 Qf4+ 48.Kh3 Qc7 49.g3
Ne4 50.f3 Ng5+ 51.Kg2 Qa5 52.f4 Qd2+
53.Kf1 Qd1+ 54.Kg2 Nxf4+ 55.gxf4 Qf3+
56.Kh2 Qh3+ 57.Kg1 Qxg4+ 58.Kh1 Qf3+
59.Kh2 Qxf4+ 60.Ng3 Qf2+ 61.Kh1 Qxg3
62.Qd8+ Kg6 63.Qg8+ Kf5 64.Qc8+ Ke4
65.Qxb7 Qh3+ 66.Kg1 Nf3+ 67.Kf2 Qh2+
68.Kf1 Qg1+ 0-1

Virtual Chess - Gregory Kaidanov (2585)
[C15]
Sixth Harvard Cup December 27, 1995

1.e4 e6 2.d4 d5 3.Nc3 Bb4 4.a3 Be7 5.e5 c5
6.dxc5 Bxc5 7.Qg4 Bf8 8.Nf3 Nc6 9.Bd3 Nge7
10.Bg5 Qb6 11.Nb5 Ng6 12.Be3 Qd8 13.Bxg6
hxg6 14.0-0 a6 15.Nbd4 Bd7 16.Bg5 Be7
17.Bxe7 Qxe7 18.c3 Rc8 19.Rfd1 Na5 20.h3
Nc4 21.Ra2 Kf8 22.a4 Rh5 23.Qg3 Qd8 24.b3
Na5 25.Qf4 Kg8 26.g4 g5 27.Qe3 Rxh3 28.Kg2
Rh6 29.Nxg5 Nc6 30.Raa1 Qc7 31.Ndf3 Na5
32.Nd4 Nc6 33.Ndf3 Na5 34.Nd4 Nc6 1/2-1/2

Socrates 95 - Joel Benjamin (2555) [B08]
Sixth Harvard Cup December 27, 1995

1.d4 d6 2.e4 g6 3.Nf3 Bg7 4.Be2 Nf6 5.Nc3
0-0 6.0-0 c6 7.Bg5 Qc7 8.h3 e5 9.Qd2 Re8
10.dxe5 dxe5 11.Rad1 Nbd7 12.Be3 b5 13.a3
Bb7 14.Bh6 Nc5 15.Bxg7 Kxg7 16.Qe3 Ne6
17.Rd2 a6 18.Rfd1 c5 19.g3 Nd4 20.Bd3 Rad8

Computer Chess Reports

21.Kh2 Rd7 22.Nh4 h6 23.f3 Red8 24.Kg1 Rd6
25.Qf2 Qe7 26.Kh2 R8d7 27.a4 Bc6 28.axb5
axb5 29.b3 Qd8 30.Qe3 Ne6 31.Nb1 Nd4
32.Nc3 Bb7 33.Nb1 Ba6 34.Na3 Qa5 35.Nb1 c4
36.bxc4 bxc4 37.Be2 Nxc2 38.Rxc2 Rxd1
39.Bxd1 Rxd1 40.Nd2 Qb4 41.Ng2 Bb5 42.Qe2
Ra1 43.Nxc4 Qb1 44.g4 Qg1+ 45.Kg3 h5 46.g5
h4+ 47.Kxh4 Nh5 48.Qe3 Bxc4 49.Qxg1 Rxg1
50.Rxc4 Rxg2 51.Rc5 Rf2 52.Kg4 Rg2+ 53.Kh4
Rg3 54.Rc3 Rg1 55.Rc5 f6 56.gxf6+ Kxf6
57.Rc7 Rg2 58.Rb7 Rf2 59.Rb6+ Kg7 60.Rb3
Kh6 61.Rb8 Rxf3 62.Rh8+ Kg7 63.Re8 Nf6
64.Rxe5 Rf4+ 65.Kg5 Rxe4 66.Rxe4 Nxe4+
67.Kf4 Nf6 68.Ke5 Nh7 69.Kf4 Kh6 70.Ke5 Kh5
71.Kd5 Kh4 72.Ke5 Kxh3 73.Ke6 g5 74.Kf5 g4
75.Kg6 g3 76.Kxh7 g2 77.Kg6 g1Q+ 78.Kf5
Qd4 79.Ke6 Kg4 80.Ke7 Kf5 81.Kf7 Qd7+
82.Kg8 Kg6 83.Kh8 Qd8# 0-1

Michael Rohde (2585) - Virtual Chess [D46]
Sixth Harvard Cup December 27, 1995

1.Nf3 Nf6 2.c4 c6 3.Nc3 d5 4.e3 e6 5.d4
Bd6 6.Bd3 0-0 7.0-0 Nbd7 8.e4 dxe4 9.Nxe4
Nxe4 10.Bxe4 h6 11.Bc2 b6 12.Re1 Ba6 13.Qd3
Nf6 14.Ne5 Rc8 15.Bf4 Re8 16.Rad1 Qc7
17.Bg3 Red8 18.b3 c5 19.d5 Kf8 20.Nxf7 Bxg3
21.Nxd8 Bxh2+ 22.Kh1 Rxd8 23.Qh3 Be5
24.dxe6 Rxd1 25.Bxd1 Bd6 26.Bf3 b5 27.cxb5
Bxb5 28.Qf5 Kg8 29.Rd1 Be5 30.Re1 Bc3
31.Rc1 Bd4 32.b4 Bxf2 33.bxc5 Be3 34.Rb1 Bc4
35.c6 Qd6 36.Rd1 Qe7 37.Re1 Bf2 38.Rc1 Bxe6
39.Qe5 Ne8 40.c7 Qh4+ 41.Qh2 Qd4 42.Rd1
Qc4 43.Qe5 Qh4+ 44.Qh2 Nxc7 45.Qxh4 Bxh4
46.Rb1 Bg3 47.Rb7 a6 48.a3 Bc4 49.Kg1 Nb5
50.a4 Nc3 51.a5 Kf8 52.Ra7 Ne2+ 53.Kh1 Nf4
54.Bb7 Bf2 55.Ra8+ Kf7 56.Kh2 Bf1 57.g3 Ne2
58.Bxa6 Bxg3+ 59.Kh1 Be5 60.Bc4+ Ke7
61.Ra7+ Kd6 62.Ra6+ Kc5 63.Re6 Bg2+
64.Kxg2 Nf4+ 65.Kf3 Nxe6 [Forfeit] 0-1

Virtual Chess - Ilya Gurevich (2535) [B42]
Sixth Harvard Cup December 27, 1995

1.e4 c5 2.Nf3 e6 3.d4 cxd4 4.Nxd4 a6 5.Bd3
Qb6 6.c3 Qc7 7.0-0 Nf6 8.Bg5 Be7 9.Nd2 d6
10.Rc1 0-0 11.a4 b6 12.Qf3 Bb7 13.Qg3 Nbd7
14.Bh6 Nh5 15.Qh3 Nh6 16.Qg3 Nh5 17.Qh3
Nh6 18.Qg3 1/2-1/2

MChess Pro - Michael Rohde (2585) [C03]
Sixth Harvard Cup December 27, 1995

1.e4 e6 2.d4 d5 3.Nd2 Be7 4.Ngf3 Nf6 5.e5
Nfd7 6.Bd3 c5 7.c3 Nc6 8.0-0 Qb6 9.Re1 g5
10.Nb3 c4 11.Bxg5 cxd3 12.Qxd3 Bxg5
13.Nxg5 h6 14.Qh3 Qd8 15.Nf3 b6 16.Qg3 Qe7

Volume 5, Number 3+4

17.a4 a5 18.Qf4 Ba6 19.Rad1 Nf8 20.Qe3 Ng6
 21.Nbd2 Nh4 22.Nxh4 Qxh4 23.Nf3 Qh5 24.b3
 Ne7 25.Kh1 Rg8 26.Rg1 Nf5 27.Qd2 Rg4
 28.Rc1 Nh4 29.Ne1 Re4 30.Rc2 Rc8 31.Qc1 Nf5
 32.h3 Re2 33.Qd1 Ng7 34.Nf3 Rxc2 35.Qxc2
 Qg6 36.Qd2 Kf8 37.Rd1 Kg8 38.Kg1 Kh7
 39.Nh2 Qg5 40.Qc2+ Qg6 41.Qd2 Rg8 42.Ng4
 Ne8 43.g3 h5 44.Ne3 Ng7 45.Ng2 Nf5 46.Nf4
 Qg5 47.Re1 Kh8 48.Kh2 Ne7 49.h4 Qg4
 50.Nxd5 Nf5 51.Nf6 Qf3 52.Nxg8 Kxg8 53.Rg1
 Kh7 54.b4 Nh6 55.b5 Ng4+ 56.Kh3 Bb7 57.Qf4
 Nxf2+ 58.Kh2 Ng4+ 59.Kh3 Nf2+ 60.Kh2
 Ng4+ 61.Kh3 Nf2+ 62.Kh2 1/2-1/2

CM 4000 Win95 - Patrick Wolff (2585)
 [B01]

Sixth Harvard Cup December 27, 1995

1.e4 d5 2.exd5 Qxd5 3.d4 Nf6 4.Nc3 Qa5
 5.Nf3 c6 6.Bd2 Qb6 7.Bd3 Bg4 8.Na4 Qc7 9.h3
 Bxf3 10.Qxf3 Nbd7 11.Nc3 e6 12.0-0-0 Bd6
 13.Kb1 0-0 14.Bg5 b5 15.Ne4 Be7 16.Rhe1 Rfe8
 17.Bf4 Qb6 18.Nd6 Rf8 19.c3 Qd8 20.Qxc6 Nd5
 21.Bg3 a6 22.a4 bxa4 23.Bxa6 Qa5 24.Bb5
 N7f6 25.Rc1 Bxd6 26.Bxd6 Rfc8 27.Qb7 Nb6
 28.Bd3 Nfd5 29.Bc5 a3 30.Bxb6 Nxb6 31.b4
 Qa4 32.Ka2 Nd5 33.Bb5 Qa7 34.Bc6 Nxc3+
 35.Rxc3 Qxd4 36.Rec1 Qxf2+ 37.R1c2 Qd4
 38.Bf3 1-0

FINAL RESULTS OF THE HARVARD CUP

Here are the final results of all nine rounds of
 the Sixth Harvard Cup Human Versus Computer
 Chess Challenge, concluded at the Manhattan
 Conference Center in New York.

ROUND 1:

Socrates 95 1/2-1/2 Patrick Wolff
 WChess 1/2-1/2 Boris Gulko
 Ilya Gurevich 0-1 CM 4000 for Windows 95
 Gregory Kaidanov 0-1 M-Chess Pro

ROUND 2:

Socrates 95 0-1 Ilya Gurevich
 Junior 0-1 Gregory Kaidanov
 WChess 0-1 Michael Rohde
 Joel Benjamin 0-1 CM 4000 for Windows 95

ROUND 3:

Gregory Kaidanov 0-1 WChess
 Patrick Wolff 1-0 Junior
 Boris Gulko 0-1 Virtual Chess
 M-Chess Pro 0-1 Ilya Gurevich

ROUND 4:

Ilya Gurevich 0-1 Junior
 Virtual Chess 1/2-1/2 Gregory Kaidanov
 Socrates 95 0-1 Joel Benjamin

CM 4000 for Windows 95 0-1 Michael Rohde

ROUND 5:

Michael Rohde 1-0 Socrates 95
 Joel Benjamin 1-0 M-Chess Pro
 WChess 0-1 Patrick Wolff
 CM 4000 for Windows 95 0-1 Boris Gulko

ROUND 6:

Michael Rohde 0-1 Virtual Chess
 Junior 0-1 Boris Gulko
 Joel Benjamin 1-0 WChess
 M-Chess Pro 1-0 Patrick Wolff

ROUND 7:

Boris Gulko 1/2-1/2 Socrates 95
 Virtual Chess 1/2-1/2 Ilya Gurevich
 CM 4000 Win 95 0-1 Gregory Kaidanov
 Michael Rohde 1-0 Junior

ROUND 8:

Patrick Wolff 1-0 Virtual Chess
 Boris Gulko 1-0 M-Chess Pro
 Junior 0-1 Joel Benjamin
 Ilya Gurevich 1-0 WChess

ROUND 9:

Gregory Kaidanov 1-0 Socrates 95
 M-Chess Pro 1/2-1/2 Michael Rohde
 Virtual Chess 1/2-1/2 Joel Benjamin
 Patrick Wolff 0-1 CM 4000 for Windows 95

FINAL SCORES AND PERFORMANCE RATINGS:

Joel Benjamin:	4.5	2694
Michael Rohde:	4.5	2656
Boris Gulko:	4.0	2597
Gregory Kaidanov:	3.5	2511
Patrick Wolff:	3.5	2510
Ilya Gurevich:	3.5	2508
Virtual Chess:	3.5	2644
CM 4000/Win 95:	3.0	2581
M-Chess Pro:	2.5	2514
WChess:	1.5	2358
Socrates 95:	1.0	2268
Junior:	1.0	2254

Overall total: Humans 23.5, Computers 12.5
 (35%)

HUMAN VS. COMPUTER MATCH IN FINLAND

by Eric Hallsworth

Emphasising that ONLY 5 games were played,
 so noting that the results are based on a low
 sample, nevertheless the Computer program
 gradings were:-

MChess Pro 5	2617
Genius 4	2537
Fritz 4	2297

Rebel 7 2297
King 2.42 2217

The time control was G/25, so one expects the Computers to grade at about/at least 80 Elo above their 40/2 tournament gradings. They were on Pentium (90 or 100) machines, so one expects *good* results. Therefore only the MCP5 figure would satisfy its programmer I should think; Genius4 'should' have got just over 2600. Rebel7 and Fritz4 are both well down on expectations.

I note that once more the overall level of 'my' Computer Rating List is going to end up adjusted *downwards* again from these results as the gradings are accumulated into all the others (many, many more than the 3 examples Chris Whittington quotes - though they are perfectly genuine ones, despite the fact that they are also very small samples). In fact there has been a slow but steady drop throughout the past 2 years, and I remain certain that, now so many players own PC's and a selection of the various programs, the human has greater awareness and ability for beating the programs in their serious meetings than ever before. This is despite the fact that the programs both keep improving, albeit it much more slowly nowadays compared to 3 or 4 years ago, and are also of course on much faster processors than they were then.

To give an example, the top PC program 2 years ago on my List was Genius2 on a 486 with 2465. 12 months ago Genius2 486 had dropped to 2436. Currently it stands at 2427, whilst the upgrade Genius3 486 is on 2454..... 11 less than we had for Genius2 two years ago! (when the 486 was also probably 33MHz rather than 66!). Sorry to pick on Genius - the same principle can be seen in most of the other programs as the programmers seem barely able to keep up with development of human skills in playing against them!

Now, as some folk are quick to point out, this is my livelihood!... so I hope there is a programmer out there with a *genuine* breakthrough coming out soon!

About the Author:

Eric was born in 1942. His education was in English grammar school and his early career was in insurance. He became a Christian in 1975 and went into the Ministry as a Pastor in both Baptist and Pentecostal churches. Eric's involvement with chess computers started in the early 1980's when he purchased a Fidelity Sensory 8 and then 9. His grading in the 1960's had been 1800 Elo, but he had stopped playing competitively in the late 1970's. The arrival of chess computers re-awakened his interest, he says.

Subsequently he started writing occasional articles on computer chess for one or two chess magazines in Britain, mainly seeking, at first, to

Computer Chess Reports

establish realistic gradings for them, as the advertising was way over-the-top. These proved reasonably popular so he started his own Computer Chess Magazine (then called the News Sheet) in 1985. It has been going ever since, with Issue 62 now available. Circulation is around 575-600 per Issue, including nearly 50 abroad, and the magazine (now called Selective Search) brings him a small income.

As well as his Christian ministry, though now as a local preacher rather than as Pastor, he also work with Countrywide Computers preparing advertising, giving help and advice (mostly in connection with the PC revolution), and selling (or trying to!) chess and bridge computers. Eric is also the current main opening book programmer for HIARCS.

HUMAN VS. COMPUTER ACTION CHess MATCH - FINLAND

by Jouni Uski

Here are results in human - computer match in Finland. Playing time was 25 + 25 min. and the result 13-12 for computers was almost according to SSDF list. Hope You enjoy the games. PCs were Pentium 90 and 100 machines.

ROUND 1

Yrjola - M-Chess 5 1/2
Manninen - Fritz 4 1/2
Norri - REBEL 7 0-1
Genius 4 - Tella 1-0
King 2.42 - Valkesalmi 0-1 2-3

ROUND 2

King 2.42 - Yrjola 1-0
M-Chess 5 - Manninen 1/2
Fritz 4 - Norri 0-1
REBEL 7 - Tella 1/2
Genius 4 - Valkesalmi 0-1 3-2

ROUND 3

Yrjola - Genius 4 0-1
Manninen - King 2.42 1/2
Norri - M-Chess 5 0-1
Tella - Fritz 4 1/2
Valkesalmi - REBEL 7 0-1 2-3

ROUND 4

REBEL 7 - Yrjola 1/2
Genius 4 - Manninen 1-0
King 2.42 - Norri 0-1
M-Chess 5 - Tella 1-0
Fritz 4 - Valkesalmi 1/2 2-3

ROUND 5

Yrjola - Fritz 4 1/2

Manninen - REBEL 7 1-0

Norri - Genius 4 1/2

Tella - King 2.42 1-0

Valkesalmi - M-Chess 5 0-1 3-2

FINAL RESULTS

Humans - PC Computers 12-13

Human Ratings:

1. IM Kimmo Valkesalmi	3.5
2. IM Marko Manninen	2.5
3. IM Joose Norri	2.5
4. FM Jussi Tella	2
5. IGM Jouni Yrjola	1.5

PC Computer Ratings

1. M-Chess Pro 5 (P/90)	4
2. ChessGenius 4 (P/100)	3.5
3. Fritz 4.0 (P/100)	2
4. REBEL 7 (P/90)	2
5. King 2.42 (P/100)	1.5

(King: no opening book)

The following are several games played at the Human vs. Machine Match in Finland

[Event "AL 96"]

[Site "Shakkikoti"]

[Date "1996.01.28"]

[Round "1"]

[White "Yrjola,Jouni"]

[Black "M-Chess 5"]

[Result "1/2-1/2"]

1. g3 d5 2. f4 g6 3. Bg2 Bg7 4. Nf3 Nf6 5. O-O b6 6. d3 Bb7 7. Qe1 c5 8. e4 dxe4 9. Ng5 Nc6 10. dxe4 h6 11. Nh3 Nd4 12. Na3 O-O 13. c3 Ne6 14. Qe2 Qd7 15. Nf2 Qa4 16. Re1 Ba6 17. Qc2 Qxc2 18. Nxc2 Rad8 19. Ne3 Bb7 20. e5 Nd5 21. Rd1 Nxe3 22. Bxe3 Bxg2 23. Kxg2 g5 24. Kf3 gxf4 25. gxf4 Nc7 26. Ke4 f5 + 27. Kf3 Kh7 28. Rxd8 Rxd8 29. Rd1 Rxd1 30. Nxd1 Kg6 31. Bd2 h5 32. Ne3 Bh6 33. Be1 e6 34. Bh4 Na6 35. Nc4 Nc7 36. Ne3 Na6 37. Bd8 Nb8 38. Nc4 Nc6 39. Bh4 Kg7 40. Nd6 Kf8 41. a3 Kg7 42. Nb7 Kf8 43. Nd6 Kg7 44. Bf2 Ne7 45. Nb5 Nd5 46. Be3 a6 47. Nd6 a5 48. c4 Ne7 49. Nb5 Kf8 50. Nc7 Kf7 51. Nb5 Kf8 52. Nc7 Kf7 53. Nb5 Kf8 54. Nc7 Kf7 1/2-1/2

[Event "AL96"]

[Site "Shakkikoti"]

[Date "1996.01.28"]

[Round "1"]

[White "Norri,Joose"]

[Black "REBEL 7"]

[Result "0-1"]

1. d4 Nf6 2. Nf3 c6 3. c3 d5 4. Bg5 Ne4 5. Bh4 Qb6 6. Qb3 Bf5 7. Nbd2 Nd7 8. e3 Nxd2 9. Nxd2 e5 10. Be2 Bd6 11. Bg3 O-O 12. O-O Rae8 13. Qxb6 Nxb6 14. a4 Nd7 15. Rfc1 Bg6 16.

Computer Chess Reports

Nf3 f5 17. dxe5 Nxe5 18. Nxe5 Bxe5 19. Bxe5 Rxe5 20. g3 Kf7 21. a5 Rfe8 22. Bf3 Kf6 23. Ra4 Bf7 24. Rb4 R5e7 25. Rd1 g5 26. Rc1 Ke5 27. Be2 h6 28. b3 Be6 29. a6 b6 30. Bf3 c5 31. Ra4 Bd7 32. Ra2 g4 33. Bg2 Rd8 34. b4 Bb5 35. bxc5 Bc4 36. Ra3 bxc5 37. Rb1 Bd3 38. Rb2 Rd6 39. Bf1 Bxf1 40. Kxf1 Ree6 41. Ra5 c4 42. Rbb5 Ke4 43. Ke2 Rxa6 44. Rxd5 Rxa5 45. Rxa5 Rb6 46. Ra2 Rb3 47. Kd2 Kf3 48. Kc2 Kxf2 49. Ra5 Kg1 50. Rxf5 Kxh2 0-1

[Event "AL 96"]

[Site "Shakkikoti"]

[Date "1996.01.28"]

[Round "1"]

[White "Manninen,Marko"]

[Black "Fritz 4"]

[Result "1/2-1/2"]

1. d4 d5 2. c3 e6 3. f4 Nf6 4. Nf3 Bd6 5. e3 O-O 6. Bd3 b6 7. O-O Ba6 8. Bxa6 Nxa6 9. Bd2 c5 10. Qe2 Nc7 11. Be1 Rc8 12. Bh4 Qe7 13. Ne5 Nce8 14. Nd2 Qb7 15. Rad1 a6 16. Rf3 Rc7 17. Rh3 b5 18. a3 Rc8 19. Rf1 Nd7 20. Nxd7 Qxd7 21. Qh5 f5 22. Nf3 g6 23. Qh6 Qg7 24. Qxg7 + Nxg7 25. Bg5 a5 26. Ne5 Rc7 27. Rhf3 cxd4 28. exd4 b4 29. axb4 axb4 30. Ra1 Rfc8 31. Bh4 bxc3 32. bxc3 Rb7 33. Kf1 Rb2 34. Rf2 Rb3 35. Rc2 Bxe5 36. fxe5 Rbxc3 37. Rxc3 Rxc3 38. Ra8 + Kf7 39. Ra7 + Kg8 40. Ra8 + Kf7 41. Ra7 + Kg8 42. Ra8 + 1/2-1/2

[Event "AL 96"]

[Site "Shakkikoti"]

[Date "1996.01.28"]

[Round "1"]

[White "ChessGenius 4"]

[Black "Tella,Jussi"]

[Result "1-0"]

1. d4 d5 2. c4 e6 3. Nc3 Nf6 4. Bg5 Be7 5. e3 O-O 6. Nf3 h6 7. Bh4 b6 8. Bd3 Bb7 9. O-O Nbd7 10. cxd5 exd5 11. Rc1 c5 12. Bf5 c4 13. Ne5 g6 14. Nxd7 Nxd7 15. Bxe7 Qxe7 16. Bc2 Nf6 17. Qf3 a6 18. Qf4 Kg7 19. b3 b5 20. bxc4 dxc4 21. Rfd1 b4 22. Na4 Nd5 23. Qg3 Bc6 24. Re1 Bxa4 25. Bxa4 Nc3 26. Bd1 Nxd1 27. Rxd1 c3 28. d5 a5 29. h4 a4 30. h5 Qf6 31. hxc6 fxc6 32. Rd4 Rab8 33. Rc4 Rb7 34. Rb1 b3 35. axb3 axb3 36. e4 b2 37. Qxc3 Qxc3 38. Rxc3 Ra8 39. Re3 Ra1 40. Ree1 Rxb1 41. Rxb1 Kf6 42. f3 Ke5 43. Kh2 Kd4 44. d6 Kc3 45. e5 Rd7 46. Re1 Kd2 47. e6 Kxe1 48. exd7 b1=Q 49. d8=Q Qf5 50. Qh4 + Kf1 51. Qc4 + Kf2 52. Qd4 + Kf1 53. Qd1 + Kf2 54. Qd2 + Kf1 55. d7 Qh5 + 56. Kg3 Qe5 + 57. f4 1-0

[Event "AL 96"]

[Site "Shakkikoti"]

[Date "1996.01.28"]

[Round "2"]

[White "King 2.42"]
[Black "Yrjola,Jouni"]
[Result "1-0"]

1. e4 g6 2. d4 Bg7 3. Nf3 d6 4. Nc3 c6 5. Be3 Nf6 6. Be2 O-O 7. O-O b5 8. a3 Nbd7 9. Qd2 Bb7 10. Bh6 Qc7 11. Rfd1 a6 12. Qg5 e5 13. Bxg7 Kxg7 14. dxe5 dxe5 15. Nh4 Kh8 16. Qe3 Qb6 17. Qxb6 Nxb6 18. Nf3 Rfe8 19. Rd6 Kg7 20. Rad1 Re7 21. Nd2 Ne8 22. Rd3 c5 23. b3 Rc8 24. Bg4 Rcc7 25. a4 Nf6 26. a5 Nc8 27. Be2 Rcd7 28. f3 Rxd3 29. Bxd3 Na7 30. Ne2 Nc6 31. c4 b4 32. Ra1 Rd7 33. Nc1 Ne8 34. Ra2 Nc7 35. Nf1 Ne6 36. Ne3 Nf4 37. Nd5 Nd4 38. Bf1 f5 39. Nxf4 exf4 40. exf5 gxf5 41. Nd3 Nxb3 42. Rb2 Nxa5 43. Nxc5 Re7 44. Rxb4 Bc8 45. Ra4 Nc6 46. Nxa6 Ra7 47. Nc5 Rxa4 48. Nxa4 Kf6 49. c5 Ke5 50. Nb6 Be6 51. Bb5 Na7 52. Bd7 h6 53. c6 Nb5 54. Kf2 Nc7 55. Ke2 Kd6 56. Nc8+ Ke5 57. Kd3 Bb3 58. Kc3 Bd1 59. Ne7 Be2 60. Nxf5 Bf1 61. g3 Nd5+ 62. Kd2 Kf6 63. Nxb6 1-0

[Event "AL 96"]
[Site "Shakkikoti"]
[Date "1996.01.28"]
[Round "2"]
[White "REBEL 7"]
[Black "Tella,Jussi"]
[Result "1/2-1/2"]

1. e4 c5 2. Nc3 Nc6 3. g3 d6 4. Bg2 g6 5. d3 Bg7 6. f4 Rb8 7. Nf3 b5 8. O-O Bg4 9. h3 Bxf3 10. Bxf3 Nd4 11. a3 e6 12. Bg2 Ne7 13. Be3 a5 14. Na2 O-O 15. c3 Ndc6 16. Qe2 b4 17. axb4 axb4 18. f5 exf5 19. exf5 gxf5 20. Rfe1 Qd7 21. Qd2 bxc3 22. bxc3 Ne5 23. Nc1 Kh8 24. Ne2 N7g6 25. Ra6 c4 26. Ra7 Qc8 27. d4 Nd3 28. Rea1 Rb2 29. Qd1 Qe6 30. Bd2 f4 31. Nxf4 Ngxf4 32. gxf4 Rg8 33. Ra8 Bf8 34. R1a5 h6 35. Rxf8 Rxf8 36. f5 Qf6 37. Qe2 Rg8 38. Ra8 Rxa8 39. Bxa8 Kh7 40. Qe3 Rb8 41. Bd5 Rg8+ 42. Kh2 Rc8 43. Bxc4 Rxc4 44. Qxd3 Rc8 45. Qe4 Rg8 46. Bf4 Qg7 47. f6+ Qg6 48. Qxg6+ Kxg6 49. Bxd6 Kxf6 50. c4 Ke6 51. Bc7 Kd7 52. Bf4 Rc8 53. c5 Rc6 54. Kg3 h5 55. Kh4 Ke6 56. Kxh5 Kf5 57. Be5 Rg6 58. h4 Ke4 59. Bh8 Kf5 60. Be5 f6 61. Bd6 Rg8 62. Kh6 Rh8+ 63. Kg7 Rxh4 64. d5 Ke4 65. Kxf6 Kxd5 66. Kf5 Rh8 67. Kf4 1/2-1/2

[Event "AL 96"]
[Site "Shakkikoti"]
[Date "1996.01.28"]
[Round "2"]
[White "ChessGenius 4"]
[Black "Valkesalmi,Kimmo"]
[Result "0-1"]

1. d4 d5 2. c4 e6 3. Nc3 c6 4. Nf3 f5 5. Bg5 Nf6 6. e3 Be7 7. Bd3 O-O 8. O-O Ne4 9. Bxe7 Qxe7 10. Rc1 Nd7 11. Qc2 Kh8 12. Ne2 Rf6 13.

Nf4 Rh6 14. cxd5 exd5 15. h3 g5 16. Ne2 g4 17. Nh2 gxh3 18. g3 Ndf6 19. Nf4 Bd7 20. Qb3 Be8 21. Qc2 Bf7 22. a3 Rg8 23. b4 a6 24. Rfe1 Nh5 25. Ne2 Rhg6 26. Nf1 R6g7 27. Nc3 Nhxg3 28. fxg3 Nxxg3 29. Nxxg3 Rxxg3+ 30. Kh1 Rg2 31. Qxxg2 hxxg2+ 32. Kg1 Qh4 33. Ne2 Bh5 0-1

[Event "AL 96"]
[Site "Shakkikoti"]
[Date "1996.01.28"]
[Round "3"]
[White "Manninen,Marko"]
[Black "King 2.42"]
[Result "1/2-1/2"]

1. d4 Nf6 2. c3 d5 3. Bg5 Bf5 4. Nd2 Nbd7 5. Qb3 Nb6 6. e3 h6 7. Bf4 g5 8. Be5 Bg7 9. Ne2 O-O 10. Ng3 Bg6 11. Be2 Qd7 12. O-O a5 13. f4 a4 14. Qd1 gxf4 15. exf4 e6 16. Nf3 a3 17. b3 Qc6 18. Rc1 Nbd7 19. c4 Qb6 20. c5 Qa5 21. Bd3 Ne4 22. Bxg7 Kxg7 23. Bxe4 dxe4 24. Ne5 Nxe5 25. fxe5 Rad8 26. Rc4 e3 27. Qe2 Qd2 28. Qxd2 exd2 29. Rd1 f6 30. exf6+ Rxf6 31. Rxd2 h5 32. Ra4 h4 33. Nf1 Rf4 34. g3 hxg3 35. hxg3 Rf3 36. Rf2 Rd3 37. Rf4 Be8 38. Rc4 Rd1 39. Rc2 R8xd4 40. Rxd4 Rxd4 41. Rd2 e5 42. Rxd4 exd4 43. Nd2 Bg6 44. Kf2 Kf6 45. Nc4 Bb1 46. Nxa3 Bxa2 47. Nb5 Ke5 48. Nxc7 Bxb3 49. Ke2 Ke4 50. Kd2 Bc4 51. g4 Ke5 52. g5 7 53. Nb5 Kd5 54. Nd6 Bg6 55. Nxb7 Bb1 56. Na5 Kxc5 57. Nb3+ Kd5 58. Nxd4 Kxd4 59. g6 Bd3 60. g7 Bh7 61. g8Q Bxg8 1/2-1/2

[Event "AL 96"]
[Site "Shakkikoti"]
[Date "1996.01.28"]
[Round "3"]
[White "Yrjola,Jouni"]
[Black "ChessGenius 4"]
[Result "0-1"]

1. g3 d5 2. f4 g6 3. Bg2 c6 4. Nf3 Qb6 5. e3 Bg7 6. Nc3 Nf6 7. O-O O-O 8. Qe1 Na6 9. d3 Nb4 10. Qe2 Bg4 11. a3 Na6 12. h3 Bf5 13. Kh2 Rad8 14. e4 dxe4 15. dxe4 Bc8 16. e5 Nd5 17. Ne4 Nc5 18. Nxc5 Qxc5 19. Ng5 h6 20. Ne4 Qd4 21. Rd1 Qa4 22. b3 Qa5 23. Bd2 Qb6 24. c4 Nc7 25. Bb4 Rxd1 26. Rxd1 Re8 27. Qf2 Bf5 28. Qxb6 axb6 29. a4 Ne6 30. Rd2 g5 31. Rf2 gxf4 32. gxf4 Nxf4 33. Nf6+ exf6 34. Rxf4 Rxe5 35. Bc3 Re3 36. Bd4 Rd3 37. Bf2 Bg6 38. Rf3 Bf8 39. Rxd3 Bxd3 40. Bxb6 Bc2 41. a5 Bxb3 42. c5 Bc4 43. Kg3 Bd3 44. Kf4 Kg7 45. Bf3 f5 46. Ke5 Kg6 47. h4 Be7 48. h5+ Kg5 49. Kd4 Be4 50. Be2 Bd5 51. Bc7 f4 52. Bd6 Bf6+ 53. Be5 Bxe5+ 54. Kxe5 Bg2 55. Kd6 f3 56. Bc4 f2 57. Kc7 f1=Q 58. Bxf1 Bxf1 59. Kxb7 Bb5 60. a6 Bxa6+ 61. Kxa6 f5 62. Kb6 f4 63. Kxc6 f3 0-1

[Event "AL 96"]

[Site "Shakkikoti"]
 [Date "1996.01.28"]
 [Round "3"]
 [White "Norri,Joose"]
 [Black "M-Chess 5"]
 [Result "0-1"]

1. d4 Nf6 2. c3 e6 3. Bg5 c5 4. e3 b6 5. Nf3 h6 6. Bh4 d5 7. Ne5 Bd6 8. Bb5+ Bd7 9. Nxd7 Nbx d7 10. Qf3 g5 11. Bg3 Bxg3 12. hxg3 a6 13. Bd3 c4 14. Bc2 b5 15. Nd2 b4 16. cxb4 Rb8 17. e4 Rxb4 18. e5 Ng8 19. b3 Qb6 20. Qc3 cxb3 21. Nxb3 Ne7 22. O-O Nc6 23. Rab1 Rc4 24. Qd2 Nxd4 25. Bd3 Nxb3 26. Rxb3 Qd4 27. Rd1 Rc8 28. Bxa6 Qxd2 29. Rxd2 Rc1+ 30. Kh2 O-O 31. Re3 Nc5 32. Bb5 Rb8 33. Rb2 d4 34. Ree2 d3 35. Red2 Rc2 0-1

[Event "AL 96"]
 [Site "Shakkikoti"]
 [Date "1996.01.28"]
 [Round "3"]
 [White "Valkesalmi,Kimmo"]
 [Black "REBEL 7"]
 [Result "1-0"]

1. c4 Nf6 2. g3 c6 3. Nf3 d5 4. b3 Bf5 5. Bg2 e6 6. O-O c5 7. cxd5 exd5 8. d4 Nc6 9. Nc3 Rc8 10. Bb2 b6 11. Re1 Ne4 12. dxc5 Nxc3 13. Bxc3 bxc5 14. e4 dxe4 15. Nh4 Be6 16. Bxe4 Nd4 17. Nf5 Nxf5 18. Bxf5 Qxd1 19. Raxd1 Ke7 20. Bxe6 fxe6 21. Re4 Rc7 22. Rde1 Rc6 23. Ra4 a6 24. Ree4 Kf7 25. Rf4+ Ke7 26. Ra5 Kd6 27. Rf7 Rg8 28. Ra7 Kd5 29. Ra8 h6 30. Rd8+ Rd6 31. Rc8 Rb6 32. Bxg7 Rxg7 33. Rxf8 Rc7 34. Rf6 Rh7 35. Kg2 Rc6 36. Ra4 Kd6 37. Rh4 h5 38. Rg6 Rc8 39. Re4 Re8 40. h4 Rf7 41. Rg5 Ref8 42. Re2 Rf5 43. Rg6 R8f6 44. Rxf6 Rxf6 45. Re4 Kd5 46. Ra4 e5 47. Kf1 e4 48. Ke2 Ke5 49. Rc4 Kd5 50. Rc2 Rf8 51. Rd2+ Ke6 52. Ke3 Ke5 53. Rd7 Rf3+ 54. Ke2 Rc3 55. Kd2 Rf3 56. Ke2 Rc3 57. Rh7 Kd4 58. Kd2 Rf3 59. Rd7+ Ke5 60. Ke1 Rf6 61. Rh7 Rf5 62. Rh6 a5 63. Ra6 a4 64. Rxa4 Rf6 65. Ke2 Kd5 66. Ra8 Kd4 67. Rh8 Ra6 68. Rd8+ Kc3 69. Rd2 c4 70. bxc4 e3 71. fxe3 Kxc4 72. Rd4+ Kc5 73. a4 Rg6 74. Kf3 Ra6 75. Rf4 Kd5 76. Rf5+ Kc4 77. Rxh5 Rxa4 78. Rg5 Ra6 1-0

[Event "AL 96"]
 [Site "Shakkikoti"]
 [Date "1996.01.28"]
 [Round "4"]
 [White "ChessGenius 4"]
 [Black "Manninen,Marko"]
 [Result "1-0"]

1. e4 e6 2. d4 d5 3. Nc3 Nf6 4. e5 Nfd7 5. f4 c5 6. Nf3 Nc6 7. Be3 cxd4 8. Nxd4 Qb6 9. Ncb5 a6 10. Nf5 Bc5 11. Nbd6+ Kf8 12. Qh5 Ndxe5 13. fxe5 Nxe5 14. Qg5 exf5 15. Bxc5 f6

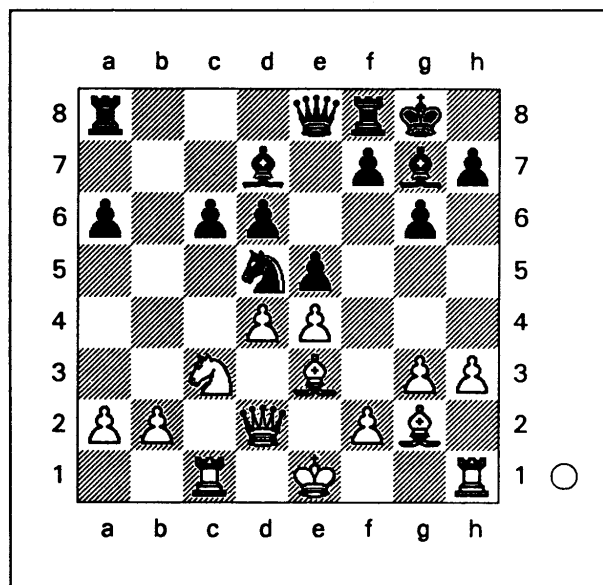
16. Nxf5+ Qxc5 17. Qxg7+ Ke8 18. Qxh8+ Kd7 19. O-O-O 1-0

[Event "AL 96"]
 [Site "Shakkikoti"]
 [Date "1996.01.28"]
 [Round "4"]
 [White "Fritz 4"]
 [Black "Valkesalmi,Kimmo"]
 [Result "1/2-1/2"]

1. d4 d5 2. c4 e6 3. cxd5 exd5 4. Nc3 c6 5. Bf4 Bd6 6. Bxd6 Qxd6 7. e3 Ne7 8. Qb3 Nd7 9. Be2 O-O 10. Nf3 Ng6 11. O-O Re8 12. Rac1 Nf6 13. Bd3 Re7 14. Bxg6 hxg6 15. Ne5 Ng4 16. Nf3 Nf6 17. Ne5 Ng4 18. Nf3 Nf6 1/2-1/2

[Event "AL96"]
 [Site "Shakkikoti"]
 [Date "1996.01.28"]
 [Round "5"]
 [White "Valkesalmi,Kimmo"]
 [Black "M-Chess 5"]
 [Result "0-1"]

1. c4 Nf6 2. g3 g6 3. Bg2 Bg7 4. Nc3 O-O 5. e4 d6 6. Nge2 e5 7. d3 Nc6 8. h3 Bd7 9. Be3 a6 10. Qd2 Qc8 11. Rc1 Ne7 12. Nd5 Nexd5 13. cxd5 c5 14. dxc6 bxc6 15. d4 Qe8 16. Nc3 Nd5



17. Nxd5 cxd5 18. dxe5 Qxe5 19. exd5 Bb5 20. b3 Rac8 21. a4 Rxc1+ 22. Qxc1 Bd3 23. f4 Qe7 24. Kf2 Rb8 25. Qd1 Bf5 26. Re1 Qc7 27. Bd4 Qc2+ 28. Kg1 Qxd1 29. Rxd1 Rxb3 30. Bxg7 Kxg7 31. g4 Bd7 32. Rd4 Ra3 33. Bf1 a5 34. Rc4 Bxa4 35. Rc8 Bb3 36. Bg2 Ra1+ 37. Kf2 Ra2+ 38. Kg3 Rd2 39. g5 a4 40. h4 a3 41. h5 gxh5 42. Be4 Rd4 43. Kf3 Bxd5 44. Bxd5 Rxd5 45. Ra8 Rd3+ 46. Ke4 Rb3 47. f5 h4 48. Kf4 h6 49. gxh6+ Kxh6 50. Ra6 Rc3 51. Rxd6+ Kh5 52. Rd8 Rc4+ 53. Ke5 h3 54. Kf6 Ra4 55. Rd1 Kg4 56. Kxf7 Kxf5 0-1

[Event "AL 96"]
 [Site "Shakkikoti"]
 [Date "1996.01.28"]
 [Round "5"]
 [White "Tella,Jussi"]
 [Black "King 2.42"]
 [Result "1-0"]

1. d4 Nf6 2. c4 d5 3. cxd5 e6 4. Nc3 exd5
 5. Bg5 Nbd7 6. e3 Bb4 7. Bd3 h6 8. Bh4 g5 9.
 Bg3 Bxc3+ 10. bxc3 h5 11. h4 g4 12. Ne2 Ne4
 13. Bxe4 dxe4 14. Qc2 Nf6 15. Be5 Be6 16.
 Bxf6 Qxf6 17. Qxe4 0-0-0 18. Qf4 Qg6 19. 0-0
 Bc4 20. Rfe1 Qc2 21. Ng3 Kb8 22. Rec1 Qg6
 23. a4 Bd3 24. c4 f6 25. c5 Rhe8 26. a5 Rd5
 27. Ra3 Bb5 28. Rb3 a6 29. c6 Qf7 30. cxb7
 Kxb7 31. Rbc3 Rc8 32. Ne4 f5 33. Nc5+ Ka8
 34. Nb3 Rd7 35. Nd2 Kb7 36. Nc4 Bxc4 37.
 Rxc4 Rd5 38. Rc5 Rxc5 39. Rxc5 Rf8 40. Qe5
 Qd7 41. d5 Qd6 42. Qxd6 cxd6 43. Rc6 Rf6 44.
 Kh2 Rh6 45. Kg3 Ka7 46. Kf4 g3 47. Kxg3
 Rg6+ 48. Kf3 Rg4 49. Rxd6 Rxh4 50. Rf6 Ra4
 51. Rf7+ Kb8 52. d6 Kc8 53. Rxf5 h4 54. Rh5
 Kd7 55. Rh7+ Kc6 56. e4 Rxa5 57. Rxh4 Kxd6
 58. Kf4 Ra2 59. f3 a5 60. g4 a4 61. Rh6+ Kc5
 62. Ke5 a3 63. f4 Rd2 64. Ra6 Kb4 65. g5 Rd8
 66. g6 Re8+ 67. Kf5 Rg8 68. Kf6 Rf8+ 69. Kg5
 Re8 1-0

[Event "AL 96"]
 [Site "Shakkikoti"]
 [Date "1996.01.28"]
 [Round "5"]
 [White "Norri,Joose"]
 [Black "ChessGenius 4"]
 [Result "1/2-1/2"]

1. e4 e5 2. Nf3 Nc6 3. Bc4 Nf6 4. d3 Be7 5.
 O-O O-O 6. a4 d5 7. exd5 Nxd5 8. Re1 Bf6 9.
 Nbd2 Bg4 10. h3 Bc8 11. Ne4 Be7 12. a5 a6 13.
 c3 b5 14. axb6 Nxb6 15. Bb3 Bf5 16. Qe2 Kh8
 17. Rd1 Qd7 18. Ng3 Be6 19. Bxe6 Qxe6 20. d4
 exd4 21. Qxe6 fxe6 22. Nxd4 Nxd4 23. Rxd4
 Bc5 24. Rf4 Rfd8 25. Be3 Nd5 26. Re4 Bxe3 27.
 fxe3 Rd6 28. Rc4 Rb6 29. b4 Nxe3 30. Rxc7
 Nd5 31. Rc5 g6 32. Ne4 Ra7 33. Rc8+ Kg7 34.
 Rf1 Re7 35. Rff8 e5 36. Rg8+ Kh6 37. h4 Nf6
 38. Nxf6 Rxf6 39. Rge8 Rxe8 40. Rxe8 Rc6 41.
 Rxe5 Rxc3 42. Ra5 Rc4 43. Rxa6 Rxb4 44. g3
 Kh5 45. Kg2 Kg4 46. Ra2 h5 1/2-1/2

3RD FRENCH COMPUTER CHESS CHAMPIONSHIP

by Joel Rivat

Championship has been held in Clichy last week-end, organized by Pierre Nolot. This year there was only five participants, and Pierre Nolot decided to use the commercial machine GK2100. In the first French Computer Chess Championship, all participants had the same machine. Unfortunately it seems difficult to obtain 6 or 8 machines for a week-end in France (incredible!).

In the second French Computer Chess Championship, two well known companies promised their help and failed...

For the 3rd French Computer Chess Championship, Pierre Nolot decided that participants should bring their own material. In fact most people came with a Pentium 90, with the exception of the commercial program Virtual Chess (Pentium 133) and ID (486dx50).

The atmosphere during this event was particularly nice and friendly, and people exchanged their ideas and experiences in chess programming. After the Championship the "computer team" played a match against a human team of the Chess Club of Clichy. Result: 2.5/2.5, a good result for the computers...

1. Virtua Chess	(Pentium 133)	5/5
2. Chess Guru	(Pentium 90)	4/5
3. GK 2100	(dedicated)	3/5
4. Capture	(Pentium 90)	2/5
5. Anmon	(Pentium 90)	1/5
6. ID	(486dx50)	0/5

[Event "3rd French Computer Chess Championship"]

[Site "Clichy"]
 [Date "1995.09.29"]
 [Round "1"]
 [White "Virtua Chess"]
 [Black "GK 2100"]
 [Result "1-0"]

1. d4 d5 2. Nf3 c6 3. c4 Nf6 4. Nc3 dxc4 5.
 a4 Bf5 6. e3 e6 7. Bxc4 Bb4 8. O-O O-O 9. Qe2
 Nbd7 10. e4 Bg6 11. Bd3 Bh5 12. Bf4 Qb6 13.
 e5 Nd5 14. Nxd5 cxd5 15. Bxh7+ Kxh7 16.
 Ng5+ Kg6 17. g4 Bxg4 18. Qxg4 f5 19. Qg2
 Rfe8 20. a5 Bxa5 21. Nxe6+ Kf7 22. Nxg7 Re7
 23. Nxf5 Bb4 24. Qxd5+ Ke8 25. Nd6+ Bxd6
 26. Qg8+ Nf8 27. exd6 Re6 28. Rfe1 Qxd6 29.
 Bxd6 Kd7 30. Bxf8 Rae8 31. Qf7+ R8e7 32.

Bxe7 Rxe1+ 33. Rxe1 a6 34. Bd8+ Kc6 35.
Rc1+ Kb5 36. Qc4# 1-0

[Event "3rd French Computer Chess
Championship"]

[Site "Clichy"]

[Date "1995.09.30"]

[Round "2"]

[White "Capture"]

[Black "Virtua Chess"]

[Result "0-1"]

1. e4 e5 2. Bc4 Nf6 3. d3 c6 4. Bb3 d5 5.
Nf3 Bd6 6. O-O O-O 7. Bg5 dxe4 8. dxe4 Na6 9.
Nbd2 b5 10. c4 b4 11. Ba4 Bb7 12. Nb3 Rc8 13.
Qd3 h6 14. Bh4 Bc7 15. Qe3 Bb6 16. c5 Bc7
17. Qc1 Nb8 18. Rd1 Qe7 19. Qc4 a5 20. Qe2
Nbd7 21. Qe3 Qe6 22. a3 bxa3 23. Rxa3 Ra8
24. Nbd2 Rfb8 25. Bb3 Qe7 26. Rc1 Ba6 27.
Ra2 Rb4 28. Rc3 Rab8 29. h3 Bb5 30. Rc1 Nf8
31. Bg3 Ng6 32. Nh4 Nf4 33. Nf5 Qe8 34. Bxf4
exf4 35. Qc3 Rd8 36. Nd6 Bxd6 37. cxd6 Nxe4
38. Nxe4 Rxe4 39. Rd1 a4 40. Bc2 Re6 41. Qb4
f3 42. Bf5 fxg2 43. Kxg2 c5 44. Qxc5 Qc6+ 45.
Qxc6 Bxc6+ 46. Kg3 Rf6 47. Bg4 Rfxd6 48.
Rc1 Rg6 49. Rc5 Rd5 50. Rxc6 Rxc6 51. Rxa4
Rb6 52. b4 Rdb5 53. Kg2 Rxb4 54. Ra8+ Rb8
55. Ra7 R4b7 56. Ra2 g6 57. Bf3 Rb2 58. Bd5
Rxa2 59. Bxa2 Kg7 60. Bc4 Kf6 61. Bd5 Rd8 62.
Bc4 g5 63. Ba2 Rd7 64. Bc4 Ke5 65. Bb5 Ra7
66. Bc4 Kf4 67. Be2 f5 68. Bh5 g4 69. hxg4
fxg4 70. Be8 Ra5 71. Bc6 h5 72. Be8 h4 73. Bf7
Ra1 74. Bc4 h3+ 75. Kh2 Kf3 76. Be6 Rf1 77.
Bd5+ Kf4 78. Bc4 Rxf2+ 79. Kh1 Kg3 80. Kg1
h2+ 81. Kh1 Rg2 82. Ba2 Rg1# 0-1

[Event "3rd French Computer Chess
Championship"]

[Site "Clichy"]

[Date "1995.09.30"]

[Round "2"]

[White "GK 2100"]

[Black "ID"]

[Result "1-0"]

1. Nf3 d5 2. d4 Nc6 3. c4 e6 4. e3 Nf6 5.
cxd5 exd5 6. Bb5 Bf5 7. Ne5 Qd6 8. O-O Nd7 9.
Nxc6 bxc6 10. Bd3 Bxd3 11. Qxd3 Qg6 12. Qa6
Bd6 13. g3 Be7 14. Qb7 O-O 15. Qxc7 h5 16.
Qxd7 Qe6 17. Qc7 Rfc8 18. Qf4 g5 19. Qf3 g4
20. Qg2 Qg6 21. Nc3 Qd3 22. f3 Rab8 23. fxg4
hxg4 24. Rd1 Qc4 25. Qf2 Bb4 26. Rf1 Rf8 27.
Qf5 Bxc3 28. Qxg4+ Kh8 29. Rf5 1-0

[Event "3rd French Computer Chess
Championship"]

[Site "Clichy"]

[Date "1995.09.30"]

[Round "3"]

[White "Chess Guru"]

[Black "Virtua Chess"]

Computer Chess Reports

[Result "0-1"]

1. e4 e5 2. Bc4 Nf6 3. d3 c6 4. Nf3 d5 5.
Bb3 Bd6 6. Nc3 dxe4 7. dxe4 Na6 8. Be3 Qe7 9.
Nd2 Bc5 10. Qe2 Bxe3 11. Qxe3 Be6 12. Bxe6
Qxe6 13. O-O-O O-O 14. f4 exf4 15. Qxf4 b5
16. Kb1 Rfe8 17. a3 b4 18. axb4 Nxb4 19. h4
a5 20. Qg5 a4 21. Qc5 Reb8 22. Qc4 a3 23. b3
Qg4 24. Rdg1 Qf4 25. Nf3 Nfd5 26. Ne2 Qf6
27. Qd4 Qxd4 28. Nfxd4 Ne3 29. c3 c5 30.
cxb4 cxd4 31. Nxd4 Rxb4 32. Rh3 Ng4 33. Rg3
Rxd4 34. Rxg4 Rd3 35. Ka2 Rd2+ 36. Ka1 Rc8
37. Kb1 Rb2+ 38. Ka1 Rcc2 39. Rxg7+ Kxg7
40. g4 Ra2+ 41. Kb1 Rcb2+ 42. Kc1 Ra1# 0-1

[Event "3rd French Computer Chess
Championship"]

[Site "Clichy"]

[Date "1995.10.01"]

[Round "4"]

[White "Virtua Chess"]

[Black "Anmon"]

[Result "1-0"]

1. e4 c5 2. Nf3 Nc6 3. d4 cxd4 4. Nxd4 Nf6
5. Nc3 e5 6. Ndb5 d6 7. Bg5 a6 8. Na3 b5 9.
Nd5 Be7 10. Bxf6 Bxf6 11. Nb1 Bg5 12. a3 O-O
13. Nbc3 Be6 14. Bd3 Nd4 15. O-O Qa5 16. Ne2
Bg4 17. c3 Nxe2+ 18. Bxe2 Bd7 19. Bg4 Bc6
20. Bf5 g6 21. Bg4 h5 22. Bh3 Kg7 23. Qd3
Rad8 24. b4 Qa4 25. Nb6 Qb3 26. Rfb1 Bxe4
27. Qxe4 Qxc3 28. Nd5 Qc6 29. Ra2 f5 30. Rc2
Qb7 31. Qd3 Rc8 32. Rd1 Rxc2 33. Qxc2 Rc8
34. Qb1 Qc6 35. Bxf5 gxf5 36. Qxf5 Kh6 37. f4
exf4 38. h4 Bd8 39. Nxf4 d5 40. Qf8+ Kh7 41.
Qf7+ Kh8 42. Ng6+ Qxg6 43. Qxg6 Rc7 44.
Rxd5 Rc1+ 45. Kh2 Bc7+ 46. g3 1-0

[Event "3rd French Computer Chess
Championship"]

[Site "Clichy"]

[Date "1995.10.01"]

[Round "4"]

[White "ID"]

[Black "Capture"]

[Result "0-1"]

1. e4 d5 2. exd5 Qxd5 3. Nc3 Qa5 4. d4 Nf6
5. Nf3 c6 6. Bc4 Bf5 7. Ne5 e6 8. Bd2 Qb6 9.
Bc1 Qa5 10. g4 Bg6 11. O-O Bd6 12. Bf4 Qc7
13. Qe2 O-O 14. Nxg6 hxg6 15. Bxd6 Qxd6 16.
g5 Nh5 17. Qe3 Qf4 18. Rac1 Qh4 19. f4 Nd7
20. Be2 a5 21. Ne4 Nb6 22. c4 Rfd8 23. Nc5
Ra7 24. a4 Nc8 25. Ne4 Ra8 26. c5 Ne7 27.
Bxh5 Nf5 28. Qb3 gxh5 29. Nd6 Nxd4 30. Qc4
Nf5 31. Nxf5 exf5 0-1

[Event "3rd French Computer Chess
Championship"]

[Site "Clichy"]

[Date "1995.10.01"]

[Round "5"]

Volume 5, Number 3+4

[White "Anmon"]
 [Black "GK 2100"]
 [Result "0-1"]

1. c4 e6 2. Nf3 Bb4 3. a3 Be7 4. Nc3 d5 5. d4 Nf6 6. Qc2 O-O 7. e3 b6 8. cxd5 exd5 9. Bd3 c5 10. dxc5 bxc5 11. O-O Re8 12. b3 Bb7 13. Rd1 Nbd7 14. Ne2 Rb8 15. Bb2 Bd6 16. b4 Qe7 17. bxc5 Bxc5 18. Bf5 g6 19. Bh3 Ne4 20. Bxd7 Qxd7 21. Ng5 Bd6 22. Nxe4 Rxe4 23. Bd4 a5 24. a4 Rc8 25. Qb3 Ba6 26. Nc3 Rh4 27. f4 Bc4 28. Nxd5 Qh3 29. gxh3 Bxb3 30. Nf6+ Kf8 31. Nd7+ Ke7 32. Bf6+ Kxd7 33. Bxh4 Bxd1 34. Rxd1 Rc4 35. Be1 Rxa4 36. Kf2 Ke6 37. Kf3 f5 38. Rb1 Bb4 39. Bxb4 axb4 40. Rb2 Kd6 41. Rd2+ Kc6 42. Rc2+ Kd7 43. h4 b3 44. Rc3 Rb4 45. Rc1 b2 46. Rd1+ Ke6 47. Rb1 Kd5 48. h3 Kc4 49. h5 Kd3 50. hxg6 hxg6 51. Rd1+ Kc3 52. Rb1 Ra4 53. Rxb2 Kxb2 54. Kg3 Kc3 55. Kh4 Kd3 56. Kg5 Kxe3 57. Kxg6 Kxf4 58. Kh6 Ra6+ 59. Kg7 Kg3 0-1

[Event "3rd French Computer Chess Championship"]

[Site "Clichy"]

[Date "1995.10.01"]

[Round "5"]

[White "Capture"]

[Black "Chess Guru"]

[Result "0-1"]

1. e4 c5 2. Nf3 d6 3. d4 cxd4 4. Nxd4 Nf6 5. Nc3 a6 6. h3 e5 7. Nb3 Be6 8. Bg5 Be7 9. Bxf6 Bxf6 10. Nd5 Nd7 11. Be2 O-O 12. O-O Rc8 13. c3 Bg5 14. Bg4 Bh6 15. Bxe6 fxe6 16. Nb4 Nf6 17. Qe2 Qb6 18. Nc2 a5 19. Rab1 a4 20. Nba1 Rfe8 21. Kh2 d5 22. exd5 exd5 23. g3 Ne4 24. Ne3 Qg6 25. Rbe1 Bxe3 26. Qxe3 a3 27. Qd3 Qe6 28. Qe2 axb2 29. Qxb2 Qa6 30. f3 Nxc3 31. Rf2 Qc6 32. Qb3 Kh8 33. Nc2 Qc5 34. Rd2 Qc7 35. Rc1 Rf8 36. Ne1 d4 37. Rb2 b5 38. Qe6 Rce8 39. Qb3 Qc4 40. Qc2 Kg8 41. a3 Qd5 42. Qd3 Rc8 43. Ra1 g6 44. Kg2 Ra8 45. Nc2 Rad8 46. Nb4 Qc5 47. Rc2 Ra8 48. Rcc1 Rf7 49. Re1 Raf8 50. Rf1 Re8 51. Rfc1 Ref8 52. Rf1 Rf5 53. Rac1 Ra8 54. Ra1 Rff8 55. Rfc1 Rac8 56. Re1 Rce8 57. Qc2 Qc4 58. Rac1 Rf6 59. Qd2 Rff8 60. Qc2 Qf7 61. Qd3 Qb3 62. Nd5 Qxd5 63. Rxc3 Rc8 64. Rcc1 Rc4 65. Rf1 Rfc8 66. Qb3 d3 67. Rf2 Rf8 68. Rxc4 bxc4 69. Qb4 Rc8 70. Qc3 Rb8 71. a4 Qd4 72. Qc1 c3 73. Qa3 d2 74. Qa1 d1=Q 75. Qa2+ 0-1

ABOUT THE AUTHOR:

Joel Rivat lives in France. He has a Ph.D. in Pure Math and his current occupation is dealing with research in number theory. His computer background includes chess programming and algorithmic number theory. Joel has an ELO (France) rating of 1800-2000

13TH WORLD MICROCOMPUTER CHES CHAMPIONSHIP

by Larry Kaufman

The 1995 World Micro was held in Paderborn Germany in October. Thirty-four programs participated, of which eight ran on RISC-based machines, with the rest all running on Pentium computers. All the Pentiums ran at 120 MHz except for three (Genius, Virtual Chess, HiarcS) which ran at 133. At the end of the 11 round event, favorites Chess Genius and MChess Pro 5.0 were tied for 1st with 8 points, thus sharing the title of "Best Professional Program" with MChess winning the one game playoff in 77 moves to take the title of "Absolute Microcomputer Chess Champion". In order of tie-breaks, third through fifth at 7.5 were Ferret (U.S.A.), Nimzo 3.0 (Austria), and Virtual Chess (France). Ferret was awarded the Amateur Championship. Sixth through ninth at 7 were Quest (Holland) (presumably some version of Fritz), Dark Thought (Germany), The King (Holland), and HiarcS (England). At 6.5 we find the Dutch program Kallisto, the Danish Gandalf, and the Israeli Junior. Next at 6 were three German programs, Schredder, Bobby II, and XXXX (I wonder how they pronounce that?). Then three more German entrants at 5.5, Schach 3.0, Isichess 2.0, and Amy II. At 5 points were the German Cheiron and Mephisto Montreux, then the Russian Dragon and Centaur-M, the German Comet and Alpha I, and the American Stobor. Next at 4.5 were the English ChessSystem Tal, the Spanish Zeus, and the Russian Mirage. At 4 points came the German Diogenes 2.0 and Gromit, at 3.5 the German Nightmare and Breakthrough, and at 3 the English Francesca. Last place was the Swiss Ananse 2.0, which scored no points at all.

The playoff game was an exciting one, with Genius opting for the recently revived Center Counter (as played by Anand in his title match with Kasparov) and reaching a position with some attacking prospects as compensation for the bishop pair. Genius chose to sacrifice a bishop for three pawns and more active pieces but mishandled the resultant ending.

Most of the strong programs and programmers were represented, with only Rebel 7 (Schroder) absent among the top rated. Of course with such a large field there were also

some not so strong entrants, but that doesn't matter very much in a Swiss system event.

This year a World Speed-Chess Championship was also held. The format was that the top ten programs from qualifying tournaments played against ten human opponents most of whom would be considered strong Masters or Senior Masters in the U.S. The top five computers won so overwhelmingly (48.5 - 1.5 !!!) that the event was nearly useless for determining the best program! Nimzo 3 and The King each scored a perfect 10 out of 10, while Chess Genius, Ferret, and Isichess 2.0 each scored 9.5. Virtual Chess was next, then Kallisto with 7.5, Shredder with 6, Bobby II with 5, and Zeus with 4.5. The King won a playoff match from Nimzo 3 to take the Speed title. The King program is presumably similar to the one in the Tasc R30 v. 2.5 and to the one that will be in Chessmaster 5000. The results of the top five programs show once again that in speed-chess the best micros are on a par with the world's leading grandmasters, since the results of those fifty games work out to a performance rating of about 2850 FIDE, higher than any human rating in history. However I'm not sure whether the human players got to play on real chess boards or were required to play off monitors, as was the case when Fritz 3 took second place last year in a blitz tournament in which most of the world's top grandmasters played. In my opinion this factor makes quite a difference.

SELECTED GAMES **FROM THE WORLD** **MICROCOMPUTER** **CHAMPIONSHIPS**

The following are selected games played in the 13th World Microcomputer Chess Championship, held in Paderborn, Germany.

Note: The Quest program is actually the current unreleased version of Fritz at the time of the tournament.

MChess Pro 5.0 - Amy II

13th WMCC (1)

1.e4 c6 2.d4 d5 3.Nd2 dxe4 4.Nxe4 Bf5 5.Ng3 Bg6 6.Nf3 Nd7 7.h4 h6 8.h5 Bh7 9.Bd3 Bxd3 10.Qxd3 Ngf6 11.Bf4 Qa5+ 12.Bd2 Qc7 13.0-0-0 e6 14.Ne4 0-0-0 15.g3 Nc5 16.Nxc5 Bxc5 17.c4 Rhe8 18.Bc3 Bb6 19.Kb1 e5 20.Qf5+ Qd7 21.Qxd7+ Nxd7 22.Rhe1 exd4 23.Rxe8 Rxe8 24.Nxd4 g6 25.b4 Nf6 26.hxg6 fxg6 27.Kc2 c5 28.bxc5 Bxc5 29.Nb3 Be7

Computer Chess Reports

30.Re1 Bf8 31.Rxe8+ Nxe8 32.Kd3 Nc7 33.Bd4 a6 34.Nc5 Bxc5 35.Bxc5 Kd7 36.Be3 h5 37.Kd4 Ke6 38.Kc5 Na8 39.f3 Kf5 40.Kd6 g5 41.Bf2 h4 42.gxh4 gxh4 43.Bxh4 Nb6 44.c5 Na4 45.Bg3 Kg5 46.Be5 Kf5 47.Bd4 Kf4 48.Kc7 a5 49.Kxb7 Nxc5+ 50.Bxc5 a4 1-0

Comet - Virtual Chess

13th WMCC (1)

1.e4 e5 2.Nf3 Nc6 3.Bc4 Bc5 4.b4 Bxb4 5.c3 Ba5 6.d4 d6 7.Qb3 Qd7 8.dxe5 Bb6 9.Nbd2 Na5 10.Qc2 Nxc4 11.Nxc4 d5 12.exd5 Qxd5 13.Qa4+ Bd7 14.Nxb6 cxb6 15.Qd4 Qxd4 16.cxd4 Ne7 17.0-0 0-0 18.Re1 Nd5 19.Bd2 Rfc8 20.Rec1 Bf5 21.h3 b5 22.Rc5 Rxc5 23.dxc5 Re8 24.a3 Bd3 25.Re1 h6 26.Nd4 Rc8 27.e6 fxex6 28.Nxe6 Bc4 29.f4 g6 30.Re5 Nf6 31.Nd4 Rd8 32.Be3 Nd5 33.Ne6 Rd7 34.Bf2 b4 35.axb4 Nxb4 36.Re4 Rd1+ 37.Kh2 Bxe6 38.Rxe6 Kf7 39.Re2 Kf6 40.Bh4+ g5 41.fxg5+ hxg5 42.Bf2 Nc6 43.h4 gxh4 44.Bxh4+ Kf5 45.Rb2 Rd7 46.Kh3 Ke4 47.g4 Rh7 48.Rf2 Nd4 49.Kg3 Kd5 50.Bf6 Kxc5 51.g5 Ne6 52.Kg4 Rh1 53.g6 Rg1+ 54.Kf5 b6 55.Kxe6 Rxg6 56.Kd7 Rh6 57.Rf5+ Kc4 58.Kc6 Rh7 59.Rf4+ Kd3 60.Be5 Kc2 61.Rc4+ 1/2-1/2

Nightmare - Hiarc X

13th WMCC (1)

1.b3 d5 2.Bb2 c5 3.e3 Nc6 4.Bb5 Qc7 5.f4 a6 6.Bxc6+ Qxc6 7.Nf3 Nf6 8.0-0 g6 9.d3 Bg7 10.Nbd2 0-0 11.Qe1 b5 12.Qh4 Ng4 13.Bxg7 Kxg7 14.e4 Qf6 15.Qxf6+ Nxf6 16.c4 dxc4 17.bxc4 Bg4 18.Ne5 Rfc8 19.a4 b4 20.Rae1 Bd7 21.Nxd7 Nxd7 22.Nf3 Rab8 23.Kf2 b3 24.Rb1 b2 25.Kg3 Rb3 26.Rf2 Rcb8 27.Re2 R8b4 28.a5 Nb8 29.Ne5 f6 30.Nf3 Nc6 31.f5 Nxa5 32.Rd2 Nc6 33.fxg6 hxg6 34.Rdd1 a5 35.Kf2 a4 36.d4 a3 37.Nd2 cxd4 38.Nxb3 Rxb3 39.Kf1 a2 40.Ke2 Nb4 41.c5 Nc2 42.Kf2 axb1Q 43.Rxb1 Na3 44.Rd1 Rc3 45.h3 b1Q 46.Rxb1 Nxb1 47.e5 d3 48.exf6+ exf6 49.c6 d2 50.c7 d1Q 51.c8Q Rxc8 52.h4 Qd4+ 53.Ke2 Rc3 54.Kf1 Rc2 55.g4 Qd1+ 0-1

Mephisto - MChess Pro 5.0

13th WMCC (2)

1.d4 Nf6 2.c4 c5 3.d5 b5 4.cxb5 a6 5.Nc3 axb5 6.e4 b4 7.Nb5 d6 8.Bc4 g6 9.Bf4 Bg7 10.e5 dxe5 11.Bxe5 0-0 12.Nc7 Nbd7 13.Bxf6 Qxc7 14.Bxg7 Kxg7 15.Nf3 Nb6 16.Qe2 Nxc4 17.Qxc4 Ba6 18.0-0-0 Bb7 19.Rhe1 Rxa2 20.Kb1 Qa5 21.Rd3 Ba6 22.Rde3 Kg8 23.Ra3 Rxa3 24.bxa3 Qxa3 25.Re2 Qa2+ 26.Kc1 Qb2+ 27.Kd1 0-1

Chess Genius - Ferret

13th WMCC (2)

1.c4 Nf6 2.Nf3 e6 3.g3 d5 4.Bg2 Be7 5.0-0
 0-0 6.d4 dxc4 7.Qc2 a6 8.Qxc4 b5 9.Qc2 Bb7
 10.Bd2 Nc6 11.e3 Ra7 12.Rc1 Qa8 13.Ne1 Nb8
 14.Ba5 Rc8 15.Bb6 Bxg2 16.Nxg2 Rb7 17.Bc5
 Bxc5 18.Qxc5 Nbd7 19.Qc6 Qa7 20.Nd2 Rb6
 21.Qf3 c5 22.dxc5 Rxc5 23.Rxc5 Nxc5 24.Rc1
 Rb8 25.Ne1 Rd8 26.Qc6 Nb7 27.Nef3 h6 28.Ne4
 Nxe4 29.Qxe4 Nd6 30.Qb4 Nc4 31.Nd4 Qd7
 32.a4 Nd6 33.Nc6 Rc8 34.Qc5 bxa4 35.Kg2 Kh8
 36.Rc2 Nb5 37.Qb6 Qd5+ 38.f3 a3 39.bxa3
 Qd3 40.Rc5 Qe2+ 41.Kg1 Qxe3+ 42.Kg2
 Qe2+ 43.Kg1 Qxf3 44.a4 Nc3 45.Nd4 Ne2+
 46.Nxe2 Qe3+ 47.Kf1 Rxc5 48.Qxa6 Rf5+
 49.Ke1 Re5 50.g4 Qg1+ 51.Kd2 Qxg4
 52.Qc8+ Kh7 53.Qc2+ g6 54.Nc3 Qf4+
 55.Kd1 Qf1+ 56.Kd2 Qf4+ 57.Kd1 Qf1+
 58.Kd2 Rh5 59.Qe4 Rxh2+ 60.Ne2 Qf5 61.Qxf5
 gxf5 62.a5 f4 63.Kd3 e5 64.Nc3 f3 65.Ke3 f5
 66.Nd1 e4 67.Nf2 f4+ 68.Kxe4 Rxf2 69.Kxf4 h5
 70.a6 Ra2 71.Kxf3 0-1

Virtual Chess - The King
 13th WMCC (2)

1.d4 e6 2.c4 Nf6 3.Nc3 c5 4.Nf3 cxd4
 5.Nxd4 Nc6 6.Ndb5 d5 7.Bf4 e5 8.cxd5 exf4
 9.dxc6 bxc6 10.Qxd8+ Kxd8 11.Rd1+ Bd7
 12.Nd6 Rb8 13.Nxf7+ Ke8 14.Nxh8 Rxb2
 15.Rd4 Bb4 16.Rxb4 Rxb4 17.g3 Kf8 18.gxf4
 Rxf4 19.e3 Rh4 20.Bd3 Be8 21.f3 Kg8 22.Ng6
 Bxg6 23.Bxg6 hxg6 24.e4 g5 25.0-0 Kf7 26.Kg2
 Ke6 27.h3 Nh5 28.Ne2 Nf4+ 29.Nxf4+ gxf4
 30.Rc1 Kd6 31.Rd1+ Ke6 32.Rd4 Rh5 33.Rc4
 Kd6 34.Ra4 Rg5+ 35.Kf2 a5 36.h4 Rb5 37.Kg2
 c5 38.Kh3 Rb1 39.Kg4 Ke5 40.Rxa5 Rg1+
 41.Kh5 Kd4 42.Ra7 c4 43.Rc7 Rg3 44.Rd7+
 Ke3 45.e5 Kxf3 46.e6 Ke2 47.Rc7 Re3 48.Rxc4
 f3 49.Rc2+ Ke1 50.Rc1+ Kd2 51.Rb1 Rxe6
 52.Kg4 f2 53.Kg3 Rb6 54.Rxb6 f1Q 55.Rb3 g6
 56.Rf3 Qe1+ 57.Kh3 Ke2 58.Rf4 Qh1+ 59.Kg3
 Qg1+ 60.Kh3 Ke3 61.Rf8 Qh1+ 62.Kg3 Qd5
 63.Rf1 Qxa2 64.Rf3+ Kd4 65.Rf4+ Ke5 66.Rf2
 Qb3+ 67.Rf3 Qb6 68.Rf7 Qg1+ 69.Kh3 Qh1+
 70.Kg3 Qe1+ 71.Kg4 Ke6 72.Rf8 Qg1+ 73.Kh3
 Qc5 74.Rf3 Qe5 75.Kg4 Qe2 76.Kg3 Kd5 77.Rf4
 Qe3+ 78.Kg4 Kc5 79.Rf8 Qe7 80.Rf4 Qe5
 81.Kf3 Kd5 82.Kg4 Qe3 83.Rf8 Qe7 84.Rf4 Ke5
 85.Rf2 Qd7+ 86.Kg3 Qd3+ 87.Rf3 Qd4 88.Rf7
 Qe3+ 89.Kg4 Qd2 90.Kg3 g5 91.hxg5 Qxg5+
 92.Kf2 Qh4+ 93.Kg2 Qe4+ 94.Rf3 Kd4 95.Kg3
 Kd5 96.Rf4 Qe5 97.Kg4 Ke6 98.Rf3 Qe4+
 99.Rf4 Qg2+ 100.Kh4 Ke5 101.Rf8 Qg6
 102.Rf2 Ke4 103.Rf1 Ke3 104.Kh3 Qg5 0-1

Amy II - Virtual Chess
 13th WMCC (3)

1.d4 d5 2.c4 c6 3.Nf3 Nf6 4.Nc3 dxc4 5.a4
 Bf5 6.e3 e6 7.Bxc4 Bb4 8.0-0 Nbd7 9.Nh4 Bg6
 10.Qb3 a5 11.g3 Qb6 12.Nxg6 hxg6 13.Rd1 0-0
 0-0 14.Bf1 Rh5 15.Bg2 Rdh8 16.h3 g5 17.e4 g4

18.h4 Nh7 19.Be3 Nhf6 20.Bc1 Nh7 21.Be3
 Nhf6 22.Bc1 Nh7 23.Be3 1/2-1/2

MChess Pro 5.0 - Gandalf
 13th WMCC (3)

1.e4 e5 2.Bc4 Nc6 3.Nc3 Nf6 4.d3 Na5
 5.Nge2 Nxc4 6.dxc4 Bc5 7.Ng3 d6 8.Na4 Bb6
 9.Nxb6 axb6 10.b3 0-0 11.a4 Be6 12.Bg5 h6
 13.Bd2 Qd7 14.f3 Ra6 15.0-0 Qc6 16.Bb4 Rfa8
 17.Qd2 Kh8 18.Rfd1 R6a7 19.Nf1 Kh7 20.Ne3
 Qe8 21.Kh1 Qc8 22.Qf2 g6 23.Bd2 Ng8 24.Qe1
 Qd8 25.Nd5 f5 26.f4 c6 27.exf5 Bxf5 28.Ne3
 Be4 29.fxe5 dxe5 30.Bc3 Qe7 31.Ng4 Bf5
 32.Nxe5 Nf6 33.Rd2 Ne4 34.g4 Nxd2 35.gxf5
 gxf5 36.Qxd2 Rg8 37.Qf2 Qf6 38.Rd1 c5
 39.Nd7 Qc6+ 40.Rd5 Rg5 41.Qe2 1-0

Diogenes 2.0 - Chess Genius
 13th WMCC (3)

1.e4 Nf6 2.e5 Nd5 3.d4 d6 4.Nf3 Bg4 5.Be2
 e6 6.0-0 Be7 7.c4 Nb6 8.exd6 cxd6 9.Nc3 0-0
 10.b3 d5 11.c5 Nc8 12.Bf4 Nc6 13.h3 Bxf3
 14.Bxf3 b6 15.Rc1 bxc5 16.dxc5 Bg5 17.Qd2
 Bxf4 18.Qxf4 Qa5 19.Rfe1 N8e7 20.Qa4 Qxa4
 21.Nxa4 Nb4 22.Re2 Rac8 23.Rd1 Ng6 24.Kh2
 Rfd8 25.Kg3 h6 26.Bg4 Ne7 27.a3 Nbc6 28.b4
 Rb8 29.Rb2 d4 30.Rbd2 a5 31.Nb6 axb4
 32.axb4 h5 33.Bxh5 Nxb4 34.Be2 Nbd5 35.Bg4
 Nc3 36.Re1 Rb7 37.Nc4 Na4 38.Nd6 Rb4
 39.Re4 Nxc5 40.Re5 Nb3 41.Nxf7 Kxf7 42.Rd3
 Rb6 43.Rf3+ Nf5+ 44.Bxf5 exf5 45.Rexf5+
 Kg6 46.Kg4 d3 0-1

Chess System Tal - Hiarc X
 13th WMCC (3)

1.Nf3 d5 2.g3 Nf6 3.Bg2 c6 4.0-0 Bg4 5.Ne5
 Bf5 6.d4 e6 7.Nc3 Nbd7 8.Bg5 Be7 9.Nxd7
 Qxd7 10.Qc1 h6 11.Bf4 0-0 12.Rd1 Rad8 13.h3
 Nh5 14.Be3 Bg6 15.Bd2 Rfe8 16.g4 Nf6 17.Bf4
 Bd6 18.Be5 Qe7 19.Bxd6 Qxd6 20.Qd2 e5
 21.Rac1 a5 22.dxe5 Qxe5 23.Qd4 Qd6 24.e3 b5
 25.Ne2 c5 26.Qf4 Qxf4 27.Nxf4 Be4 28.Nd3
 Rc8 29.Bxe4 dxe4 30.Nf4 Rcd8 31.Ne2 Kh7
 32.Kh2 g6 33.Nc3 b4 34.Nb5 Rxd1 35.Rxd1 a4
 36.Nd6 Re7 37.Nc4 Kg7 38.Kg3 h5 39.g5 Nd7
 40.Rd6 Nf8 41.h4 Ne6 42.Nd2 Nc7 43.Rc6 Ne6
 44.a3 Kf8 45.Rc8+ Re8 46.Rxe8+ Kxe8
 47.Nxe4 Kd7 48.Kf3 Kc6 49.c3 bxa3 50.bxa3 c4
 51.Nd2 Kd5 52.e4+ Kc5 53.Ke3 Nc7 54.f3 Nb5
 55.Nb1 Kd6 56.f4 Ke6 57.Ke2 Kd7 58.Kf2 Ke7
 59.Kf3 Kd6 60.Kg3 Ke6 61.Kg2 Kd7 62.Kf1 Kd6
 63.Kg1 Ke6 64.Kh2 Nd6 65.e5 Nf5 66.Kh3 Kd5
 67.Nd2 Ne3 68.Kh2 Nd1 69.Nb1 Ke4 70.Nd2+
 Kd3 Line

Gromit - Virtual Chess
 13th WMCC (4)

1.Nf3 d5 2.g3 c5 3.Bg2 Nc6 4.0-0 Nf6 5.d3
 e6 6.Nbd2 Be7 7.e4 0-0 8.Re1 Qc7 9.e5 Nd7

10.Qe2 b5 11.h4 a5 12.Nf1 Ba6 13.N1h2 Nb4
14.h5 h6 15.c3 Nc6 16.Bf4 b4 17.Rad1 bxc3
18.bxc3 a4 19.Qc2 Rfb8 20.Qe2 a3 21.Rb1
Rxb1 22.Rxb1 Rb8 23.Ra1 Rb2 24.Qd1 Qa5
25.c4 Nb4 26.Bd2 dxc4 27.dxc4 Nb6 28.Bc3
Bxc4 29.Bxb2 axb2 30.Rb1 Qxa2 31.Nd2 Bd3
32.Be4 Bxb1 33.Bxb1 Qd5 34.Nhf3 Nc4 35.Qe2
Na3 36.Be4 Qa2 37.Qe1 0-1

Chess Genius - Chess System Tal

13th WMCC (4)

1.c4 e5 2.Nc3 Nf6 3.Nf3 Nc6 4.g3 d5
5.cxd5 Nxd5 6.Bg2 Nb6 7.0-0 Be7 8.a3 0-0 9.b4
Re8 10.Rb1 Bf8 11.d3 a5 12.b5 Nd4 13.Nd2
Rb8 14.e3 Ne6 15.Nf3 Ng5 16.Nxg5 Qxg5
17.Ne4 Qd8 18.Qc2 Bg4 19.f4 exf4 20.Rxf4 Be6
21.Rf2 f5 22.Nc3 Bf7 23.Ne2 Qd7 24.Qc3 Nd5
25.Bxd5 Qxd5 26.Nd4 Re5 27.Qxc7 Ra8 28.Qc3
Rae8 29.Nf3 Rxe3 30.Bxe3 Rxe3 31.Nd4 g6
32.Re2 Bc5 33.Rxe3 Bxd4 34.Qc8+ Kg7
35.Rbe1 f4 36.gxf4 Qf3 37.Qc7 Bxe3+ 38.Rxe3
Qxe3+ 39.Kg2 Qe2+ 40.Kg1 Qxd3 41.Qxb7
Qxa3 42.b6 Qc5+ 43.Kf1 a4 44.Qc7 Qxc7
45.bxc7 Be6 46.h4 a3 0-1

Hiarcs X - Centaur-M

13th WMCC (4)

1.e4 d5 2.exd5 Nf6 3.Bb5+ Nbd7 4.c4 a6
5.Bxd7+ Qxd7 6.d3 e6 7.dxe6 Qxe6+ 8.Ne2
Bd7 9.0-0 0-0-0 10.Be3 Ng4 11.Qd2 Bd6 12.Bf4
Bc6 13.Nbc3 h5 14.Rae1 g5 15.Bxg5 Nxb2
16.Ng3 Nxf1 17.Kxf1 Qg4 18.Bxd8 Bxg3
19.fxg3 Rxd8 20.Rd1 Qxg3 21.d4 Qh4 22.Kg1
Bf3 23.Rf1 Rxd4 24.Qh6 Bc6 25.Rxf7 Kb8
26.Qh8+ Ka7 27.Qe5 Rxc4 28.Rxc7 Rg4
29.Rxc6 bxc6 30.Qc7+ Ka8 31.Qc8+ Ka7
32.Qc7+ 1/2-1/2

Shredder - MChess Pro 5.0

13th WMCC (4)

1.d4 Nf6 2.Bg5 Ne4 3.Bh4 c5 4.f3 g5 5.fxe4
gxh4 6.e3 Bh6 7.Bc4 e6 8.Qf3 cxd4 9.exd4 Bc1
10.Qc3 Bh6 11.Ne2 Rg8 12.0-0 Qg5 13.Qf3
Qg7 14.Nbc3 Nc6 15.Nb5 Be3+ 16.Kh1 Ke7
17.e5 a6 18.Nd6 Nxd4 19.Qe4 Kd8 20.g3 Nxe2
21.Nxf7+ Kc7 22.Bxe2 hxg3 23.Bf3 Ra7
24.Rad1 Bb6 25.Nd6 gxh2 26.Bg2 Qh6 27.Rf7
Qh5 28.Rd3 Qg5 29.Nxc8 Kxc8 30.Rdxd7 Qc1+
31.Rf1 Qg5 32.Rxh7 a5 33.Rff7 Qc1+ 34.Kxh2
Qg1+ 35.Kh3 Qe3+ 36.Qxe3 Bxe3 37.c3 Kb8
38.Kh2 a4 39.Rxb7+ Rxb7 40.Rxb7+ Kc8
41.Rb4 a3 42.Bh3 Kd7 43.b3 Rg5 44.Ra4 Rxe5
45.Rxa3 Bf4+ 46.Kg2 Re3 47.Ra4 Bc7 48.Bg4
Rxc3 49.Re4 Rc2+ 50.Kf3 Rxa2 51.Rxe6 Kd8
52.Rc6 Rb2 53.Be6 Rb1 54.Ke2 Be5 55.Bd5 Kd7
56.Rg6 Rb2+ 57.Kd3 Bf4 58.Kc4 Bd6 59.Rg7+
Kd8 60.Ra7 Rc2+ 61.Kd3 Rb2 62.Be6 Ke8
63.Rh7 Be5 1/2-1/2

Virtual Chess - Mephisto

13th WMCC (5)

1.d4 Nf6 2.Nf3 d5 3.e3 e6 4.Bd3 c5 5.b3
cxd4 6.exd4 Nc6 7.0-0 Qc7 8.Bb2 Bb4 9.c4 0-0
10.Nc3 b6 11.Nb5 Qd7 12.a3 dxc4 13.bxc4 Be7
14.Ne5 Qb7 15.Re1 Rd8 16.Nxc6 Qxc6 17.d5
Qd7 18.Qe2 Bc5 19.Bxf6 gxf6 20.Qg4+ Kh8
21.Qf4 f5 22.Nc7 Bd6 23.Qd4+ e5 24.Rxe5 f6
25.Re8+ Rxe8 26.Qxf6+ Kg8 27.Nxe8 Bxh2+
28.Kxh2 Qxe8 29.Bxf5 Bxf5 30.Qxf5 Qg6
31.Qh3 Qf6 32.Qg3+ Qg7 33.Re1 Qxg3+
34.Kxg3 Kf8 35.Re6 Rd8 36.a4 Rd7 37.f4 Rc7
38.d6 Rd7 39.f5 Rb7 40.f6 Rd7 41.Kf4 h5
42.Ke5 Rd8 43.Re7 Ra8 44.Ke6 Rd8 45.d7 h4
46.f7 1-0

MChess Pro 5.0 - Cheiron

13th WMCC (5)

1.e4 Nf6 2.e5 Nd5 3.d4 d6 4.c4 Nb6 5.f4
dxe5 6.fxe5 Nc6 7.Be3 Bf5 8.Nc3 e6 9.Nf3 Qd7
10.Be2 0-0-0 11.0-0 f6 12.exf6 gxf6 13.d5 Ne5
14.Nxe5 fxe5 15.a4 a5 16.Nb5 Rg8 17.d6 Qg7
18.g3 Bxd6 19.Nxd6+ Rxd6 20.Qe1 Rdd8
21.Qxa5 Bd3 22.Bxb6 cxb6 23.Qd2 e4 24.Rad1
Qe5 25.Qe3 Qc5 26.Qxc5+ bxc5 27.Rd2 Rg7
28.Rf6 Kd7 29.Kf2 Ke7 30.Rf4 e5 31.Rh4 Rd4
32.b3 Rf7+ 33.Ke1 Kd6 34.Rh6+ Ke7 35.Rb6
Kd8 36.Rb5 Rc7 37.Bxd3 exd3 38.Rd1 e4
39.Kd2 Rd6 40.Ke3 b6 41.b4 cxb4 42.Kxe4
Rxc4+ 43.Ke3 Kc7 44.Rxd3 Rc3 45.Rxc3+
bxc3 46.Rb1 Rd2 47.Rc1 Kd6 48.Rxc3 Rxh2
1/2-1/2

Amy II - Hiarcs X

13th WMCC (5)

1.d4 Nf6 2.c4 e6 3.Nf3 b6 4.g3 Ba6 5.b3
Bb7 6.Bg2 Bb4+ 7.Bd2 a5 8.0-0 0-0 9.Nc3 d5
10.a3 Bxc3 11.Bxc3 Nc6 12.cxd5 exd5 13.Rc1
Re8 14.Bb2 Ne4 15.Qc2 Qd7 16.Rfd1 f6 17.e3
Rad8 18.Nh4 Qe6 19.Re1 g5 20.Nf3 Rd7
21.Red1 Rde7 22.Ne1 Na7 23.Nd3 Ba6 24.Bf3
Bxd3 25.Qxd3 g4 26.Bg2 c6 27.Rc2 Ng5 28.Kh1
Qd7 29.Rdc1 Kg7 30.Qa6 Rb8 31.Qe2 Qf5
32.a4 Ree8 33.Ba3 Ra8 34.Qa6 Reb8 35.Qf1
Re8 36.b4 axb4 37.Bxb4 Nf3 38.a5 bxa5
39.Bxa5 Reb8 40.Bc7 Re8 41.Bb6 Reb8 42.Bxa7
Rxa7 43.Qd1 Ng5 44.Kg1 Kg6 45.Rxc6 Ra2
46.R6c2 Rbb2 47.Rxb2 Rxb2 48.Qf1 h6 49.Ra1
Kh5 50.Re1 Kg6 51.Rc1 Rd2 52.Rc5 Nf3+
53.Bxf3 Qxf3 54.Rc1 Qf5 55.Re1 Rb2 56.Ra1
Rd2 57.Rc1 Rb2 58.Qe1 Kg5 59.Rd1 Kg6
60.Ra1 Qc2 61.Qf1 Qf5 62.Qg2 Rc2 63.Re1 Rb2
64.Qf1 Qc2 1/2-1/2

Hiarcs X - Diogenes 2.0

13th WMCC (6)

1.d4 Nf6 2.c4 g6 3.Nc3 d5 4.cxd5 Nxd5
5.e4 Nxc3 6.bxc3 c5 7.Bc4 Bg7 8.Ne2 0-0 9.0-0
cxd4 10.cxd4 Nc6 11.Be3 Na5 12.Bd3 Nc6

13.Bb5 Qc7 14.Rc1 Rd8 15.Qa4 Bg4 16.f3 Bd7
17.d5 a6 18.Bxc6 bxc6 19.dxc6 Be8 20.Rc5 e5
21.Nc3 Rac8 22.Qxa6 Bf8 23.Nd5 Qd6 24.Rfc1
Qe6 25.R5c2 Rd6 26.Nf6+ Kh8 27.Nxe8 Qxe8
28.a4 Bg7 29.a5 Rcd8 30.Rd2 Rxd2 31.Bxd2
Ra8 32.Qb7 Bf8 33.a6 1-0

Gandalf - Chess Genius

13th WMCC (6)

1.e4 d5 2.exd5 Qxd5 3.d4 e5 4.Nf3 Nc6
5.Nc3 Bb4 6.Bd2 Bxc3 7.Bxc3 e4 8.Ne5 Nxe5
9.dxe5 Ne7 10.Be2 Be6 11.O-O O-O 12.Qxd5
Nxd5 13.Bd2 Rfd8 14.b3 a5 15.c3 e3 16.fxe3
Nb4 17.Rfd1 Nd3 18.Be1 Nxe5 19.Bg3 f6
20.Rd4 c5 21.Rxd8+ Rxd8 22.Bxe5 fxe5 23.Rd1
Rxd1+ 24.Bxd1 c4 25.Kf2 Kf7 26.bxc4 Bxc4
27.Bb3 Bxb3 28.axb3 b5 29.Ke2 e4 30.Kd2 Ke6
31.Kc2 h5 32.h3 h4 33.Kb2 Kd5 34.Ka3 Kc5
35.Kb2 a4 36.c4 bxc4 37.bxa4 Kb4 38.Kc2
Kxa4 39.Kc3 Kb5 0-1

Isichess 2.0 - MChess Pro 5.0

13th WMCC (6)

1.e4 c5 2.Nf3 e6 3.d4 cxd4 4.Nxd4 Nf6
5.Nc3 Nc6 6.Ndb5 d6 7.Bf4 e5 8.Bg5 a6 9.Na3
b5 10.Bxf6 gxf6 11.Nd5 f5 12.Bd3 Be6 13.Qh5
Bg7 14.O-O f4 15.c4 b4 16.Nc2 Rb8 17.b3 O-O
18.a3 bxa3 19.Rxa3 a5 20.Rfa1 Qd7 21.Qe2
Rb7 22.Nc3 Bg4 23.f3 Be6 24.Nb5 Rfb8 25.Qd2
Na7 26.Nxa7 Rxa7 27.b4 Rc7 28.bxa5 Bxc4
29.a6 Be6 30.Nb4 Ra7 31.Rc1 Rc7 32.Kh1
Rxc1+ 33.Qxc1 Rc8 34.Rc3 Rxc3 35.Qxc3 Qa4
36.Kg1 Bf6 37.Nc6 Bd7 38.Nb8 Qd1+ 39.Kf2
Bh4+ 40.g3 fxg3+ 41.hxg3 Bxg3+ 42.Kg2 Be1
43.Qc2 Bh3+ 44.Kxh3 Qxf3+ 45.Kh2 Qg3+
46.Kh1 Bf2 47.Qxf2 Qxf2 48.Bb5 Qb6 0-1

The King - Bobby II

13th WMCC (6)

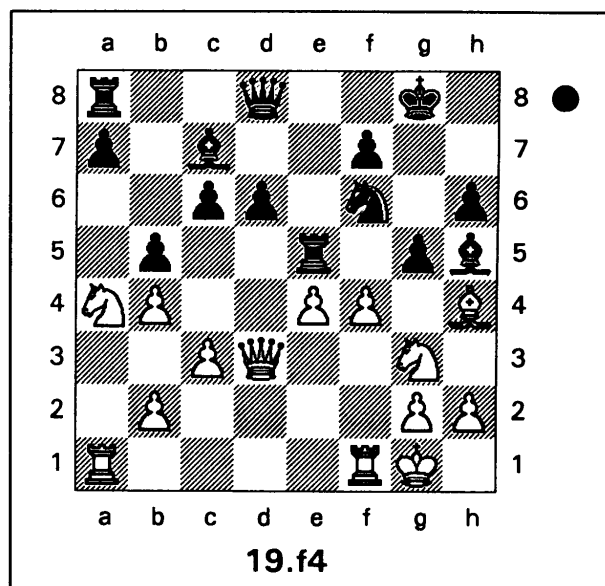
1.e4 e5 2.Nf3 Nc6 3.d4 Nxd4 4.Nxd4 exd4
5.Qxd4 Ne7 6.Nc3 Nc6 7.Qd5 Be7 8.Be3 Bf6
9.Bb5 Bxc3+ 10.bxc3 O-O 11.O-O a6 12.Bc4 d6
13.Qd2 Ne5 14.Bd5 c6 15.Bg5 Qc7 16.Bb3 h6
17.Bf4 a5 18.a4 Bg4 19.f3 Be6 20.Rfd1 Rad8
21.Bg3 Rfe8 22.Rab1 d5 23.Qd4 f6 24.Qa7 Kh8
25.Ba2 dxe4 26.Bxe6 Rxd1+ 27.Rxd1 Rxe6
28.f4 Rd6 29.Rxd6 Qxd6 30.fxe5 Qd1+ 31.Kf2
Qxc2+ 32.Ke3 Qxc3+ 33.Kxe4 Qc2+ 34.Kf4
Qxa4+ 35.Kf5 Qb5 36.Qd4 b6 37.Kg6 Qb1+
38.Kf7 Kh7 39.e6 c5 40.Qd5 Qg6+ 41.Kf8 f5
42.e7 1-0

MChess Pro 5.0 - Quest

13th WMCC (7)

1.e4 e5 2.Bc4 Nc6 3.Nc3 Nf6 4.d3 Bb4
5.Nge2 Na5 6.Bb3 O-O 7.O-O d6 8.Bg5 c6 9.d4
Bg4 10.f3 Bh5 11.Na4 Nxb3 12.axb3 h6 13.Bh4
Re8 14.c3 Ba5 15.Qd3 b5 16.b4 Bc7 17.dxe5
Rxe5 18.Ng3 g5 19.f4 gxh4 20.fxe5 hxg3

Computer Chess Reports



21.Rxf6 gxh2+ 22.Kh1 bxa4 23.Raf1 Qf8
24.e6 Qg7 25.exf7+ Kf8 26.Qa6 Bb6 27.Qb7
Rd8 28.Re6 1-0

Virtual Chess - Isichess 2.0

13th WMCC (7)

1.d4 Nf6 2.Nf3 d5 3.e3 c5 4.c3 e6 5.Bd3
Nbd7 6.Nbd2 Bd6 7.O-O O-O 8.Re1 Qb6 9.b3 e5
10.e4 Qc7 11.Bb2 dxe4 12.Nxe4 Nxe4 13.Rxe4
f5 14.Rh4 Kh8 15.Ng5 Nf6 16.Bc4 h6 17.dxe5
Bxe5 18.Qc2 Bf4 19.Bc1 Bd6 20.a4 Re8 21.Be3
Re7 22.Rd1 b6 23.Qd3 Rd7 24.Qxd6 Rxd6
25.Rxd6 Ng8 26.Nf7+ Kh7 27.g4 Qe7 28.Rh3
Bd7 29.g5 g6 30.Nxh6 Kg7 31.Bf4 Qe1+ 32.Bf1
Be8 33.Re3 Qb1 34.Be5+ Kf8 35.Rf6+ Ke7
36.Nxg8+ Kd8 37.Bg3 f4 1-0

Hiarcs X - Stobor

13th WMCC (7)

1.e4 e5 2.Nf3 Nf6 3.Nxe5 d6 4.Nf3 Nxe4
5.d4 Be7 6.Bd3 d5 7.O-O Nc6 8.Re1 Bg4 9.c4
Nf6 10.cxd5 Bxf3 11.Qxf3 Qxd5 12.Qxd5 Nxd5
13.Nc3 O-O-O 14.Nxd5 Rxd5 15.Be3 Bb4
16.Red1 Rhd8 17.Be4 R5d6 18.d5 g6 19.a3 Ba5
20.Rac1 f5 21.Bf4 R6d7 22.Bf3 Nb8 23.d6 Bb6
24.dxc7 Bxc7 25.Bxb7+ Kxb7 26.Rxc7+ Kb6
27.Rcxd7 Rxd7 28.Be3+ Kb7 29.Rxd7+ Nxd7
30.Kf1 a5 31.b3 Kc6 32.Ke2 Kb5 33.h4 a4
34.b4 Kc4 35.Bc1 Nb6 36.Kd2 Kd4 37.Bb2+
Kd5 38.Kc3 Nc4 39.Bc1 h5 40.b5 Kc5 41.b6
Nxb6 42.Be3+ Kb5 43.Bxb6 Kxb6 44.Kb4 Kc6
45.Kxa4 Kc5 46.Kb3 f4 47.Kc3 Kd5 48.a4 Kc5
49.Kd3 f3 50.g3 Kb4 51.Ke4 Kxa4 52.Kxf3 Kb5
53.Kf4 Kc6 54.Kg5 1-0

The King - Kallisto

13th WMCC (8)

1.d4 Nf6 2.c4 e5 3.dxe5 Ng4 4.e4 Nxe5
5.Nc3 Bb4 6.f4 Bxc3+ 7.bxc3 Ng6 8.h4 Qe7
9.Bd3 Nxh4 10.Qh5 Ng6 11.Ne2 Na6 12.Be3 d6

Volume 5, Number 3+4

13.Rb1 h6 14.Bc2 0-0 15.f5 Ne5 16.Bxh6 f6
17.Be3 Nxc4 18.Qh7+ Kf7 19.Qg6+ Kg8
20.Nf4 Qe8 21.Qh7+ Kf7 22.Nd5 Bxf5 23.Qxf5
Nxe3 24.Nxe3 Nc5 25.Rh7 Qe5 26.Bb3+ Ke8
27.Qg6+ Kd8 28.Qxg7 Qxc3+ 29.Kf1 Qd3+
30.Kg1 Qxe3+ 31.Kh1 Qh6+ 32.Qxh6 1-0

Virtual Chess - Hiarc X

13th WMCC (8)

1.d4 Nf6 2.Nf3 e6 3.e3 d5 4.Bd3 c5 5.c3
Nbd7 6.Nbd2 Bd6 7.0-0 0-0 8.Re1 b6 9.e4 dxe4
10.Nxe4 Be7 11.Qe2 Bb7 12.Rd1 cxd4
13.Nxf6+ Bxf6 14.cxd4 Qc7 15.Ng5 g6 16.Be3
Bg7 17.Rac1 Qd6 18.Ne4 Qd5 19.Rc7 Rfc8
20.Rxb7 Qxb7 21.Nd6 Qd5 22.Nxc8 Rxc8
23.Ba6 Rd8 24.Bc4 Qa5 25.d5 Nf8 26.Bg5 Rc8
27.Be7 exd5 28.Bxd5 Qa4 29.b3 Qf4 30.Bd6
Qf5 31.Bc4 Ne6 32.a4 Nd4 33.Qe3 Qd7
34.Rxd4 Bxd4 35.Qxd4 Rc6 36.Be5 Qxd4
37.Bxd4 Rd6 38.Be5 Rd1+ 39.Bf1 Rb1 40.Bb8
a6 41.Bd6 Rxb3 42.Bxa6 Rb1+ 43.Bf1 f5
44.Bc7 Rb4 45.h3 Rxa4 46.Bxb6 Kf7 47.Be2 g5
48.g4 fxg4 49.hxg4 Kg6 50.Kg2 Ra3 51.Bb5
Kh6 52.Bc5 Rc3 53.Bd6 Rb3 54.Bf8+ Kg6
55.Bc6 Rb6 56.Be4+ Kf7 57.Ba3 h6 58.f3 Ra6
59.Bb2 Rb6 60.Be5 Rb5 61.f4 Ra5 62.Kf3 Ra3+
63.Ke2 gxf4 64.Bxf4 Kg7 65.Kf2 Rb3 66.Be5+
Kf8 67.Bd4 Rb5 68.Kf3 h5 69.gxh5 Rxh5
70.Kg4 1/2-1/2

Schach 3 - Virtual Chess

13th WMCC (9)

1.e4 e5 2.Nf3 Nc6 3.Bb5 a6 4.Ba4 Nf6 5.0-0
Be7 6.Re1 b5 7.Bb3 d6 8.c3 0-0 9.h3 Na5
10.Bc2 c5 11.d4 Nd7 12.Nbd2 cxd4 13.cxd4
Nc6 14.Nb3 Bf6 15.d5 Na5 16.Nxa5 Qxa5
17.Bd2 Qc7 18.Rc1 Qb8 19.b4 Bd8 20.Bd3 Nf6
21.Qb3 Bd7 22.Kf1 h6 23.Red1 Bb6 24.Ke2 Qa7
25.Rf1 Rfc8 26.Bc3 a5 27.Ra1 a4 28.Qb2 Nh5
29.Bd2 f5 30.Qb1 Nf6 31.a3 fxe4 32.Bxe4 Rc4
33.Bg6 e4 34.Nh2 Rf8 35.Qe1 Nxd5 36.Rc1 Qc7
37.Qd1 Rf6 38.Bh5 Nc3+ 39.Bxc3 Rxc3
40.Rxc3 Qxc3 41.Qd2 Qe5 0-1

Chess Genius - MChess Pro 5.0

13th WMCC (9)

1.Nf3 c5 2.c4 Nf6 3.d4 cxd4 4.Nxd4 e6
5.Nc3 Nc6 6.Bf4 a6 7.Nc2 d5 8.e3 Bc5 9.Bg5 0-0
10.cxd5 exd5 11.Bxf6 Qxf6 12.Qxd5 Qe7
13.Bd3 Be6 14.Qh5 g6 15.Qh6 Rfd8 16.Be2 Nb4
17.Nxb4 Bxb4 18.0-0 Rd2 19.Bf3 Rxb2 20.Nd5
Bxd5 21.Bxd5 Rd8 22.Rad1 Bc3 23.Rd3 Bg7
24.Qf4 Rc8 25.Bb3 Be5 26.Qf3 Rc6 27.g3 Kg7
28.Rd5 Bc3 29.h3 Rf6 30.Qg4 h5 31.Qc4 Qb4
32.Rd3 Be1 33.Qxb4 Bxb4 34.Rd4 Bc5 35.Rc4
b6 36.Rc2 Rxc2 37.Bxc2 Rd6 38.Rd1 Rxd1+
39.Bxd1 Kf6 40.Bb3 b5 41.Bd5 Ke7 1/2-1/2

Kallisto - Hiarc X

Computer Chess Reports

13th WMCC (10)

1.e4 e5 2.Nf3 Nc6 3.Bb5 a6 4.Ba4 Nf6 5.0-0
Nxe4 6.d4 b5 7.Bb3 d5 8.dxe5 Be6 9.Nbd2 Nc5
10.c3 Bg4 11.Bc2 Be7 12.Re1 Qd7 13.Nb3 Ne6
14.Qd3 Bh5 15.Nfd4 Bg6 16.Nf5 0-0 17.Qh3
Rae8 18.f4 Bd8 19.Be3 Kh8 20.Nc5 Nxc5
21.Bxc5 Rg8 22.Re3 Nb8 23.a4 Qe6 24.axb5
axb5 25.Rg3 Nd7 26.Be3 Nf8 27.Ra5 f6 28.exf6
Bxf6 29.Rxb5 Qa6 30.Rxd5 Qe2 31.Bd3 Qd1+
32.Kf2 Rb8 33.b4 Bxc3 34.Rxg6 Rxb4 35.Bf1
Qxd5 36.Ra6 Rb1 37.g4 g6 38.Ng3 Be1+
39.Kg1 Bxg3 40.Ra4 Qc6 41.Ra7 Qe4 42.Qxg3
Qd3 43.Qh3 Rxf1+ 44.Qxf1 Qxe3+ 45.Qf2
Qc1+ 46.Qf1 Qxf1+ 47.Kxf1 Ne6 0-1

MChess Pro 5.0 - Dark Thought

13th WMCC (10)

1.e4 e6 2.d4 d5 3.Nd2 dxe4 4.Nxe4 Be7
5.Nf3 Nd7 6.Bd3 Ngf6 7.Nxf6+ Bxf6 8.Qe2 0-0
9.Be3 Re8 10.Rd1 Qe7 11.c3 e5 12.dxe5 Nxe5
13.Nxe5 Bxe5 14.0-0 Qh4 15.g3 Qh3 16.Be4
Bg4 17.Bf3 Bxf3 18.Qxf3 Qe6 19.Qxb7 Rab8
20.Qxa7 Rxb2 21.a4 Qc6 22.Bd4 h6 23.Bxe5
Rxe5 24.Rd8+ Kh7 25.Qd4 Rbe2 26.Qd7 Qc4
27.Qd3+ Qxd3 28.Rxd3 Ra2 29.Rd7 Kg6
30.Rxc7 Ree2 31.Rc6+ Kh7 32.Rc4 Rec2
33.Kg2 Kg6 34.h4 f6 35.Kf3 Ra3 36.Ke4 Raxc3
37.Rxc3 Rxc3 38.Ra1 f5+ 39.Kd4 Rf3 40.Ra2
Rb3 41.a5 Rb7 42.a6 Ra7 43.Kc5 Ra8 44.Kb6
Kh5 45.Kb7 Rg8 46.a7 f4 47.Ra4 g5 48.hxg5
hxg5 1-0

Virtual Chess - Quest

13th WMCC (11)

1.e4 e5 2.Bc4 Nf6 3.d3 c6 4.Bb3 d5 5.Nf3
Bd6 6.0-0 dxe4 7.dxe4 Nxe4 8.Re1 f5 9.Nbd2
Bc5 10.Nxe4 Qxd1 11.Nxc5 Qxe1+ 12.Nxe1 b6
13.Ne6 Bxe6 14.Bxe6 g6 15.Nf3 Ke7 16.Bc4
Nd7 17.Bg5+ Kd6 18.Rd1+ Kc7 19.Be7 e4
20.Ng5 a6 21.Nf7 Rhe8 22.Bg5 b5 23.Bf4+ Kb6
24.Rxd7 bxc4 25.Nd6 Rad8 26.Rxh7 Re6
27.Nxc4+ Kc5 28.Ne3 Rde8 29.h4 R6e7 30.Rh6
Rb7 31.b3 Rg7 32.c3 Kb5 33.h5 Kb6 34.Nc4+
Ka7 35.Be5 e3 36.fxe3 1-0

The King - Shredder

13th WMCC (11)

1.d4 d5 2.c4 dxc4 3.Nf3 Nf6 4.e3 e6 5.Bxc4
c5 6.0-0 a6 7.a4 Nc6 8.Qe2 cxd4 9.Rd1 Be7
10.exd4 0-0 11.Nc3 Nb4 12.Bg5 h6 13.Bh4 Bd7
14.Ne5 Bc6 15.Rac1 Re8 16.Rd2 Qb6 17.Nxf7
Kxf7 18.Qxe6+ Kg6 19.Nd5 Bxd5 20.Qxb6
Bxc4 21.Qxb7 Bd5 22.Qc7 Kh7 23.f3 Rad8
24.Re1 Nc6 25.Bxf6 Bxf6 26.Rxe8 Rxe8 27.Qd6
Rd8 28.Qc5 a5 29.Kf2 Kh8 30.g3 Be7 31.Qb5
Bf6 32.Qb6 Rb8 33.Qc5 Rd8 34.h4 Be7 35.Qb5
Bf6 36.Qb6 Rb8 37.Qc5 Rd8 38.h5 Be7 39.Qb6
Rf8 40.f4 Bb4 41.Rc2 Rf6 42.Qb7 Rd6 43.Re2
Rd8 44.Qc7 Bd6 45.Qxd8+ Nxd8 46.Re8+ Bg8

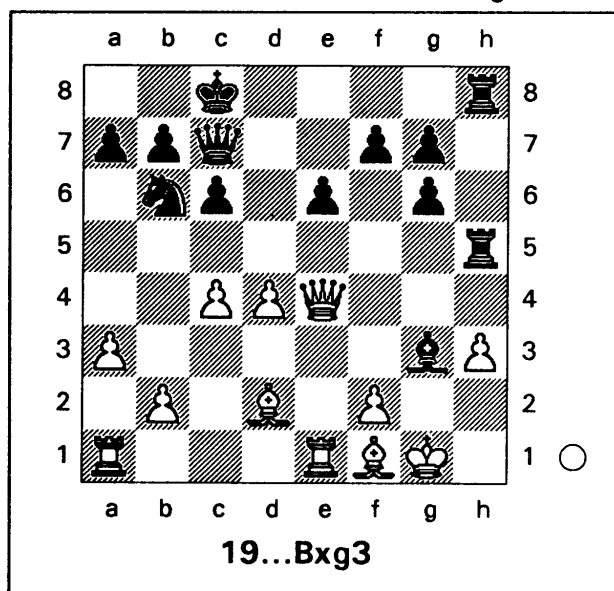
47.Rxd8 Be7 48.Rd7 Bb4 49.d5 Bc5+ 50.Ke2 Bb4 51.Ke3 Bc5+ 52.Ke4 Bf2 53.g4 Bh7+ 54.f5 Bc5 55.Rd8+ Bg8 56.d6 Kh7 57.d7 Be7 58.Re8 1-0

Dark Thought - Chess Genius
13th WMCC (11)

1.e4 d5 2.exd5 Qxd5 3.Nc3 Qa5 4.d4 Nf6 5.Nf3 Bf5 6.Bc4 c6 7.Ne5 e6 8.g4 Bg6 9.h4 Nbd7 10.Nxd7 Nxd7 11.h5 Be4 12.Rh3 Bd5 13.Qe2 Qb4 14.Bxd5 cxd5 15.Qd3 Be7 16.Bf4 0-0 17.h6 g6 18.0-0-0 a6 19.a3 Qb6 20.Qe3 Bf6 21.Kb1 Rfc8 22.g5 Bh8 23.Ne2 Rc4 24.Qb3 Qc6 25.Rc3 b5 26.Qb4 a5 27.Qe7 Rxc3 28.Nxc3 b4 29.axb4 axb4 30.Qxb4 Qa6 31.Kc1 Nb6 32.b3 Qa1+ 33.Kd2 Qa7 34.Ke1 Nd7 35.Nb5 Qb7 36.c3 Qc6 37.Rd3 Qa6 38.Ke2 Qa5 39.Qxa5 Rxa5 40.Nc7 Ra3 41.b4 Nb6 42.Kf3 Rb3 43.Kg4 Nc4 44.Kh4 Kf8 45.Kg3 Ke7 46.Rf3 Ra3 47.Kh4 Ra2 48.Kh3 f5 49.gxf6+ Bxf6 50.Nb5 Ra1 51.Kg2 Ra6 52.Kh2 Ra8 53.Nc7 Ra3 54.Kg2 Ra7 55.b5 Rb7 56.Kh3 Rb6 57.Rg3 Kd7 58.Rg1 Be7 59.Ra1 Rb7 60.Ra8 g5 61.Bg3 Nd6 62.Bxd6 Bxd6 63.Ne8 Bf4 64.Nf6+ Ke7 65.Nxh7 g4+ 66.Kxg4 Bxh6 67.f4 Rxb5 68.Ra7+ Kd6 69.Nf6 Kc6 70.Ra6+ Rb6 71.Rxb6+ Kxb6 72.f5 exf5+ 73.Kxf5 Kb5 74.Ne8 Kc4 1/2-1/2

MChess Pro 5.0 - Chess Genius
13th WMCC (Final)

1.e4 d5 2.exd5 Qxd5 3.Nc3 Qa5 4.d4 Nf6 5.Nf3 Bf5 6.Bc4 e6 7.0-0 c6 8.Re1 Nbd7 9.h3 Bd6 10.Bd2 Qc7 11.Nh4 Bg6 12.Nxg6 hxg6 13.Qf3 0-0-0 14.a3 Nb6 15.Bf1 Rh4 16.g3 Rh5 17.Ne4 Nxe4 18.Qxe4 Rdh8 19.c4 Bxg3



20.fxg3 Qxg3+ 21.Qg2 Rxh3 22.Qxg3 Rxg3+ 23.Kf2 Rb3 24.Bc1 Rh4 25.Re3 Rxe3 26.Kxe3 c5 27.dxc5 Nxc4+ 28.Kf2 f6 29.b4 g5 30.Bg2 Ne5 31.Bd2 Rc4 32.Ra2 Kc7 33.Bh3 Kd7 34.Bf1 Rh4 35.Bg2 Kc7 36.Ra1 Rc4 37.Ke2 Rc2

38.Be4 Rb2 39.Kd1 Rb3 40.Ke2 Rh3 41.Rh1 Rxh1 42.Bxh1 Nc4 43.Bc1 g4 44.Bg2 b6 45.Kd3 Ne5+ 46.Ke4 Ng6 47.Bf4+ e5 48.Bg3 bxc5 49.bxc5 Ne7 50.Bf1 Kc6 51.Bf2 g3 52.Bg1 g6 53.a4 a5 54.Bb5+ Kc7 55.Kf3 Nf5 56.Bd3 Ne7 57.Kxg3 Kc6 58.Be4+ Kd7 59.Ba8 Ke6 60.Kg4 Nd5 61.Bb7 Nb4 62.Be3 Kd7 63.Bd2 Nc6 64.Ba6 Nb4 65.Bb5+ Ke7 66.Bxb4 axb4 67.a5 Kd8 68.a6 Kc7 69.Bc4 f5+ 70.Kg5 f4 71.Bd5 b3 72.Bxb3 f3 73.Bc4 f2 74.Bb5 e4 75.Kf4 g5+ 76.Kxe4 Kb8 77.c6 Kc7 1-0

FINAL RESULTS FROM THE 8TH WMCC

RANK	PROGRAM	TOTAL
1	MChess Pro 5.0	8
2	Chess Genius	8
3	Ferret	7.5
4	Nimzo 3	7.5
5	Virtual Chess	7.5
6	Quest	7
7	Dark Thought	7
8	The King	7
9	HIARCS X	7
10	Kallisto	6.5
11	Gandalf	6.5
12	Junior	6.5
13	Shredder	6
14	Bobby II	6
15	XXXX	6
16	Schach 3	5.5
17	Isichess 2.0	5.5
18	Amy II	5.5
19	Cheiron	5
20	Mephisto	5
21	Dragon	5
22	Centaur - M	5
23	Comet	5
24	Alpha I	5
25	Stobor	5
26	Chess System Tal	4.5
27	Zeus	4.5
28	Mirage	4.5
29	Diogenes 2.0	4
30	Gromit	4
31	Nightmare	3.5
32	Breakthrough	3.5
33	Francesca	3
34	Ananse 2.0	0

THE 8TH WCCC -

A PERSPECTIVE

by Robert Hyatt

1. The odds of DT making it through the event with a perfect score were low, something under 50%. If you look back through computer chess events, we won in 1983 with 4.5/5, in 1986 with 4.0/5, and recent ACM events have seen similar results. It's simply dang hard to make it through a 5 round tournament where most of the programs are >2200. Contrast this to the "good old days" when in a field of 15-20 programs, there were really two, three or four contenders (early tournaments with belle and chess 4.x come to mind first, with later tournaments having belle, cray blitz and (occasionally) Nuchess, Slate's successor to 4.x, when Dave could get machine time). The rest were much more than 200 rating points behind us. If you check back through history, until around 1988 or so, the rest of the field were "present" but *barely* accounted for. NOTE: this is not a put-down as everyone contributed to the field back then, just that they were at a significant horsepower disadvantage. The competition has improved markedly, with most participants clearly playing master-level chess or beyond, which makes each tournament more and more difficult to run through unscathed.

2. To say that playing a poor book line was "bad luck" is, of course, not strictly true, since it is "possible" to hand-try every book line, given enough time. In reality, it isn't practical, since this is labor-intensive. We've lost games due to poor book lines, belle has, Nuchess has, etc. It happens all the time, and will continue to happen. The Fritz group has said that they did not "cook" a deep thought opening line, so the choice was made by Deep Thought to play that variation. They probably have a small amount of randomness built in to the opening book to avoid playing exactly the same opening twice and getting slammed for it. Therefore, a random number generator produced one "unlucky" value that pushed it down a variation that should have been marked as "bad" but wasn't. Call it what you want, but it sure "smells" like bad luck.

3. Fritz played well. To say anything else is stupid. However, to make the rather ridiculous claims about "deep disappointment" in Hong Kong, deep thought is no better than the micros, etc., are completely illogical and are made for some reason other than an understanding of computer chess and what makes it "go." I'll agree that some of the micro programs play wonderful

chess. Even amazing chess. But *not* chess at the level of deep thought. If you don't like opinions, sorry (this is *not* directed to the poster of the above article, but, rather, is a general statement!)

I've seen what DT can do, and while any micro can stand toe-to-toe for one game, none can stand for a match. They look too deep, they (contrary to popular "opinion") do have a sophisticated evaluation, probably as sophisticated (if not more so) than any other program at the event. These guys are *not* stupid, and they should be given credit for what they have done, not stoned because they lost a single game and drew another. If you caught this from Hsu's post, he thought that dt had a 90% chance of winning that game. That tells *me* that he has played lots of games against Fritz and wins at least 90% of them, pretty well supporting my claim that DT is at least 200 points better. Cray Blitz has lost to micros also, yet I doubt you can find one of the authors that would expect that result to hold for 5 games or so. The authors *know* what the horsepower means. For those that haven't written a chess program (and many of 'em are jumping in here and throwing stones right and left) your nativity is understandable. It would be interesting to see what current opinion is on the following question:

"From the first version of blitz, through Cray Blitz, and now including Crafty, how many lines of code do you think have been written?" Note that this covers the time period from 1970-present, roughly 25 years elapsed time. The answer may shed light on just how much work is involved in this hobby (for me) or career (for some.) It is *not* something you pick up and become expert in over a year or two. Ask some of the new- comers to the world championship this year. It is a humbling experience to find out just how much you don't know, without having a large group "kibitzing" without "expertise."

ABOUT THE AUTHOR:

Robert Hyatt received a BS in Computer Science from the University of Southern Mississippi in 1970, and a MS in Computer Science from the University of Southern Mississippi in 1983, and a Ph.D. in Computer Science from the University of Alabama at Birmingham in 1988.

His current job is as an Associate Professor at the Department of Computer and Information Sciences at the University of Alabama at Birmingham.

Robert is the author of Cray Blitz, which competed in computer chess events from the early 1970's up through 1994, and was replaced by the current "Crafty", which runs on most computers. Crafty is freely available via

AUTOMATED COMMUNICATION FOR COMPUTER CHESS EVENTS

by Steven Edwards

It appears to me that some sort of automated communication referee system is desirable for computer chess events. This is the only way to eliminate the various ambiguities and potential operator errors (honest and otherwise).

The question is, how would such a system be best implemented? I've thought about this for quite a while, and I conclude that the best model to use is similar to that of the various Internet chess servers. The idea is to connect all of the computer players in a CC event via IP to a central server. The central server and its API can be (and should be) much simpler than some used for current human use, but it still has to perform several tasks:

- 1) Correct reception and transmission of move data,
- 2) Correct timestamping with time overrun detection,
- 3) Move and position legality checking,
- 4) Game score recording,
- 5) Interactive display interface for the tournament director,
- 6) A provision for game restart (for bona fide hardware failures).

Note that even a modest machine can handle all of the above for a reasonably sized tournament using a very small amount of time per message. I would estimate less than a second per complete move relay; even a full second would be much faster than human operators could achieve. Note that the referee server would be the canonical source of all the chess clock data for the tournament. Naturally, the machine running the referee program should be very reliable. It would likely be worthwhile to have it running with a battery backup power supply. It would also be possible to have two referee machines with one operating in observer mode ready to take over if the main referee machine fails. Ideally, each machine would have an Ethernet adapter (I prefer BNC thinnet) and these can be had for under \$50. Alternatively, a computer player machine with a serial port could use it to connect to an auxiliary machine via a null modem connection. This

auxiliary machine could be an inexpensive used PC with an Ethernet adapter or even a laptop. Also, the use of an auxiliary machine could support any mapping function needed to "massage the messages" passing back and forth from the serial machine actually running the chess program. (Alternatively, each machine could be assumed to have a serial port and could be directly connected to the opponent via a null modem cable. Although this is probably better than using human operators, it lacks many of the useful features of a centralized referee.) Now the question is: exactly what is being sent to and from the referee?

My proposal for this is to use EPD format information for this and nothing more. EPD is well specified and it is sufficiently powerful to represent anything we might want to send or receive. Furthermore, it is already supported by a considerable number of strong programs. It has the additional advantage of sending the position (along with the move) in each record which acts as a strong indication to the referee that the sending program is in good health and remains in touch with reality. EPD already has support for draw offer/ accept/ decline information and resignations. It is easily expanded to cover time stamps. (Actually, it is trivially easy to expand it to cover just about anything, but I am thinking here about any additional work required by the programmers to process additional EPD operations.) The load placed on each human operator is very slight. All that is needed is to have the IP address of the referee entered into the program. (Of course, the human operator also sets the initial parameters of the player such as time control, contempt factor, etc.) The referee itself starts each game, and no human interaction is needed until after the game ends. An alternative referee command language has been proposed: the SCIP format that has been worked on by Larry Kaufman and John Stanback. I have reviewed the proposal (it is at a very early stage), but I do not think it should be used for referee purposes. I understand that its main motivation is for autotesting purposes and as such it is more inline with providing a common electronic interface to the control panels of commercial chess playing hardware. (By extension, it could also control the equivalent set of hooks in commercial chess software.) Unfortunately for referee communication purposes, the set of all possible control panel buttons and readouts is much larger than what is needed for automated play and many programmers would balk at having to implement all, or even most of them. A further argument against the use of SCIP or a similar format is that there is no semantic separation between transmitting control information and

transmitting chess data. This deficiency could be corrected by relegating all chess information to a secondary level (and using EPD for this) and having the control information at a higher level passing the chess data as little bundles as required. But I think that all of this may be too much for the needs at hand. If there is sufficient interest, I am willing to write and test (for free) an IP based referee program which uses the EPD standard. (The source would be released for free distribution and use.) If needed, I can also provide sample ANSI C source for connecting with the referee and for parsing and generating EPD. I can do this using the Linux OS and the resulting code should run on any decent Unix machine. It could probably be modified to run on MS-DOS or its offspring. I think that this effort is well justified, even if not all programs could use such a referee at this time; even if a subset of the players employed such a resource, it would make the tournaments better and tournament directors' lives easier.

ABOUT THE AUTHOR:

BS, MS Mathematics; ABD Ph.D. Computer Science Programming since 1973, has six home computers in active service Author of the chess playing program Spector Developer of the PGN, SAN, FEN, and EPD standards Author of the free endgame database initiative (tablebases) Developer of the free computer chess test suite project Author of the SAN Kit and the EPD Kit Actively working on new, free chess software

ICCA RULES

by Steven Edwards

I vote for a strict interpretation of the ICCA rules for computer chessplayers.

1) Each should be played under the same conditions regardless of the different tournament directors' "liberal" interpretations. This will help ensure comparability among different events.

2) It is generally impossible for a director to distinguish between a hung program and one that is in a long search. Programmers are thereby encouraged to make sure their programs observe time control requirements.

3) In cases where a program crashes and returns to the command prompt, the program is no longer running (and is obviously not searching) and so a restart and a reload should be permitted. However, all of this must be done on the clock of the crashed program. Furthermore, to encourage crash resistant programming, a time penalty of five minutes should be added. The exception is if it can be determined if the crash was due to operator error; in this case the clocks should be stopped.

4) The program display is an integral part of the program, so if the display gives a move that was not what the search produced, the displayed move should be used as it's generally impossible for the director to know about the internals of the display/search connection. This is really no different than touch/move rules in human events.

5) If a program is unable to accept a legal move (assuming that the program has the correct internal representation of the game), then it should be forfeited. This sounds harsh, but move I/O is a long resolved topic and programmers should get this working (as also with the display) well before entering a tournament.

6) In cases where the internal representation is obviously different from the external (true) representation of the game, this can be considered operator error unless there is compelling evidence to the contrary. Since we are testing the program and not the operator, the problem should be resolved with the clocks stopped.

7) Time-outs may be used only for equipment failures and problems beyond the control of the operator (or the programmer). These should be done with the clocks stopped. However, if the total time out for a side is deemed excessive (exact amount announced in advance) by the director, the program should be forfeited. The exception to this rule would be if a later restart or resume can be arranged without impeding the other tournament participants. Instead of having a limit on the number of time-outs, there should be a limit on the length of the time used for all time-out time in a game.

8) The one hour limit to start play observed in human events should be suspended. Instead, the available time-out period should be used.

9) If possible, a program whose opponent is in time-out should have the waiting program suspend ponder searching so as not to take advantage of a problem beyond the control of the opponent's operator or programmer.

10) Obviously, recompiling the program or switching to a different version should be forbidden. Switching to a different machine or network should be permitted only in the case of equipment failure or communications problems.

11) Currently, ICCA events require that the program's display be visible to the opponent. This was enacted, I think, to help prevent unfair tinkering by less than totally honest operators. But there is a problem if the display includes a predicted variation or an expectation score: this could be used by the opponent to unfairly offer or reject draws. I'm not sure what the solution should be for this difficulty. Perhaps draw offers and draw acceptances/rejections should be

permitted only if explicitly done by the programs and not the operators.

NOVAG REVIEW

by Larry Kaufman

Although the Novag models of greatest interest to CCR readers, namely the Sapphire, Diamond, Jade II, and Zircon II, have already been reviewed in past issues, Novag does have some new models out now that deserve at least a mention here. Starting with the least expensive, the Amethyst at around \$50 is a peg-sensory portable unit, about 7 by 5 inches, with a rating estimated by Novag at 1750 USCF. Considering that the unit has only a 4 Kb program and only 145 book opening moves, it would be quite an achievement to reach that rating, but there is no independent verification of the claimed rating. It has 63 levels, far more than anyone could need. Another model with the same program which uses keyboard move entry and stand-up pieces on a small board is the Tourmaline, with the same price. The table-top version of this program is called the Aquamarine Premier and sells for around \$80.

Next we have the portable Opal II (\$70) and its table top brother Agate (\$80). Each has a 16k program, 768 bytes of RAM, an 8500 move opening book, and a Novag-estimated rating of 1880 USCF.

A strong new model is the Emerald Classic, with housing similar to the old "Forte" model, and an h-8 processor at 13 MHz. It has 32 Kbyte of ROM and 1 KByte of RAM. There are 56 levels and 13,000 book moves. The price is around \$180. The specs are the same as for the Jade II and Zircon II, which are C.R.A. Action rated 2241, but Novag estimates the rating at 2260 USCF, so perhaps some refinements have been made to the Jade/Zircon II program. In any case, in view of the sizable price gap between the Classic and the Zircon II, I imagine most buyers will opt for the Zircon II.

Novag will soon have an entry in the category of boards that connect to a PC to allow the user to play against PC programs on a real board. The "Universal Chess Board" costs about \$400 and will allow the user to play against WChess, Fritz, Genius, Rebel, and Kasparov's Gambit.

CCR Internet Address

LGTY92A@PRODIGY.COM

HYPERBOLE IN RATINGS

by Don Getkey

So does anybody know how to explain rating reductions over time for computers? Because it is happening. It is my hypothesis that it might be primarily due to two factors? 1. That chess programs are, like any product that has measurable performances, "hyped-up" 5% or more by motivated marketers, and 2. There is a quantity of games that a program (if it is exactly the same, and running on the same system) must play before it reveals it's specific rating. Maybe as many as 400 games to find out? I know that with new motorcycles and cars, they are always heralded as the "best", "fastest", "most powerful", and independent journalist will usually debunk, or backup such claims in short order; but then after a year goes by and the new models are arriving for testing, and suddenly last years model is unable to match it's former greatness? Still, with chess computers, you would think that things would be a bit more objective than most other product evaluations?

ABOUT THE AUTHOR:

Don Getkey is 33 years old, happily married and father of 3. He lives in Ramsey Minnesota a NW suburb of Minneapolis. Don manages a cemetery in MN for S.C.I. (Service Corp. International) based out of Houston TX. His computer is a desk top Packard Bell Pentium 75mhz, 16megs RAM, Quad Speed CD-ROM, 28.8 ZOOM Modem, all running through Win95. He owns 8 PC chess programs, and 2 stand alones. He am a USCF member with a 1279 rating. Don says he has a fascination with computers/computer chess, and humans/human chess. Don said his favorite chess quote is, " No other game extracts a greater toll on the ego, than chess".

GREED AND EXAGGERATION IN RATINGS

by Peter Noehrenberg

Two years ago I bought one of the last models that earned a Master rating "honestly": the Fidelity Mark IV, CRA rated at 2325 from it's performance at the '87 ('88?) World Open. I know it's not a "Master" in the true sense, but it

knocks the tar out of me at speed chess, and that's why I got it.

Of course it's in the USCF's best interest to paint as rosy a picture as possible regarding the ratings of the computers it sells... I mean, isn't the USCF solely interested in *selling* things? It's not like it's primary goal is to promote chess or anything...

Seriously, the best thing that the USCF or the Swedish folks could do is abolish ELO-type ratings for their comparisons, so that everyone can stop assuming that 2200+ for a computer is a "Master" level, comparable to a human Master. A numerical system that is *very* different than ELO should be adopted to rate computers, so that people can readily compare one computer with another, without this pathetic distortion of the facts. Failing that, the *least* they can do is have any competition between computers and humans played at usually and customary tournament time-controls.

But once again greed will win out, and the USCF will continue to promote it's "official computer rating" as some sort of indication of "true" strength--and people will buy it (literally!) for they don't "know any better." The majority of purchasers are somewhere in the "Alphabet Soup" of class ratings, rarely (if ever) meeting a Master across the board, and so won't find out how *much* better a *true* Master plays than the silicon opponent back home...

It's nothing less than a scam perpetrated by the USCF, in collusion with the various computer manufacturers, to boost sales, pure and simple...

ABOUT THE AUTHOR:

Peter Noehrenberg is Doctoral Fellow in Public Policy Analysis at the RAND Corp. an works on health policy issues. As a self-described 'dormant' class 'A' player, Peter has only a passing interest in computer chess; however, he feels the advent of free, "real-time" chess with opponents world-wide on the Internet is the greatest advance since chess notation--he's been hooked ever since defeating GM Shabalov in a 8-man 'virtual simul' last June, and observing the Kasparov-Anand WCC 'live' at FICS (the Free Internet Chess Server--telnet: ics.onenet.net 5000)

MEPHISTO NIGEL SHORT VS. TRAVEL CHAMPION 2100

by Alastair Scott

As there has been a lot of correspondence about cheaper chess computers recently, I

thought I'd play a match, for my own enlightenment, between mine - the Mephisto Nigel Short (£230) and the Kasparov Travel Champion (£150).

The match was at "game in 60", and resulted in a 5.5-2.5 win for the KTC, which was surprising as the Nigel Short is supposed to be somewhat stronger. All games were played on the default settings for both computers, which were ensured by removing and putting back the batteries before each game was started.

The message from these games is that the Nigel Short may win the endgame (see game 3) if it gets that far as KTC is obviously much stronger tactically. Look at game 7 - an excellent attack, with 31. Be5!! breaking open the Black kingside, game 8, where some risky-looking pawn moves demolish White's Kingside, and game 6, the most outrageous of them all, where the Nigel Short is forced to throw away a piece within the first twenty moves.

[Event "Match (Game in 60)"]

[Site "London"]

[Date "1995.10.01"]

[Round "1"]

[White "Kasparov Travel Champion 2100"]

[Black "Mephisto Nigel Short"]

[Result "1/2-1/2"]

1. e4 e5 2. Nc3 Nf6 3. f4 d5 4. fxe5 Nxe4 5. Nf3 Be7 6. d4 O-O 7. Bd3 f5 8. O-O c5 9. Re1 Nc6 10. Rb1 Nxd4 11. Nxd4 cxd4 12. Nb5 Qb6 13. a4 Bb4 14. Re2 a6 15. Nd6 Nxd6 16. exd6 Bxd6 17. Qf1 Bd7 18. Qf3 Qc6 19. Bg5 h6 20. Be7 Bxe7 21. Rxe7 Rae8 22. Rbe1 Rxe7 23. Rxe7 Qd6 24. Qe2 Rf7 25. Rxf7 Kxf7 26. Qh5 + Qg6 27. Qh4 Qg4 28. Qxg4 fxg4 29. a5 g6 30. Kf2 Bf5 31. Bxf5 gxf5 32. Kg3 h5 33. Kf4 Kf6 34. g3 Kg6 35. Ke5 h4 36. gxh4 Kh5 37. Kxf5 Kxh4 38. b4 Kh3 39. Kg5 d3 40. cxd3 d4 41. Kf5 Kh4 42. Ke4 Kh3 43. Kf4 Kh4 44. Ke5 Kh3 45. Kf4 Kh4 46. Kf5 Kh3 47. Kf4 1/2-1/2

[Event "Match (Game in 60)"]

[Site "London"]

[Date "1995.10.01"]

[Round "2"]

[White "Mephisto Nigel Short"]

[Black "Kasparov Travel Champion 2100"]

[Result "0-1"]

1. e4 d5 2. exd5 Nf6 3. d4 Nxd5 4. Nf3 Bf5 5. a3 c5 6. Nh4 Be6 7. dxc5 Qc7 8. Bb5 + Nc6 9. O-O O-O-O 10. Bd3 g6 11. c4 Nf4 12. Bxf4 Qxf4 13. g3 Qd4 14. Bc2 Qxb2 15. Nd2 Bg7 16. Rb1 Qc3 17. Nhf3 Bg4 18. Be4 Qxa3 19. Bxc6 bxc6 20. Qb3 Qxb3 21. Rxb3 Bf5 22. Re1 Rd7 23. g4 Bxg4 24. Reb1 Rdd8 25. Ng5 Rhf8 26. Rb8 + Kd7 27. R1b7 + Ke8 28. Nxh7 Rg8 29. Rxd8 + Kxd8 30. Rxa7 f6 31. f3 Bd7 32. Ra8 + Bc8 33. Nb3 Rh8 34. Na5 Rxh7 35. Nxc6 + Kc7 36. Nxe7 Bb7 37. Ra5 Bxf3 38. Nxg6 Bb7 39.

Nf4 f5 40. Nd5+ Kb8 41. Rb5 Bd4+ 42. Kg2 Rh6 43. h4 Ka7 44. Kg3 Rg6+ 45. Kf3 Rg4 46. Ra5+ Kb8 47. Rb5 Kc8 48. Ke2 Ba6 49. Ne7+ Kd7 50. Nxf5 Bxb5 51. Kf3 Rg1 52. cxb5 Bxc5 53. Ke4 Kc7 54. Kf3 Kb6 55. h5 Rg5 56. Ng3 Bd6 57. Ne4 Rf5+ 58. Ke2 Bf4 59. h6 Bxh6 60. Nd6 Rd5 0-1

[Event "Match (Game in 60)"]

[Site "London"]

[Date "1995.10.01"]

[Round "3"]

[White "Kasparov Travel Champion 2100"]

[Black "Mephisto Nigel Short"]

[Result "0-1"]

1. g3 e5 2. Bg2 Nf6 3. Nf3 e4 4. Ng5 d5 5. O-O h6 6. Nh3 c5 7. d3 Be7 8. dxe4 Bxh3 9. Bxh3 Nxe4 10. Bg2 b5 11. Bxe4 dxe4 12. Qxd8+ Bxd8 13. Nc3 Nc6 14. Be3 Nd4 15. Bxd4 cxd4 16. Nxe4 Be7 17. a4 Rc8 18. Rfc1 b4 19. Kf1 Kd7 20. Ke1 f5 21. Nd2 Bf6 22. Nf3 g5 23. Nxd4 Bxd4 24. Rd1 Rc4 25. b3 Ke6 26. bxc4 Bxa1 27. Rxa1 Rc8 28. Kd2 Rxc4 29. a5 a6 30. Rb1 Rd4+ 31. Ke3 Ke5 32. Rb3 h5 33. Kf3 Rc4 34. Rb2 Kd4 35. Ra2 Kc3 36. e3 Kd2 37. Kg2 Rxc2 38. Ra1 Rc1 39. Ra2+ Kc3 40. h4 b3 41. Re2 gxh4 42. gxh4 b2 43. Rxb2 Kxb2 44. Kf3 Rc4 0-1

[Event "Match (Game in 60)"]

[Site "London"]

[Date "1995.10.07"]

[Round "4"]

[White "Mephisto Nigel Short"]

[Black "Kasparov Travel Champion 2100"]

[Result "0-1"]

1. f4 Nf6 2. a4 e6 3. e3 d5 4. b3 d4 5. Be2 dxe3 6. dxe3 Qxd1+ 7. Bxd1 Bc5 8. c4 O-O 9. Ba3 Na6 10. Nc3 Rd8 11. Bxc5 Nxc5 12. Bc2 Nd3+ 13. Ke2 Nb4 14. Rd1 Rxd1 15. Bxd1 b6 16. Nf3 Bb7 17. Rg1 c5 18. g4 Rd8 19. g5 Ne4 20. Nxe4 Bxe4 21. Nd2 Bg6 22. h3 Na2 23. Ke1 Nc1 24. h4 Nd3+ 25. Ke2 Kf8 26. Rg3 Bh5+ 27. Nf3 e5 28. fxe5 Nxe5 29. Kf2 Ng4+ 30. Ke2 Re8 31. e4 Rxe4+ 32. Kd2 Ne3 33. Be2 Nf5 34. Rh3 Rxe2+ 35. Kxe2 Bg4 36. Rh2 Nd4+ 37. Ke3 Nxf3 38. Rh1 h5 39. gxh6 gxh6 40. Kd3 f5 41. Kc3 Ke7 42. Kd3 Kd6 43. Kc3 Ke5 44. Kd3 f4 45. Kc3 a6 46. Kd3 Bd7 47. h5 Be8 48. Ke2 Ke4 49. Kf2 Ne5 50. Re1+ Kd4 51. Rh1 Kc3 52. Rh3+ f3 53. Rh1 Kxb3 54. Rb1+ Kxc4 55. Rxb6 Bxh5 56. Rxa6 Kb4 57. Kg3 Nd3 58. Rxh6 f2 59. Rf6 Kxa4 60. Kg2 Kb3 61. Rb6+ Kc3 62. Rd6 c4 63. Kf1 Kd2 64. Rxd3+ Kxd3 65. Kxf2 c3 66. Ke1 c2 0-1

[Event "Match (Game in 60)"]

[Site "London"]

[Date "1995.10.07"]

[Round "5"]

[White "Kasparov Travel Champion 2100"]

[Black "Mephisto Nigel Short"]

Computer Chess Reports

[Result "0-1"]

1. d4 Nf6 2. c4 e6 3. Nc3 Bb4 4. a3 Bxc3+ 5. bxc3 d6 6. g3 c5 7. dxc5 dxc5 8. Qxd8+ Kxd8 9. Bg5 h6 10. Bxf6+ gxf6 11. Bg2 Kc7 12. Rd1 e5 13. Nf3 Be6 14. Nd2 Rd8 15. f4 Nd7 16. Rf1 Nb6 17. Rb1 Rab8 18. Rb5 Na4 19. f5 Bd7 20. Rb3 Nb6 21. e4 Ba4 22. Rb2 Rd6 23. Ke2 Rbd8 24. Rfb1 Bc6 25. Ra2 Rd3 26. Rc1 Nxc4 27. Nxc4 Bb5 28. Nd6 R8xd6 29. c4 Bc6 30. a4 a5 31. Rcc2 R6d4 32. Rc1 Kd6 33. Rcc2 b6 34. Rcb2 Kc7 35. Rc2 Bb7 36. Rc1 Ba6 37. Rcc2 Rb3 38. Kf2 Bxc4 39. Rcb2 Rc3 40. Ra1 Bd3 41. Rd2 Rc2 42. Rxc2 Bxc2 43. Ke3 Kd6 44. Rc1 Bxa4 45. Rc3 c4 46. Rc1 b5 47. Rb1 Kc5 48. Rc1 b4 49. Ra1 b3 50. Rxa4 b2 51. Rxa5+ Kb6 52. Ra8 Kb7 53. Rf8 b1=Q 0-1

[Event "Match (Game in 60)"]

[Site "London"]

[Date "1995.10.07"]

[Round "6"]

[White "Mephisto Nigel Short"]

[Black "Kasparov Travel Champion 2100"]

[Result "0-1"]

1. e4 c5 2. Nf3 e6 3. d4 cxd4 4. Nxd4 Nf6 5. Nc3 Nc6 6. Nxc6 bxc6 7. e5 Nd5 8. Ne4 Qc7 9. f4 Bb7 10. a4 Rb8 11. Bd3 d6 12. c4 Nb4 13. exd6 Bxd6 14. O-O Rd8 15. Be3 Be7 16. Ra3 c5 17. Nf2 Bh4 18. g3 Nxd3 19. Rxd3 Qc6 20. Ne4 Qxe4 21. Rxd8+ Bxd8 22. Kf2 Qg2+ 23. Ke1 Ba5+ 24. Bd2 Bf3 25. Rxf3 Bxd2+ 26. Qxd2 Qxf3 27. Qf2 Qxf2+ 28. Kxf2 O-O 0-1

[Event "Match (Game in 60)"]

[Site "London"]

[Date "1995.10.08"]

[Round "7"]

[White "Kasparov Travel Champion 2100"]

[Black "Mephisto Nigel Short"]

[Result "1-0"]

1. e4 e5 2. f4 exf4 3. Bc4 Nf6 4. Nc3 c6 5. Qf3 Bd6 6. d4 b5 7. Bxb5 cxb5 8. e5 Nc6 9. exf6 Qxf6 10. Nxb5 Bb8 11. Ne2 a6 12. Nbc3 Qf5 13. Nd5 Bb7 14. c4 Na5 15. b3 Bxd5 16. cxd5 O-O 17. O-O g5 18. Bd2 Nb7 19. Rac1 Bd6 20. h4 f6 21. Ng3 Qg6 22. h5 Qe8 23. Nf5 Qd8 24. Qg4 Ba3 25. Rc2 Rc8 26. Rxc8 Qxc8 27. Bxf4 Kh8 28. d6 Qc3 29. Bg3 Qd3 30. Re1 Rb8 31. Be5 Qd2 32. Bxf6+ Kg8 33. Qe4 Qxe1+ 34. Qxe1 Bxd6 35. Qe4 Bb4 36. Qd5+ Kf8 37. Bg7+ Ke8 38. Qg8+ Bf8 39. Qxf8# 1-0

[Event "Match (Game in 60)"]

[Site "London"]

[Date "1995.10.08"]

[Round "7"]

[White "Mephisto Nigel Short"]

[Black "Kasparov Travel Champion 2100"]

[Result "0-1"]

1. d4 d5 2. c4 dxc4 3. e4 b5 4. Nc3 e5 5. dxe5 Qxd1+ 6. Kxd1 c6 7. f4 Nh6 8. a3 Bc5 9. Bd2 Ng4 10. Nh3 Ne3+ 11. Bxe3 Bxe3 12. Ke2

Volume 5, Number 3+4

Bd4 13. Ng5 Bg4+ 14. Nf3 Nd7 15. h3 Bxf3+ 16. Kxf3 g5 17. g3 Rd8 18. Be2 Nc5 19. Rhd1 h5 20. Rac1 h4 21. fxg5 Nb3 22. Rc2 Bxe5 23. Rxd8+ Kxd8 24. Kg2 hxg3 25. Bg4 Nd4 26. Rc1 Ke7 27. Rh1 Nc2 28. h4 Ne3+ 29. Kh3 Rd8 30. a4 b4 31. Nd1 Rd3 32. Nxe3 Rxe3 33. h5 g2+ 34. Kxg2 Rg3+ 35. Kf2 Rxxg4 36. Rc1 Rxe4 37. Rb1 Rh4 38. Re1 Kd6 39. Rd1+ Kc5 40. b3 Rxh5 41. g6 fxg6 42. Rc1 Bd4+ 43. Kg3 Bc3 44. bxc4 Kxc4 45. Kf3 b3 46. Rg1 b2 47. Rd1 Re5 0-1

ABOUT THE AUTHOR:

Alastair is 27 years old. He was born and brought up in Scotland but lives in London. He has a BSc in physics from the University of Edinburgh. His current job is as a software engineer with Logica, a British systems integrator: he writes training courses for a big air traffic control system which will be coming on line in the next couple of years. Alastair began playing chess when he was about 8 years old, lost interest when he was at university, but the Internet has charged up his batteries again. He is about a 1900 player. Besides a chess player, he is a keen musician (violin and piano), concert-goer, cyclist and (enthusiastic but strictly amateur) writer.

FIDELITY VS. ROCKY THE PARROT

by Tom Masters

I purchased one if these tiny Fidelity wonders. They probably used the same program in it that they did in their very first offering back in 1977. I have one of those, also, purchased for \$219 :-> The very first Fidelity Chess Challenger, which was the first portable computer chess game available to the public in general, allowed you to make illegal moves, had the algebraic coordinates in the opposite place of where they belonged (numbers for the files and letters for the ranks), and played the most miserable game of chess imaginable. It frequently missed mates in one. To test its inadequacy, I had it play my parrot. This is no lie. I had the bird trained to peck at little plastic squares I placed in front of her. I would place squares with all of the legal pieces that could be moved in front of Rocky and she would peck at one. I would then place squares showing all of the legal places that the piece could be moved to in front of her and she would peck-pick one of them. The first game ran 84 moves, with the Chess Challenger managing to capture all of Rocky's pieces by the 40th move. It then spent

the next 19 moves chasing Rocky's king with its queen, stopped to pick off a couple of loose pawns, missed two mates with other pieces, did the king-queen chase thing again for another 14 moves, trapping it in a corner. Finally, satisfied with its work, Fidelity then proceeded to remove Rocky's last two mobile pawns with other pieces, stalemating the bird in the process. I then ran an experiment with a slightly different set of parameters. Instead of giving Rocky completely random moves, I eliminated the ridiculous ones, choosing what were, in my opinion, the five best available, but still gave her enough leeway to be able to choose from at least 5 legal moves (or as many as were available to her, if less than 5). Some judgment was used on my part, but with 5 possibilities to choose from, she would still play a rather poor game against even a rank beginner. Here is the record for that game, annotated for your amusement.

White: Rocky the Parrot

Black: Fidelity Chess Challenger 1977

Opening: Rocky's Beak

1 e3 d4

2 d4 Nf6

This pretty much summed up Fidelity's opening book in those days, save for a few e5 lines to e4. The bird has been lucky so far.

3 Nd2 Bg4

4 Ngf3

Fortunately, the bird had five different ways to block the bishop's attack :->

4 Bxf3

5 Nxf3

Lucky again, as the odds were 3-2 against it saving the Queen

5 e6

At this point we have a plausible game (sort of) with rational moves by both sides (in a way). At this point, however, Rod Serling comes out from the wings and does his monologue.

6 Bb5+ c6

7 Ba4

The least of the five choices I gave it.

7 Qa5+

8 Bd2

At last, Rocky's luck runs out. c3, of course would save the bishop.

8 Qxa4

9 O-O Ne4

Such is the mentality of the early programs. The bishop is worth more to Fidelity than the Knight, so it attacks it.

10 b3

At most points during the game, if I had moves I could offer the bird to avoid having Fidelity capture a piece, I did so, as Rocky's chances of recapturing were not good, given the minimum of 5 moves possible to it.

10 Qa6

11 Bc1

Up to this point, the bird hasn't played that bad of a game, considering its limitations. After this, though, the game becomes a rather silly travesty from both sides

11 Qa6

12 Ne5 Bd6

13 Bb2 Bxe5

14 Qg4 Bf6

15 f3 Ng5

16 a4

h4 wins a piece, of course.

16 Qe2

17 Rae1 Qxc2

18 Rf2 Qxb3

19 e4 Qxa5

20 Kh1 Bxd4

21 Bxd4

A bit of luck for the bird

21 Qxd4

22 R2f1 h3

23 f4 Nxe4

24 Rb1 f5?

And the attack a stronger piece with a lesser one now shows up for fidelity, which had played a remarkably good game (for it) up to this point.

25 Qg6+!!

Rocky finds the right plastic square to peck at. 25 Kf8

26 Rxb7?!

I was aware that a forced mate existed with Nf2+, but was hoping Fidelity wouldn't accidentally find it. The move made is probably Rocky's best shot for a plus, considering.

26 Nf2+

Found mostly because it pushed the mate threat against it over the horizon for one move.

27 Kg1 Nh3+

28 Kh1 Nf2+

Of course Qg1 mates next, but I doubted Fidelity could find that.

29 Rxf2?

Darned bird. Now I fully expected Fidelity to play Qa1+ (which would check and also give it the chance to guard against the mate by a later Qf6, by its 2-4 play search). Then, of course, when Rocky had to interpose one of its Rooks, Fidelity would capture it and eventually mate.

29 Qxf2???

Hard to believe, which leads one to think that the program only had a one or two ply search at that point in its development. However, Rocky still had five choices to make and only one of them mates. I had a strong urge to put a sunflower seed on the f7 plastic tile but resisted the urge. At this point, Rocky's five choices

were: h3, h4, Qf7+, Qxg7+ and Rf7+, so there would be no mate by Black for a while in any case.

30 Qxg7+ Ke8

At this point, Rocky could choose from: Qe7+, Qxh8+, Qf7+, Qg6+, and h3. I didn't bother including Re7+ as it would eliminate the possibility of a mate next move.

31 Qf7+

Stupid bird started to peck at Qh8+, then poked at the move it made.

31 Kd8

32 Qc7+ Ke8

33 Qf7+ Kd8

34 Qe7+ Kc8

At this point, the bird finally made a good peck.

35 Rc7++

I played three or four more games after that, during the next few weeks, with Rocky as the competitor, making totally random moves, and

Fidelity always stalemated or ran into the three-repetition rule. I managed to win a couple of games against it by spotting it the queen and both rooks, before finally tiring of it. When I got the Fidelity credit card job and found out how poorly it played, I wondered how it would fare against the old Fidelity computer. I dug the antique out of the closet, where it had sat for most of the previous decade, and, sure enough, it still was operable.

I pitted the two against each other. The credit card beat the old machine in about 115 moves. It didn't seem to understand the concept of checkmate any better than its ancestor did, but finally got the job done after removing every piece and pawn its opponent owned and chasing the king around with the queen, much as its parents did before it. It did, at least, understand the three-repetition rule, and avoided it, which is how it finally mated its opponent. Computers have come a long way since then, of course. But I doubt to this day that any of the Fidelity series could beat even a 1700 player.

ABOUT THE AUTHOR:

Tom is a Las Vegas businessman.

FIDE vs USCF COMPUTER RATINGS

by Geoffrey Wyatt

I am surprised and disappointed to see outrageous comparisons between FIDE and USCF

ratings appear in the rec.games.chess.comp FAQ. The FAQ maintains, for instance that a 2439 FIDE rating, estimated for one of the computers, is equivalent to a 2650 USCF rating!! This unfair and highly inaccurate trick is often employed by computer manufacturers, for obvious reasons. The truth is that statistical comparisons show something like a 50-75 point difference between FIDE and USCF ratings at the high levels being discussed. At lower levels the difference may be slightly greater. In any event, the 200+ difference mentioned in the FAQ is fantasy. This matter was discussed at great length on the rgc newsgroup several months ago. I believe it was statistician Ken Sloan who provided the definitive data showing that the difference does not exceed 75 points for ratings such as those discussed on

the FAQ. If I am misstating Dr. Sloan's findings, I welcome correction.

ABOUT THE AUTHOR:

Geoff is an attorney and works for the Oregon State Bar, in Portland. He has no formal computer background, though he now "plays" with a Pentium 120 multi-media system. He says he enjoys both Chess Assistant and MChess Pro 5 immensely. He has been a USCF expert off and on for the past dozen years, though at the moment he says he is rather out of tournamentpractice. Geoff was recently elected Secretary of the Oregon Chess Federation. "Developments in computer chess always fascinate me" says Geoff, "and I appreciate your CCR's efforts to keep everyone informed."



The Harvard Cup: Patrick Wolff vs. MChess Pro 5
(Operator Roger LaFlair)

RATING THE CHESS COMPUTERS

by Larry Kaufman

I have made only one change to the methodology used in the previous issue. Due to a rule change by the C.R.A. which now allows five minutes operator time for the program being rated, I now subtract one hundred points from all C.R.A. Action ratings earned under the new rule, while I continue to subtract eighty points from those Action ratings earned under the old rule. I feel that these adjustments give a good estimate of what the C.R.A. rating would be at the standard tournament time control of forty moves in two hours.

As before, the CCNS (Computer Chess News Sheet, England) ratings are boosted by 100 points and the Ply (Sweden) ratings by 180 points to make them comparable to USCF ratings. Ratings adjusted for processor speed are enclosed in (), and those ratings adjusted from Action tests are enclosed in []. CCR30' and CRA ratings require at least 48 games, while Ply ratings now require at least one hundred.

CCR RATINGS LIST - DEDICATED UNITS

Computer	MHz	Mean	CCR30'	CRA	CCNS	PLY	Blitz
TASC R30 v. 2.5	30	2518	****	[(2461)]	2542	2544	2523
Meph Genius 68030	33	2496	****	****	2489	2482	2511
TASC R30 v. 1-2.2	30	2473	****	****	2485	[2479]	2455
Meph Lyon 68030	36	2464	(2482)	****	2441	2435	2496
Meph RISC2 1 MB	14	2455	****	****	2455	****	****
Meph Vanc 68030	36	2453	2486	[(2491)]	2419	2414	****
M. Berlin Pro 68020	25	2433	****	****	2426	2398	2476
Saitek Sparc	20	2414	****	2455	2393	2394	****
Meph Port 68030	36	2404	2410	2376	2420	2417	(2396)
Meph RISC 1 MB	14	2396	2453	[2308]	2408	2384	2426
Fid Elite v10 68040	25	2383	(2425)	(2430)	2326	(2354)	2380
Mephist Montreaux	14	2375	****	[2395]	2372	2359	****
Sait RISC 2500 128k	14	2367	****	****	2372	2374	2355
Meph Vanc 68020	12	2353	2377	[(2382)]	2338	2343	2323
Meph Lyon 68020	12	2344	2373	****	2326	2330	2348
Fid Elite v9 68030	32	2331	(2372)	(2372)	2290	2301	(2318)
Fid Premier Vanc	16	2306	2300	[2345]	(2295)	(2295)	(2290)
Meph Berlin 68000	12	2305	2317	****	2295	2300	(2306)
Meph Lyon 68000	12	2298	2317	****	2282	2285	2306
Meph Vanc 68000	12	2295	2304	[(2333)]	2283	2283	(2274)
Meph Port 68020	12	2290	2293	(2267)	2296	2307	2287
Nov Sapphire/Diam.	13	2281	****	[2303]	2272	2268	2281
Fid Mach IV 68020	20	2277	2312	2325	2241	2253	2256
Meph Almeria 68020	12	2272	2295	****	2268	2253	****
Fid Elite v.5 dual	16	2235	****	(2306)	2208	2215	(2212)
Meph Port 68000	12	2232	2239	(2218)	2243	2222	(2238)
Sait BruteForce h8	10	2210	2233	****	2196	2201	****
Nov Diablo/Scorpio	16	2207	2220	[2229]	2174	2187	2224
Meph Dallas 68020	14	2206	2233	(2208)	2179	2202	****
Meph Roma 68020	14	2205	2212	****	2193	2209	****
Meph Almeria 68000	12	2199	2220	****	2177	2200	****
Fid Mach III 68000	16	2181	2203	2265	2141	2173	2123
Sait Pres/GK&TC2100	10	2179	****	[2234]	2148	2155	****

Meph Mondial 68000	12	2157	2194	2154	2115	(2164)	****
Nov Jade2/Zircon2h8	10	2154	****	[2161]	2147	****	****
Meph MM5 6502	5	2148	2146	****	2136	2161	****
Nov Super Forte/Ex C	6	2148	2201	****	2126	2141	2125
Meph Ni. Short 6502	5	2142	****	****	2142	****	****
Meph Montreal/Roma	12	2140	2158	****	2111	2150	****
Meph Milano 6502	5	2132	2122	****	2128	2145	****
Meph Polgar 6502	5	2129	2191	****	2129	2151	2043
Meph Amsterdam68000	12	2126	****	{2176}	2091	2106	2130
Nov Supe Forte/B	6	2126	2201	****	2083	2100	2118
Fid Mach II C 68000	12	2104	2155	(2093)	2075	2094	****
Sait Maestro D 6502	10	2096	2108	(2105)	2076	2095	****
Meph Mega 4	5	2096	(2113)	(2106)	2080	2097	2083
Nov Super Forte/Ex A	6	2091	2140	2164	2042	(2032)	2079
Sait GK 2000 h8	10	2079	****	****	2081	2077	****
CXG Sphinx Gal 6502	4	2075	2139	****	2025	2061	****
Meph Modena 6502	4	2071	****	****	2066	2076	****
Nov Ruby/Emerald h8	10	2069	****	[2101]	2047	2059	****
èFid TravelMaster h8	10	2057	2103	[1982]	2065	2078	****
Sait TravelChamp h8	7	2051	****	****	2056	(2046)	****
Sait Turboking II	5	2027	1995	2045	2020	2048	****
Fid Par Ex/Des 2100	5	2012	****	{2076}	1978	2015	1977
Sait Simul/Corona	5	2005	2073	****	1955	1986	****
Novag Forte B 6502	5	1988	****	****	1980	1996	****
Excal Legend/Accol	10	1985	****	(1985)	****	****	****
Novag Super Const	4	1944	****	2018	1885	1911	1960
Fid Excel/Des 2000	3	1921	****	****	1906	1936	****
Sait Blitz/Prisma	10	1919	1906	1965	1892	1914	****
Radio Shack 2150L h8	8	1900	(1887)	(1946)	(1873)	(1895)	****
Radio Shack Talking	2	1886	****	****	(1871)	(1901)	****
Novag Super VIP	10	1874	1912	****	1844	1867	****
Meph Europa	8	1862	****	****	****	1862	****
Marco Polo / Academy	8	1862	****	****	****	1862	****
Excal Adv. Star Ch.	8	1733	****	****	1724	1742	****

THE RATINGS

DEBATE

by Eric Hallsworth

I have been very interested to read the different views on the effect of opening books on the Computer Programs, and their likely effect against both each other and against humans. I would like to suggest another possible contributory effect to the matter of 'falling grades'.

All of Sweden's PLY, the USA's COMPUTER CHESS REPORTS and Britain's NEWS SHEET make an effort to align their Computer Rating Lists to the performances of computers against humans within their own country.

I believe that Tournament players have got much better against computers over the years - ownership of a program by many/most, awareness of the need for some preparation in case of meeting one in a tourney, a view of others' games played against them etc.

When Fidelity Sensory 9 got 1779 and Novag Super Constellation 2018 in big event USA tournaments few people owned or had played

against a chess computer, and most neither knew much about them, nor had any real awareness of how they played, or little respect for them (thus some casual and wild risks were taken against them, very much playing into their tactical 'hands').

I don't believe either the Sensory 9 nor the Super Constellation could even remotely repeat their gradings in tournaments today, with the knowledge most players have against computers!

In Britain, when we enter a computer into a tournament, the players have an option on their entry form 'to play' or 'not to play' a computer. Thus we find that 90% of our opponents have a computer or computer program, and are well prepared for their game. Nothing wrong with that, of course, but this was not the case some 5 years or so ago and the computers were getting ratings probably better than they really deserved due to poorer 'vs. computer' play by their human opponents.

I therefore think that this is another reason why the 'old' computer's ratings have dropped. The Super Constellation DID get 2018 a few years ago. But (much) improved and faster programs/computers sometimes don't do that much better today, yet can genuinely beat Super Constellation by, perhaps, 20-0. The Super Constellation is therefore over-rated at 2018 and its rating must be reduced to give as accurate a guide as possible as to what it might get in a tournament today. Another example: about 5 years ago a Mephisto Academy graded at 181 BCF (about 2048 Elo) in the British Major Open over 33 games. This was the first time we had entered an Ed Schroder program, it was on a 6502 processor at 5MHz, and we were pretty pleased with the result. The Academy also showed at 181 BCF/2050 Elo on our rating list at that time, after 1614 computer vs computer games.

The Academy became quite a big seller over here, and an improved version Milano in a press-sensory board sold even better. Two or three years later Ed Schroder's RISC1 came along and we decided to put that into the British. Having 2-3 years extra work put into the program and being on a 14MHz RISC processor with hash tables (thus running about 6 times faster than the Academy) we expected a BIG grading! However we soon found ourselves running into openings which the RISC had difficulty with or was quickly out of book in - the opening book had not changed greatly between the versions! - and the players were going for quieter, strategic games, heading for equalish endgames where the RISC1 proved to be suspect from time to time (the Academy only played either 3 or 4 endgames, and 2 of those were opposite colored Bishop

draws with the computer a pawn up thinking it could win)..... and RISC1 only got 180 BCF for 2038 Elo from its 33 games.

As a final score to complete this comparison, various owners have played the Academy and RISC1 'head-on', and the scores held by my rating program for rating list purposes have RISC1 leading 29-4.

I believe that the RISC1 result vs. humans is more valid than that of the Academy - it's a later result, the players better prepared, more computer aware etc. Therefore if I now admit that the Academy no longer stands at 2050 on our rating list, it is not that it has gone worse, but that we have re-aligned the ratings to take account of more recent computer vs human performances, and the rating list has 'lost' Elo points (hope that makes sense!). Gladly the RISC1 has had some better vs. human results since the 'British', and is now 208 BCF/2264 Elo from 55 games against humans.

Finally, the current ratings are: Academy 175 BCF/2001 from 2361 games; RISC1 213 BCF/2310 Elo from 2246 games. We THINK that's about right for Britain! Oh. and the Super Constellation is 148 BCF/1785 Elo.

None of our rating lists will be perfect, I'm afraid, but certainly in Sweden and Britain they are computer-calculated using the Elo calculation system. There are no weightings for later results cp. earlier results computer vs computer (which would imply that a computer has improved, or is in good/bad form at present!) but there are weightings for results vs. humans, and these are weighted to take greater account of the latest gradings.

MORE C.R.A. TESTS

by Larry Kaufman

In recent years, all C.R.A. (Computer Rating Agency, an arm of the U.S. Chess Federation) tests have been Action tests, meaning 30 minutes per side, sudden death. There are two reasons for this. One is the practical reason that very few major open tournaments allow computers to participate, which makes it very difficult and expensive to get a computer rated at 40/2 now. The other reason is that fast time limits favor the computer, with Action ratings typically running nearly a hundred points above 40/2 ratings. Since the USCF has not been too zealous about emphasizing the difference between the two types of ratings, manufacturers naturally prefer to get the highest possible rating, which means they all opt for Action ratings.

At the U.S. Open in August '95, Saitek submitted two models for CRA Action testing. The models had been withdrawn from testing at an earlier event due to inexperienced operators losing many games on time. This time they were operated by two very experienced CRA operators, Max Harrell and myself (Larry Kaufman). Furthermore, a rule change was instituted that allows for 5 minutes operator time, so that the computers could be set at game/30 instead of game/25 as had previously been necessary. As a result, no games were lost on time and the computers each performed splendidly, well above expectations. In 48 games against mostly Expert and Master opponents, the Saitek President earned a 2334 Action rating, some 93 points above the Novag models with similar hardware. This was especially surprising because the previous model by the same programmer on the same processor got only 2062, and the doubling of memory in the newer model should not be worth even a hundred points. Even if we attribute 20 points of the gain to the rule change and acknowledge that the President was quite lucky to escape from several lost positions, it cannot be denied that the President deserves a Master Action rating. As for the more expensive RISC-based Mephisto Montreux, it too exceeded expectations with a 2495 result in 48 games against mostly Master and Senior Master opponents. This was some 107 points above the result of Mephisto RISC 1 MB, which had a similar processor but more RAM. Furthermore, while the President was often short of time and needed the operator time to avoid forfeit, the Montreux moved too quickly, never needing the allowed operator time. Moreover it was my feeling that while of course Montreux had some luck, it was not nearly as lucky as the President had been. Grandmaster Arthur Bisguier expressed the same opinion as other top players in saying that the Montreux (but not the President) played a very strong game.

Here is a list of all current CRA Action Ratings. Mephisto Montreux is first at 2495, then Fidelity Premiere Vancouver at 2425, Mephisto RISC 1 Mb at 2388, Novag Diamond and Sapphire at 2383, Kasparov (Saitek) President, Palm Top, and GK2100 at 2334, Novag Diablo and Scorpio at 2309, Novag Zircon II and Jade II at 2241, Novag Ruby and Emerald at 2181, Excalibur Legend and Accolade at 2065, and Fidelity TravelMaster and Kasparov (Saitek) GK2000 and Turbo Advanced Trainer at 2062. When will PC programs start getting CRA ratings? Although it costs \$5,000 or more to get rated, I would have expected that one of the big companies would have got rated by now.

Perhaps they will do so soon, and if so don't be surprised to see a CRA Action rating over 2600!

A TRIP DOWN CHess COMPUTER Memory Lane

by Truman Collins

Does anyone remember the old Boris chess computer? It was sold by Applied Concepts Inc. around 1978.

When I was a kid we got one of them, and I probably played a couple of hundred games against it. It came in a walnut box with a little folding board and pieces. Moves were entered with a little keypad similar to newer chess computers, and it had an 8 character LED screen. Its strength was probably only in the 1000 range. It could be set to think for any period of time, although I found out that if you let it think for several days, it would reach a point where it would just start over. Presumably, it ran out of memory and I guess that was better than crashing.

One of its unique features was that it displayed random messages across the screen after you made a move. Some of the ones that I saw in a couple of quick games last night were: "Would you like a draw?", "Good move", "I expected that", "Spot me a queen?", "Ahh ruthless", and "I missed that". It was a pretty cute machine, and it has quite a bit of sentimental value for me.

I ran across it last night after not having thought about it for about five years, and I played around with it a bit. Some questions occurred to me that someone on this newsgroup might have the answer to. Was there only one version of this machine, or did they sell newer, better versions? Does anyone know how much memory it had and how large the program was? Was this the first commercially available chess computer, or were there others before it? I remember the Chess Challengers came out around the same time.

The most interesting question involves the mysterious hidden keys. If you take the faceplate off, there is another row of keys above the ones usable from the outside. The only thing I could figure out with them was that they could generate the letters P, L, and Q in certain modes. Does anyone have any idea if they had a meaningful use?

ABOUT THE AUTHOR:

Truman received a Master's degree in Computer Science in 1987 and has since worked as a software engineer in Portland Oregon USA. He has played chess off and on since he was a child, and have crept up to the 1500 level. Truman wrote a chess program named Pawnder -- which plays at about the 1400 level -- that competed for three years in the Uniform Platform Chess Tournament in London.

MORE CHESS COMPUTER MEMORIES

by Steven A. Schwartz

The Boris was an oldie (but not such a goody). After Boris came Boris Master (if I recall correctly). It had different sayings but played the same miserable chess (although at that time it was state of the art). Our company began just at about the time Boris came out, and I still remember the customers laughing at the skill level (or lack thereof) of Boris. We don't hear that anymore!

It was not the first. The first was the Fidelity Chess Challenger 1 (most of you probably thought it was the Chess Challenger 7 because THAT machine sold like crazy and created quite a stir. After Chess Challenger 1 came 3 then 10 then 7. Boris came out about when the Chess Challenger 10 arrived. I, personally, am not aware of the "hidden" buttons. Let me know if you find anything out.

ABOUT THE AUTHOR:

Steve has a B.A. in English and M.A. in education. He currently works at ICD Corp.

STILL MORE CHESS COMPUTER MEMORIES

by Bruce Moreland

There was a 9 after the 7, too.

Fidelity has/had a problem numbering stuff. In the Chess Challenger 7, the skill levels went 1,2,3,7,6,5, in order of increasing strength :) 4 was "mate finder level", which spent forever thinking. I tried to play a game on level 4 once, the machine was white (I believe the book was off, I don't know if it used its book on level 4, not

that it matters, the book was only about fifty positions, maybe fewer). The game went d4 d5 c4 e6. Both machine moves took several minutes. But it played its third move, Qa4+, almost instantly. Level 5 took several days to move, occasionally, and was still weak.

The machine also had another bug. When playing black, after e4 e6 d4 d5, it would ALWAYS play c5 in response to ANY white third move it didn't have in book, even ILLEGAL moves. I won some games with a2-d8, but then I discovered that a2-e8 produced an interesting game, too.

I wore that machine out, it was wonderful.

ABOUT THE AUTHOR:

Bruce Moreland lives in Seattle. He graduated from The Evergreen State College in 1986, with a BS, but didn't actually get the diploma because one of his professors forgot to turn in some of his credits and because he had an overdue book. Bruce is the author of Ferret, an amateur chess program that competes regularly on the internet. And currently, he works as a programmer at Microsoft.

CHESS LIFE AS CONSUMER REPORTS??

by Bruce Moreland

Think about the magazine "Consumer Reports" for a moment. They review stuff. They don't take ads for anything. A company can't mention Consumer Reports by name in their ads in other publications.

The whole idea is to make sure the reviews are as honest as possible. You buy Consumer Reports because you know that it contains the truth, or at least an independent and competent group's perception of the truth.

Contrast this with Chess Life, and think about how they must regard you. You'd get the same exact information if you sent to the companies in question and asked for advertising literature. What does this make Chess Life?

A magazine doesn't have to be either Chess Life or Consumer Reports, it can exist somewhere in the middle, but Chess Life is surely at the extreme end of this spectrum.

FIDE COMPUTER **REGISTRATION**

by Steven Edwards

About three years ago, FIDE established rules for registering computer players for participation in FIDE rated events. The regulations were published as a "news flash" item in the ICCA Journal and it all appeared as a bit of a surprise; I don't think any of the ICCA leadership were informed, or even consulted, beforehand. The program registration fee was in the thousands of dollars. I don't recall the exact figure as I was laughing too much. Now that the FIDE computer rules have been in effect for a couple of years, I was wondering:

1) Who was responsible for the establishment of the rules?

2) Who was responsible for setting the outrageous registration fee?

3) Why is the FIDE registration fee incredibly high? (Note: in comparison, the program registration fee established by the USCF is \$40 per year and includes a subscription to Chess Life. There are about ten active programs registered. I am the author and owner of one of them. In the early days, I believe program membership was free and I think that Richard Greenblatt's program MacHack played as an "honorary" member.)

4) Is any of the money generated by FIDE program registrations fed back into the support of computer chess development?

5) Finally, have there been any program authors or vendors that have purchased FIDE registration? While it is nice that FIDE allows registered programs in FIDE rated events, the enormity of the fee leaves one wondering about its motivation. Is it just a case of monopolistic money grubbing? Or perhaps it is a way for FIDE to "recognize" the legitimacy of program players while simultaneously ensuring that there won't be any in FIDE events.

I recall some years ago (early 1980s) that FIDE sold the use of its name for a certain brand of commercial computer chessplayers and this allowed the manufacturer to use the FIDE name and symbol in advertising and on the unit itself (I have one of these). Was this a foreshadowing of the current FIDE registration fee? Was it done on an exclusive basis? Was any of the money received used to support computer chess research?

The USCF charges a considerable fee for rating of commercial programs. A large portion of the fee is paid as reward prizes to motivate

human opponents, so it appears that it is justified. However, even with this system there have been abuses; one of them occurred when a now defunct manufacturer switched models in the middle of a tournament. I think that this rating program (at least for standard 40/120 time controls) has fallen into the doldrums as many now use the Swedish Ply rating list to measure program strength. Still, the USCF rating system for programs is probably currently the best way to establish strength against human opposition.

The ICCA has a program for accepting funds from commercial sponsors, and I think that this is justified. The money is used to further computer chess research by supporting a research publication system and by assisting with computer chess events. ICCA commercial sponsors are identified in the ICCA Journal and some have gone further to sponsor certain research efforts administered under the supervision of the ICCA. To my knowledge, there are no exclusive arrangements and there are no prohibitive fees charged to commercial entries in ICCA events.

(There may have been some ICCA events where there was a slightly different entry fee for commercial programs compared to amateur programs. The fairness of this practice is under discussion, as it is not always easy to classify an entrant to the satisfaction of all participants.) There is no ICCA program registration fee; however, authors of programs in ICCA events themselves have to be ICCA members (\$40 per year; includes journal subscription). My suggestion is that FIDE, and perhaps the national level members of FIDE like the USCF, let the matter of computer chessplayer registration be handled by the ICCA. This would allow the researchers themselves to establish a sound and fair methodology for program registration and participation. No exorbitant fees would be charged, no exclusive arrangements would be allowed, and any money collected would go towards supporting the advancement of research.

CAN MACHINE BE **CHAMPION?**

by David Battle

Competition between human and machine players will be interesting for precisely as long as there is any reasonable hope of the human winning. I'm reminded of the story of a certain "steel driving man" and a steam drill.

Once the steam drill wins consistently, interest in the match will be lost. It is at this point

in time when machines should be prohibited from competitions, but only because it is a forgone conclusion that they would win if they were permitted. Barring them before they reach this level of play is just a feeble attempt at denial.

It might make sense today to bar machines from lower-level competitions where they win consistently. But people are going to want to know when the point is reached where the machine finally gets a permanent upper hand against the world champion. There may be a few years where things flip back and forth a bit, but once it seems impossible for a human to win against the best machine, interest will automatically decline. I suspect investment in computer chess program development will fall off very sharply at that point as well; witness the loss in interest in the manned space program once we put a man on the moon.

Of course there has never been anywhere near that much investment in chess to begin with. I recently read a article where the author pointed out that at its peak, the AI industry was a \$1 billion/year business. By contrast cat food was, and still is, about a \$2 billion/year industry.

ABOUT THE AUTHOR:

David Battle received his BS degree in Computer Science from Tennessee

Technological University in May of 1988 and his MSCS from the University of Tennessee in May of 1991. He has been employed for the past 4 years as a Software Engineer at SNMP Research Inc. where, among other things, he has wasted his evenings and weekends writing a chess-playing program which plays better chess than he does (which, he says, is not saying much). He lives in the Knoxville, Tennessee area.

DEEP BLUE BEATS KASPAROV BUT LOSES THE MATCH

by Larry Kaufman

The first game between the most powerful chess playing machine ever built, IBM's Deep Blue, and the only human player in history to have been rated over 2800 FIDE, PCA World Champion Gary Kasparov, ended in a dramatic victory for the mechanical monster. Deep Blue, reportedly with 256 specially designed "chess chips" working in parallel, is said to examine about 200 million positions per second, which is several thousand times more than the top PC programs are capable of. Despite this, and despite the fact that one PC program, Genius, has

a 2-2 record against the champ in 25' chess, Kasparov was widely reckoned to be a prohibitive favorite in the six game match, played at 40 moves in two hours, then 20 in one hour, then 30' to finish, in part because the new hardware has not yet been publicly tested. However, in the first game, Kasparov was mercilessly outplayed and finally crushed. Here is the game together with comments by myself, by MChess Pro 5.0, and by various "spectators" who followed the game via the Internet Chess Club. Deep Blue played white.

1. e4 c5 (This, the Sicilian Defense, is nearly always Gary's choice against e4. Its strategic richness makes it a good choice against computers.) 2 c3 (This is the Alapin variation. Formerly thought to be innocuous, it has become rather popular among masters in recent years. It is an especially popular choice for chess computers, because the resultant games are usually rich in tactics but not too subtle positionally. The Open Sicilian (2 Nf3 and 3 d4) is not so good for computers because it often requires unclear sacrifices and attacking with the pawns around white's king, which computers are loathe to do.) ...d5 (logical because the Black Queen can no longer be chased away from d5 by Nc3. The leading alternative is 2...Nf6.) 3 exd5 Qxd5 4 d4 Nf6 5 Nf3 Bg4 (5...e6 and 5...Nc6 are the main alternatives.) 6 Be2 e6 7 h3 Bh5 8 o-o (Another choice is 8 c4, which was successful in Filipovic - Cvetkovic, 1995) Nc6 9 Be3 (By threatening dxc5, white provokes the exchange of "c" pawns, which frees c3 for the white knight.) cxd4 10 cxd4 (The capture with the knight is also good and gave white a slight edge in Tivjakov - Lautier, but it is rather drawish. The move played leaves white with an isolated pawn but a compensating advantage in space and development once the queen is driven back.) Bb4 (unusual but not new.) 11 a3 Ba5 12 Nc3 (The database I consulted gave only 12 b4, which is also the choice of MChess Pro 5, but the text seems more natural, since black must either lose time or surrender the bishop pair and improve white's pawn structure.) ...Qd6 13 Nb5 (In game 3 white tried Ne5 here, with the moves h3 Bh5 omitted, but did not obtain any advantage.) Qe7 (MCP likes ..Qd5, hoping for a repetition.) 14 Ne5 (The spectators thought this move was harmless but it does seem to give white at least a slight pull; MCP likes 14 b4 and then Ne5 next, claiming a half pawn edge, which I feel is way too optimistic.) ..Bxe2 15 Qxe2 o-o (MCP likes ..Nd5 better; ..a6 was also suggested.) 16 Rac1 Rac8 (MCP prefers Rf-c8 to keep the "a" pawn defended so the queen would be free to move.) 17 Bg5! (This leads to the doubling of white's king side pawns, because the queen is not free to

recapture on f6 due to the knight fork on d7 and to the possibility of capturing on c6 and a7. However, since it costs bishop for knight and gives black a file for his rook to use against white's king, it is still not too bad for black.) ...Bb6 (This was criticized since black never gets to capture the "d" pawn; MCP prefers Qg4 ch. However, black could have avoided a second pair of doubled pawns by ...Bc7. MCP considers Kasparov's move to be a terrible blunder, putting white's edge at 1.4 pawns, which seems ridiculously high.) 20 Nxb6 axb6 21 Rfd1 f5 (At this point, Grandmaster Stefannson expressed the incredible opinion that black stood better! He claimed that black could attack white's weak pawn by ...Qf6 followed by doubling rooks on the "d" file, while black's weak pawns, being on closed files, were harder to attack. MCP gives white a 1.1 pawn plus. The game shows that MCP was much more correct than GM Stefannson.) 22 Qe3! Qf6 23 d5! (MCP thinks this throws away white's edge, but it is probably the winning move. I imagine deep blue looked far enough ahead to see that the pawn sac was only temporary, but in any case white must have more than enough comp for a pawn, with six ! isolated pawns in the black camp and none in white's.) ...Rxd5 24 Rxd5 exd5 25 b3! (some spectators still preferred black due to the passed "d" pawn, but I and MCP disagree.) ..Kh8 (MCP prefers that black was better!) 26 Qxb6 Rg8 27 Qc5! d4 28 Nd6 (By now it was clear that white is winning. MCP gives white a two pawn lead.) ..f4 29 Nxb7 Ne5 30 Qd5 f3 31 g3 Nd3 32 Rc7 (Spectators expected Rc6, but the computer always looks for the way to win the most material, not the "simplest" line) ..Re8 33 Nd6 Re1 ch 34 Kh2 Nxf2 (So black threatens mate in one, but white's attack comes first.) 35 Nxf7 ch Kg7 (..Qxf7 sets the trap 36 Q or R takes f7, ..Rh1 mate, but unfortunately for the champ white would play 36 Qd8 ch Qg8 37 Qf6 and mate next.) 36 Ng5 ch Kh6 37 Rxh7+ and black resigned, due to 37...Kg6 38 Qg8 ch Kf5 39 Nxf3 with numerous deadly threats, no more danger, and three extra pawns. MCP puts white's advantage at 14 pawns, seeing a forced win of the queen. All in all a very impressive game for the computer.

Despite this dramatic victory, Deep Blue failed to win any more games and ultimately lost the match 3-1 with two draws. In my opinion the openings were the single biggest reason for this result. With white, Blue failed to obtain the advantage (except perhaps in the first game), but with white Kasparov did obtain the advantage repeatedly. Deep Blue always opened with 1 e4, and in the first two such games answered Kasparov's Sicilian with the Alapin variation. The

final game with Blue as white saw Kasparov answering 1 e4 with Petrov's defense, which Blue answered by a transposition to the Scotch Four Knights, leading to a rather even game, which Blue mishandled and lost. With white Kasparov opened 1 Nf3 and answered 1...d5 with 2 d4 each time, transposing to a Queen's Gambit while avoiding some of the Indian defenses. The first time this happened black responded with the rather committal 2...e6, and after 3 g3 played ...c5, soon transposing to a variation of the Gruenfeld with colors reversed. The extra tempo gave white a clear initiative, in part due to a TN by Garri, with the result that black's kingside pawn structure was ruined and so black eventually lost. In the other two games Blue played ...c6 on move two instead of ...e6, but after 3 c4 played way of getting into the semi-slav is the excellent move 4 Nb-d2, which deters a later ...dxc4 since the knight recapture would be strong. Garri played this way in games 4 and 6. In game four, black simply transposed to a variation of the semi-slav considered somewhat favorable for white. White did indeed get he advantage but slipped up in the middlegame to allow a draw. In game six Blue varied on move 5 (after 4 Nbd2 Nf6 5 e3) by ... c5, but this symmetrical position with an extra tempo (Nbd2) by white must be in white's favor, as indeed it was during the game, and white ultimately got a winning game and won in crushing style. In general, the computer did not fare well in the closed openings, and its choice of inferior variations did not help matters. Aside from the opening book, Blue's problems seem to be a tendency towards planless play in closed positions, and in general a crude evaluation function, which allowed Kasparov to outplay Blue positionally.

Oddly, Kasparov complained to the press about Blue's advantage in having a perfect memory, which should allow it to play the openings much better than any human. However, this did not happen, perhaps because it is not at all easy to choose between different opening variations, and the experience of the World Champion counted for much more than Blue simply having a book that could tell it what had been played before. After all, nearly all the games in databases were played by players weaker than the World Champion, and so access to these games would probably not be a great help to the champ. In my opinion, if the contestants had played "shuffle chess" to negate the value of memory, Blue would have won the match.

THE BEST HUMANS VS. THE BEST COMPUTERS

by Jim Glanville

Russian Gary Kasparov is still the chess champion of the world. In 1993 he handily turned back the challenge of Englishman Nigel Short and in October 1995 he held off Indian grandmaster Viswanathan Anand. But now comes what may be the most dangerous threat to his tenure: a six-game match played under conventional tournament conditions with the IBM computer called Deep Blue. The match will take place this month in Philadelphia at a convention of computer researchers and experts.

The event promises to be the long awaited human-machine chess showdown. And with \$500,000 on the line the match is serious business.

It is being sponsored by of The Association for Computing Machinery (how's that for a charmingly archaic name). Both computer specialists and chess insiders figure that for the first time in history a computer is going up against the human world chess champion with at least a fighting chance.

Since the early 1950s, chess programs have served to test the power of computers. The better a computer plays chess the better is it and its programming. So chess playing skill has long been a benchmark for progress in computer development. Beating the human world champion remains the holy grail for computer designers and programmers. For this reason the Philadelphia match is eagerly awaited by computer professionals. Human chess players, on the other hand, are nervous. Humans and programs earn chess "ratings" by playing competitively. A chess rating is akin to a baseball pitcher's ERA or a batter's hitting average. It's a single number that summarizes competitive performance.

Chess beginners are typically rated 1000 or less, average players around 1500, experts around 2000, masters 2200 to 2400. Grandmasters typically rate above 2500 and the world champion soars to 2800. Some speculate that Deep Blue will perform at a rating over 3000. If this is correct then Kasparov will surely have a fight on his hands.

Around 1975 commercial chess computers played scarcely above the level of beginners. Back then, a computer with a 1400 rating was a strong computer, though it was regarded with contempt

by human chess experts. In 1975 even mainframe programs were only reaching the 1600-level.

But the intervening 20 years and the ongoing computer revolution have radically changed the picture. In 1996 there are a half-dozen programs rated at 2400 or higher when operating on fairly ordinary personal computers such as 486-type machines. Today, for an investment of about \$1000 in a personal computer and \$100 in a program, anyone can own a chess machine capable of outplaying all but the best few hundred chess players in the world.

Blitz chess is played with short time limits -- 5 minutes per player for the entire game is the commonest blitz time limit. In contrast, under conventional tournament conditions, such as those of the world championship, a single game might last up to six and a half hours. At blitz chess, computers more dominate human opponents than at more leisurely time limits. That's because most chess games are decided by one or other player making a mistake. Humans become much more mistake prone under time pressure.

In the past two or three years, innovations on the internet have enabled chess players routinely to play chess with one another. A host computer programmed to enable distant opponents to play chess is called a "chess server." About a dozen chess servers are currently operational, and blitz chess is their most popular feature.

Because of the historic intermix of chess and computers, it is natural that games by chess playing programs provide a significant part of the action on the chess servers. To get a rough measure of the continuing improvement of chess programs one can compare the ratings of humans and machines competing on the chess servers. As recently as two years ago, only one or two programs had reached the "top twenty" list. A recent check revealed that over half the of the top twenty "players" are programs, and on that day the highest rated "player" was a program. These days, at blitz chess on the net, the average computer is better than the average grandmaster! These machines are really making life difficult for humans.

World champion Gary Kasparov has himself been bloodied by one of these computer programs.

Over the past two years the Intel Corporation has been sponsoring an all-star series of chess events. Called the Intel Grand Prix series, it features two-game knock-out matches (Wimbledon tennis style) played at 30 minutes per game for each player. Ties are broken by blitz play-offs. To date, two events have been held in each of four cities: Moscow, New York, London, and Paris. Contestants have been drawn largely

from the top fifty players in the world and champion Kasparov has himself competed in seven of the eight events.

According to recent news reports, Intel has dropped its sponsorship of these events. One assumes that the chip maker was not entirely happy that Kasparov is about to engage in a match with a rival computer.

In one of the Intel events in 1994 Kasparov came up against the Genius program playing on a Pentium based machine. It's all on videotape. And it's painful to watch. The world's mightiest human agonizing as he gets squeezed to death and knocked out of the competition by a "silicon monster."

But, we say in human consolation, that's not regulation chess. Under conventional tournament conditions Kasparov will surely uphold humankind's honor? Maybe, maybe not. Enter Deep Blue. According to IBM's press release it's a "massively parallel, special-purpose system with an overall processing speed capable of analyzing ... nearly one billion chess positions per second ... using custom accelerator processor chips running in parallel." Doesn't sound like you'd want one of those on your desktop, does it?

Why does IBM spend its money playing chess you ask? Well, they say: "Computer chess is largely dependent on fast searching and many fundamental algorithmic methods have been emerging from the work." Hmmm...better living through better algorithmic methods. It's the 45-year old story: a computer that plays better chess is a better computer.

Deep Blue's predecessors -- Deep Thought and Deep Thought II played strong grandmaster level chess but were obviously not world championship caliber. Kasparov easily beat Deep Thought in a short match about six years ago. That match was the subject of an interesting TV show called The Chip and the Chessmaster. With Deep Blue, IBM sounds as though it is claiming to have replaced the low-orbital Atlas booster with the Apollo moon launcher. The general principle remains the same -- but there's a lot more thrust with the bigger machine. We'll see.

My prediction: I pick Kasparov, but expect that he'll have a tough battle. I predict Deep Blue will win at least one game. Remember, IBM is putting a lot of effort into this challenge. I'm not sure I'd pick any human other than Kasparov to win. Kasparov's competitive spirit is incredibly fierce. He seems to sense that it's his role to defend human intelligence against the machines. It's a role he obviously relishes.

How good is my prediction? Well, about 25 years ago, I confidently asserted that chess is so difficult that I didn't expect computers to give

humans any trouble during my lifetime. So what do I know?

ABOUT THE AUTHOR:

Jim Glanville, 55 years old, is Director of the General Chemistry program at Virginia Tech. He is single and lives in Blacksburg, Virginia. He started playing chess around 1948 in London, England -- where he was born. In 1962 after graduating from the Royal College of Science in London, he moved to Maryland to pursue a Ph. D. in chemistry and graduated from the University of Maryland in 1967. His Ph. D. research involved chemical crystallography -- a branch of chemistry that requires extensive computer use. He learned to write FORTRAN programs in 1963. Also, in 1963 he played checkers versus the University of Maryland mainframe (an IBM model 7090). He is the author of 25 professional articles and five patents.

His lifetime USCF rating has ranged from 1900-2100 and his notable losses include two games to world champions: Hans Berliner (in a Washington, DC league match in 1964) and Mikhail Botvinnik in a simul in 1962.

Nowadays he plays mostly blitz chess. In January 1996 he won the first monthly amateur blitz tournament at the US Chess Center in Washington DC, finishing in a tie with DC Amateur champion and DC Action champion Charles Smith --- who he beat in their individual encounter.

IS CYBER- GAMESMANSHIP A GOOD THING?

by Scott Schneider

A general opinion concerning the Deep Blue/Kasparov match and the presumptions behind it follows. At the time of this writing, Deep Blue had won the 1st match. For those with a philosophical bent, read on.....

I don't believe that the hidden postulate that this kind of cyber-gamesmanship is good has been questioned enough.

People talk idealistically about some wonderful marriage of man and machine intelligence as computers prove themselves in these areas. Let's look at some facts:

First of all, the computer has NO intelligence. It's a dumb electronic device with no ability whatsoever to move out of its programming context i.e. its moves are 100% predictable and traceable from its programmers. It's conceded that it relies on eval software and brute force

technique with other static information furnished from its programmers, such a millions of opening and endgame moves. As a lifeless electronic device, it didn't evolve and learn any of these moves from theoretical conception and growth. The only "theory" it displays is sequential analysis based on static algorithms. The computer has no motivation- perhaps its MOST IMPORTANT DEFECT.

The computer has no intuition.

The computer does not employ holistic pattern recognition comparable to a human's at all in its approach.

(Humorous) The computer's ability to distinguish a physical chessboard from other objects is in doubt.

I haven't analyzed the 1st game, but it's clear Deep Blue's Hardware and brute force capabilities are impressive. Who cares?

The fundamental problem is that human theoretical creativity can potentially be undercut when all this wonderful, dynamic and motivated knowledge (in chess or any field), some if it impossible to verbalize, comes back mirrored in static 1's and 0's that may temporarily show more efficient or tangible results. The "marriage of man and machine" that IBM and others glow about may not be so good if human knowledge and thinking is subtly redirected toward taking its queue from computer methods and results. Much of the human experience does not translate well into 1's and 0's...and an attempt to launch our supposedly best efforts with computers at the leading edge may well nullify natural creativity, not amplify it. The chess match hoopla is only a symptom of a larger problem.

For anyone who thinks that the "logical" patterns and outputs of computers amplify human creativity and resonate for humans at the profoundest levels, just listen to all the Electronic Music and Electronically influenced music (heavily using computers, MIDI devices, etc. in the last few decades). Are you willing to honestly argue that it represents a leap forward from Mozart or Charlie Parker? In truth, we are far behind where we were musically decades and even centuries ago. Might it not be argued that the man-machine interface, with a few rare exceptions (like maybe Stevie Wonder) has regressed human performance?

Not that chess performance at Grandmaster Level is likely to erode rapidly as computers improve. The manifestation is much more likely to be a greater interest in the programming and methods of the machine...and perhaps a subtle influence on how the game is conceptualized and played- which may NOT be in the interest of furthering the pure creative genius that has moved chess and chess players over the years.

One may in fact see pure theoretical interest for people of all abilities subtly eroded as machines prove themselves too tough to beat. We may observe the human energy expended in chess accommodate itself to mastering the digital juggernaut of 1's and 0's reflected back from computer simulations, ourselves working backward from the results to gain "theoretical insight"- but it will be a new type of insight and perhaps represent 1. an intrusion on deeper insight we could have gained without the computer 2. a cooperation and redirection of intellectual energy that conditions people to think like computers and constrains their imagination.

At that point, the experiment in redirecting human thought to computer logic will have reached a new stage. But we are already becoming (sometimes eagerly and sometimes unwittingly) guinea pigs in this process. It's a conscious choice for us, though, whether we want to be dominated by machine logic. The question is natural enough to raise over this chess match (chess still has a wonderful sense of mystery to us): Is cyber-gamesmanship, and the interest that accompanies it, a good thing?

ABOUT THE AUTHOR:

Scott graduated from Queens College, C.U.N.Y with a B.A. and is a Bronx High School of Science, NYC, alumnus. He says that he is currently a philosopher and freelance writer. Scott's computer experience includes extensive background in software development, testing, quality assurance, technical writing, and editing for major U.S. software companies.

THE STATE OF COMPUTER CHESS

by Aaron Dingus

I have been studying the history of Computer Chess, most notably through the book *Computer, Chess and Cognition*, which is a nice collection of essays that includes Levy as well as the original Deep Thought team, I recommend it to someone interested in the subject...

Anyway, I am curious about the modern environment in computer Chess. I know that IBM's Deep Blue will be playing Kasparov in February. How has it's development been coming? What kind of search depth is it achieving?

More importantly, what level of positional knowledge does it possess?

It seems to me that somewhat soon, the computer industry will progress to the point that a machine will be able to take a comprehensive static evaluation out enough ply to thwart any

human. I believe that that is the real issue - the inherent ability to discern between subtle positions. Deep searching actually becomes detrimental if the program is just trying to procure a position that doesn't necessarily lead to a future win.

Also, I have noticed the issue of what a computer should have access to in a match with a human. I think it depends on the purpose of holding the match. If the purpose is to demonstrate what technology can accomplish, then there should be no limitations. It becomes a tricky situation, however if you try to discuss the match in terms of the computer program being a kind of artificial person, which isn't fair to the poor computer. In terms of emulating a person, modern computers are completely pathetic. However, the computer can participate in a chess match using it's relative strengths, if allowed to, if the purpose is to truly put man against machine. Otherwise, why bother to have a program play a person in the first place? To cripple the computer, to rob it of it's opening book or some other technologically feasible tool, is a seemingly arbitrary way of making the match more "fair". If that is the case then why not just stick with human players entirely, and why bother with computer chess, when humans are so much more creative and play with drama and flair at least, even if they are doomed to be beaten (eventually) by computers.

ABOUT THE AUTHOR:

Aaron is a computer science student who enjoys working on game-playing computer programs when not selling computers at CompUSA, and who happens to enjoy talking about and studying Chess more than playing it for some reason.

HUMAN VS MACHINE - SOME THOUGHTS

by Prakash Das

With the Deep Blue match underway, and people apparently assuming that the result of this match would indicate superiority one way or the other, it seemed to me, that people have ignored one important factor in coming to this kind of decision. And that is this: In any man/machine match, the machine never tires. The human will sometime tire (true, that a top player can keep this at bay by various tricks, and postpone this for a period of time). Naturally, when this affects the judgment, the human will lose, maybe even a

series of games, albeit through small mistakes adding up (maybe more). Is this kind of victory really a victory for the machine? I think that this is an important question to answer because otherwise, the evaluation of a machine being better than a human has to be qualified. This leads to my next thought: If a machine does win a long match, can we rightfully proclaim that machine intelligence has triumphed? Or that human intelligence has been "conquered"? My answer is no, because in any long contest between an excellent machine and an excellent human player, the machine does not have to deal with human and psychological factors and weaknesses. (that is why automated systems are preferred in critical operations).

My conclusion then is, that machine triumph has to be looked at in perspective. All that a machine triumph will say that it is a strong player day in and day out. That same strength (of present-day programs) is probably dampens creativity in a machine.

ABOUT THE AUTHOR:

Prakash Das lives in Hanover, New Hampshire, and he has a Master's Degree in Engineering.

DEEP BLUE VS. KASPAROV - BETTING ON THE HUMAN

by Brian Sheppard

It seems to me that Kasparov has the edge. The following resources are available to clever humans when tackling chess computers, and I think they will be triumphant despite Deep Blue's search engine:

1) Positions in which the correct strategy for the computer is to keep the king in the center. Computers have a strong bias towards castling, and even a deep search often cannot see through the problems that come up when the king should be kept in the center.

2) Positions where the best strategy is to sacrifice a small amount of material. Again: strong biases cloud computer judgment of such positions.

3) Positions when specific pieces have unusual values. Like the White Queen in a Benko Gambit (White should not trade queens despite

being a pawn up because White needs to attack the Black King).

4) Positions where one weakness outweighs two. I could probably extend this list indefinitely, so I will stop here.

Kasparov has to avoid positions where the key skill is avoiding blunders. Such positions have a combination of the following characteristics:

1) Pawn symmetry.

2) Open centers.

3) Equivalence of material forces. (That is: no imbalances between the minor pieces.)

4) No opening theory. (A situation that has a deep opening theory is good for Gary, other things being equal.)

When I examine these lists, I figure that Kasparov will have a big edge in preparation, with Hsu et. al. spending lots of time getting their hardware to work and all, and Kasparov having years of lead time in exploring all the tricky opening situations.

So while it is far from a sure thing, I will put my dollar on Gary.

That being said, if Deep Blue wins 4-0 I won't be a bit surprised!

ABOUT THE AUTHOR:

Brian Sheppard received his BA from Harvard in 1984 and is currently a software engineer

A SUGGESTION

by Dr. Ingo Althoefer

In February 1996, there will probably be a 6-games match between Garry Kasparov and chess computer DEEP BLUE. For me it is not clear who decided that DEEP BLUE and not one of the other strong programs may play. Maybe the sponsor of this upcoming event has wished this. Does anyone know who the sponsor(s) is (are) ?

For the future I want to propose another mode of finding computer candidates for a match against Kasparov (or his successors): Every year there is a strong man-computer competition in the AEGON tournament in Den Haag. Almost all strong chess computers / programs are participating. The most clever human participants in these tournaments are typically (besides their chess strengths) very good in finding and exploiting weaknesses of the computers. So a machine/program who wins AEGON may be a good or best candidate for a match with the human world champion. (DEEP THOUGHT, the predecessor of DEEP Blue, participated in the AEGON only once, in the early 90s, and made 2.5 points out of 6 games.) My opinion is that at the moment all chess computers/programs are still much too weak to have realistic chances against Kasparov in a match under tournament

conditions. So it may be better not to organize a match between Kasparov and a single computer, but a contest between Kasparov and a team of computers.

For instance: 2 games against DEEP BLUE, 2 games against Genius3, 2 games against M-Chess; or even one game against each member of a team of 6 machines.

For Kasparov this would be a more difficult task, as different computers have different styles of play.

ABOUT THE AUTHOR:

Dr. Ingo Althoefer was born in 1961. He has been studying mathematics and computer science at the University of Bielefeld in Germany. Since 1994 he has been working as a professor in mathematics at the Schiller-University at Jena. His main field of mathematical research is "discrete optimization".

Ingo played his last tournament games under "usual" conditions in 1993. Between 1979 and 1993 his rating was always in the interval between 1900 and 2000 (transputed from the old German rating numbers).

He bought his first book on computer chess in 1976 ("Chess and Computers" by David Levy) .His doctoral dissertation (1986) and the habilitation thesis (1991) centered around theoretical aspects of game tree search. Since 1985 he has conducted many experiments with different "3-Hirn-constructions".

In some years PC chess programs may have a performance of 2600 - 2650. Ingo says he hopes to reach a performance of 2800 when using such programs in a 3-Hirn (and thus playing chess on a world championship level several years before the PCs can do without human coordination... dreams only??).

MAN VS. MACHINE - ANNOTATED

by Roger LaFlair

White: Deep Blue

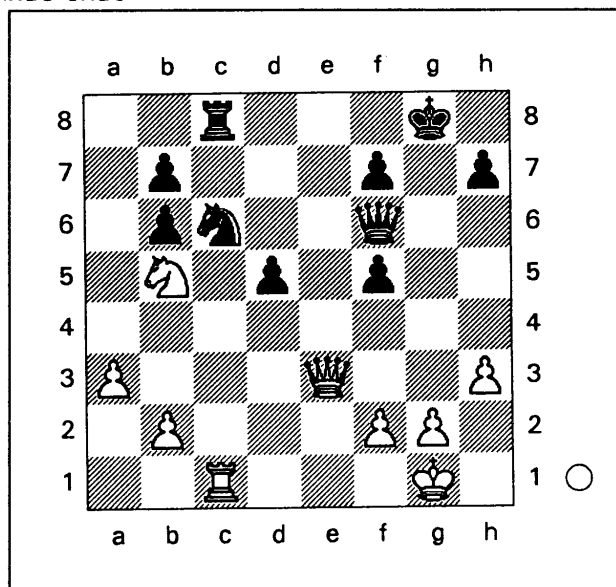
Black: Kasparov, G

Place: Match Game 1 [R. LaFlair]

Date: 1996

1. e4 c5 2. c3 d5 3. exd5 Qxd5 4. d4 Nf6 5. Nf3 Bg4 6. Be2 e6 7. h3 Bh5 8. 0-0 Nc6 9. Be3 cxd4 10. cxd4 Bb4 (*Computers always seem to play the Alapin Sicilian and play the positions well. The opening lends itself to open games, often with one side or the other getting an isolated Q-pawn. Open Sicilians also lead to open games but tend to have heavy positional content .*) 11. a3 Ba5 12. Nc3 Qd6 13. Nb5 Qe7 14.

Ne5 Bxe2 15. Qxe2 0-0 16. Rac1 (According to my database, this is a new move and probably Kasparov's attempt to get the computer out of its huge book. The normal home for the Bishop in this line is e7 and this game is not likely to change that) 16. ... Rac8 17. Bg5 Bb6 18. Bxf6 gxf6 19. Nc4 (Now 11...Be7 would lose a tempo, as the move a3 is often very handy in the) 19. . Rfd8 [19. ... Bc7] 20. Nxb6 axb6 21. Rfd1 (Black has not managed to blockade the d-pawn and this leads to problems. White now has the) 21. ... f5 22. Qe3! Qf6 23. d5! Rxd5 24. Rxd5 exd5



(The d-pawn is immune due to the check on g4 and Kasparov's structure is) 25. b3!? Kh8 25. ... Qb2 26. Rc3] 26. Qxb6 Rg8 27. Qc5 d4 28. Nd6 f4 29. Nxb7 Ne5 30. Qd5 f3 (With no way to blockade the d-pawn, White will crash through with d5 at some point exposing several soft) 31. g3 Nd3 32. Rc7 Re8 33. Nd6 Re1 + 34. Kh2 Nxf2 35. Nxf7 + Kg7 36. Ng5 + Kh6 37. Rxh7 + 1-0

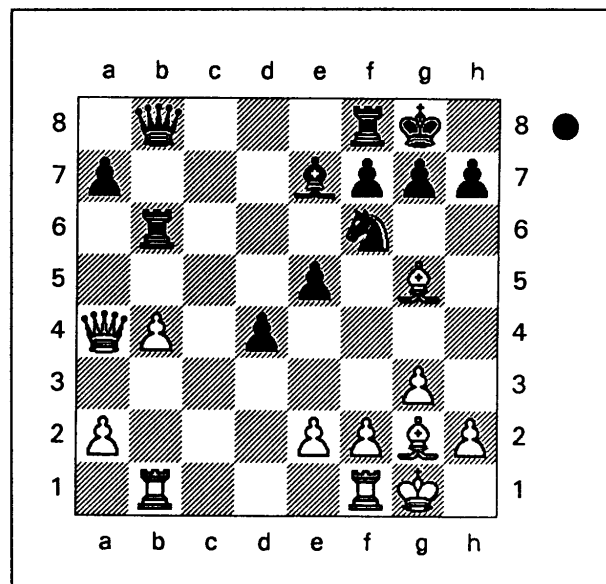
White: Kasparov, G

Black: Deep Blue

Place: Match Game 2 [R. LaFlair]

Date: 1996

1. Nf3 d5 2. d4 e6 3. g3 c5 4. Bg2 Nc6 5. 0-0 Nf6 6. c4 dxc4 7. Ne5 Bd7 8. Na3 cxd4 9. Naxc4 Bc5 10. Qb3 0-0 11. Qxb7 (Kasparov continues to play wide open chess versus the machine, which is not very practical but certainly) 11. ... Nxe5 12. Nxe5 Rb8 13. Qf3 Bd6 14. Nc6 Bxc6 15. Qxc6 e5 16. Rb1 Rb6 17. Qa4 Qb8 18. Bg5 Be7 19. b4 (diagram top of next column) (Kasparov continues to play daringly, as the computer is in its element at this point. The position at this moment is purely tactical. Kasparov was probably still in) 19. ... Bxb4 20.



Bxf6 gxf6 21. Qd7 (Kasparov really outplayed the computer in a couple of games by obtaining this light squared) 21. ... Qc8 22. Qxa7 Rb8 23. Qa4 Bc3 24. Rxb8 Qxb8 25. Be4! Qc7 26. Qa6 (An excellent pawn sacrifice which should be declined, but Deep Blue can't resist. From this point on Kasparov is in full control of the) 26. ... Kg7 27. Qd3 Rb8 28. Bxh7 Rb2 29. Be4 Rxa2 30. h4 Qc8 (Black's extra pawn is useless, as after Be4 the White Bishop permanently blockades the entire) 31. Qf3 Ra1 32. Rxa1 Bxa1 33. Qh5 Qh8 34. Qg4 + Kf8 35. Qc8 + Kg7 36. Qg4 + Kf8 37. Bd5 Ke7 38. Bc6 Kf8 39. Bd5 Ke7 40. Qf3 Bc3 41. Bc4 Qc8 42. Qd5 Qe6 43. Qb5 Qd7 44. Qc5 + Qd6 45. Qa7 + Qd7 46. Qa8 Qc7 47. Qa3 + Qd6 48. Qa2 f5 49. Bxf7 e4 50. Bh5 Qf6 51. Qa3 + Kd7 52. Qa7 + Kd8 53. Qb8 + Kd7 54. Be8 + Ke7 55. Bb5 Bd2 56. Qc7 + Kf8 57. Bc4 Bc3 58. Kg2 Be1 59. Kf1 Bc3 60. f4 exf3ep 61. exf3 Bd2 62. f4 (White tries to transfer the Queen to the Kingside but Deep Blue sees far enough ahead and wisely returns the) 62. ... Ke8 63. Qc8 + Ke7 64. Qc5 + Kd8 65. Bd3 Be3 66. Qxf5 Qc6 67. Qf8 + Kc7 68. Qe7 + Kc8 69. Bf5 + Kb8 70. Qd8 + Kb7 71. Qd7 + Qxd7 72. Bxd7 Kc7 73. Bb5 1-0

White: Deep Blue

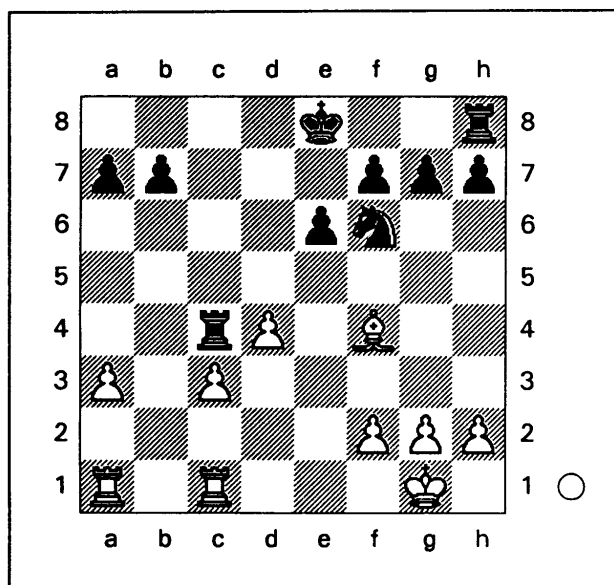
Black: Kasparov, G

Place: Match Game 3 [R. LaFlair]

Date: 1996

1. e4 c5 2. c3 d5 3. exd5 Qxd5 4. d4 Nf6 5. Nf3 Bg4 6. Be2 e6 7. 0-0 Nc6 8. Be3 cxd4 9. cxd4 Bb4 10. a3 Ba5 11. Nc3 Qd6 12. Ne5 Bxe2 [12. ... Nxe5 13. dxe5 Qxd1 14. Bxd1 Bxd1 15. exf6 Bh5 16. fxg7 +-] 13. Qxe2 Bxc3 [13. ... Nxd4 14. Bxd4 Qxd4 15. Qb5 +- ; 13. ... Nxe5 14. Nb5 Qd5 15. dxe5 Qxe5 16. f4 Qb8 17. Bc5 Bb6 18. Rac1] 14. bxc3 Nxe5 15. Bf4 Nf3 +!

16. Qxf3 Qd5 17. Qd3 Rc8 18. Rfc1 Qc4 19. Qxc4 Rxc4



20. Rcb1 b6 21. Bb8 (Watching the game live on the Internet Chess Club, I felt Kasparov had good winning chances in the resulting endgame. First Black has the better minor piece. Second, his pawn structure is superior. Third, and most important, the game has entered a highly strategic stage where calculating becomes secondary to planning. However, Deep Blue finds some clever ways to hold the balance.) 21. ... Ra4 22. Rb4 Ra5 23. Rc4! 0-0 24. Bd6 Ra8 25. Rc6 b5! 26. Kf1 Ra4 27. Rb1 a6 28. Ke2 h5 (A most unusual way to cover the weak c-pawn, and activate the White) 29. Kd3 Rd8 30. Be7 Rd7 31. Bxf6 gxf6 32. Rb3 Kg7 33. Ke3 e5 34. g3 exd4 + 35. cxd4 Re7 + 36. Kf3 Rd7 37. Rd3 Raxd4 38. Rxd4 Rxd4 39. Rxa6 b4 1/2-1/2

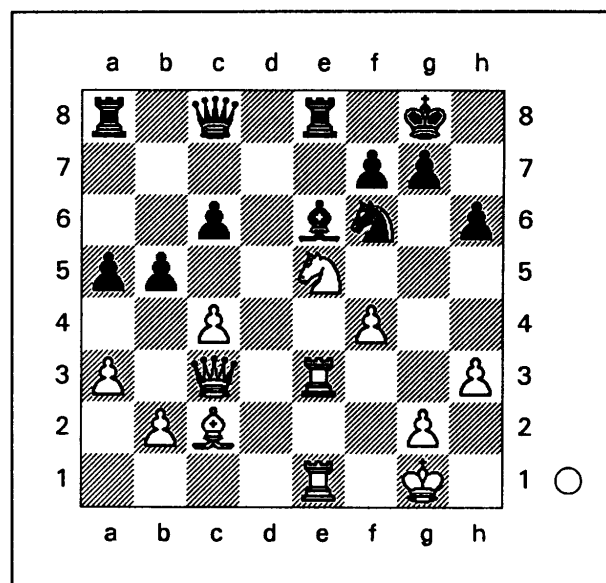
White: Kasparov, G

Black: Deep Blue

Place: Match Game 4 [R. LaFlair]

Date: 1996

1. Nf3 d5 2. d4 c6 3. c4 e6 4. Nbd2 Nf6 5. e3 Nbd7 6. Bd3 Bd6 7. e4 dxe4 8. Nxe4 Nxe4 9. Bxe4 0-0 10. 0-0 h6 [10. ... e5 (This has transposed into a Slav line popular in the fifties and) 11. dxe5 Nxe5 12. Nxe5 Bxe5 13. Bxh7 + Kxh7 14. Qh5 + Kg8 15. Qxe5?] 11. Bc2 e5 12. Re1 exd4 13. Qxd4 Bc5 14. Qc3 a5 15. a3 Nf6 16. Be3 Bxe3 17. Rxe3 Bg4 18. Ne5 white better Re8 19. Rae1 Be6 20. f4 Qc8 21. h3 b5 (diagram top of next column) (Most GM's felt that White had a comfortable advantage at this point. Indeed Black's pieces are a bit awkwardly placed) 22. f5 Bxc4 23. Nxc4 bxc4 24. Rxe8 + Nxe8 25. Re4 Nf6 26. Rxc4 Nd5 27. Qe5 Qd7 28. Rg4 f6 29. Qd4 Kh7 30. Re4 Rd8 31. Kh1 Qc7 32. Qf2 Qb8 33. Ba4 c5 34. Bc6 c4 35. Rxc4 Nb4 (This move



works out well for the) 36. Bf3 Nd3! 37. Qh4 Qxb2 38. Qg3 Qxa3 39. Rc7 Qf8 40. Ra7 Ne5 41. Rxa5 Qf7 42. Rxe5 (Striving for counterplay and grabbing some central) 42. ... fxe5 43. Qxe5 Re8 44. Qf4 Qf6 45. Bh5 Rf8 46. Bg6 + Kh8 47. Qc7 Qd4 48. Kh2 Ra8 49. Bh5 Qf6 50. Bg6!? 1/2-1/2

White: Deep Blue

Black: Kasparov

Place: Match Game 5 [R. LaFlair]

Date: 1996

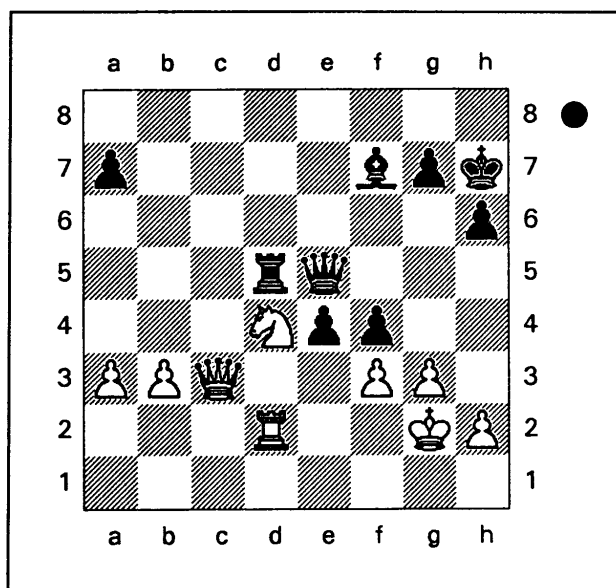
1. e4 e5 2. Nf3 Nc6 3. Nc3 Nf6 4. d4 exd4 5. Nxd4 Bb4 6. Nxc6 bxc6 7. Bd3 d5 8. exd5 cxd5 9. 0-0 0-0 10. Bg5 c6 11. Qf3 Be7 12. Rae1 (A psychological victory for the computer? Why has He parted with his beloved Sicilian? When was the last time Kasparov avoided the Sicilian versus a) 12. ... Re8 13. Ne2 h6 14. Bf4 Bd6 15. Nd4 Bg4 16. Qg3 Bxf4 17. Qxf4 Qb6 18. c4 Bd7 19. cxd5 cxd5 20. Rxe8 + Rxe8 21. Qd2 Ne4 22. Bxe4 dxe4 23. b3 Rd8 (This looks like a case of the wrong rook) 24. Qc3 f5 25. Rd1 Be6! 26. Qe3 Bf7 27. Qc3 f4 28. Rd2 Qf6 29. g3 Rd5 30. a3 Kh7 31. Kg2 Qe5 32. f3 (diagram top of next page) (White declined a draw at this) 32. ... e3 33. Rd3 e2 [33. ... fxg3 (This pin eventually kills Deep) 34. hxg3 e2] 34. gxf4 e1Q 35. fxe5 Qxc3 36. Rxc3 Rxd4 37. b4 Bc4 38. Kf2 g5 39. Re3 Be6 40. Rc3 Bc4 41. Re3 Rd2 + 42. Ke1 Rd3 43. Kf2 Kg6 44. Rxd3 Bxd3 45. Ke3 Bc2 46. Kd4 Kf5 47. Kd5 h5 (White is running out of) 0-1

White: Kasparov, G

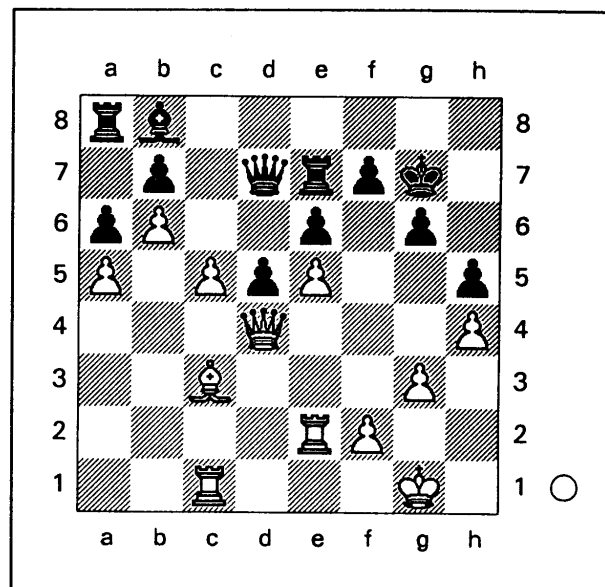
Black: Deep Blue

Place: Match Game 6 [R. LaFlair]

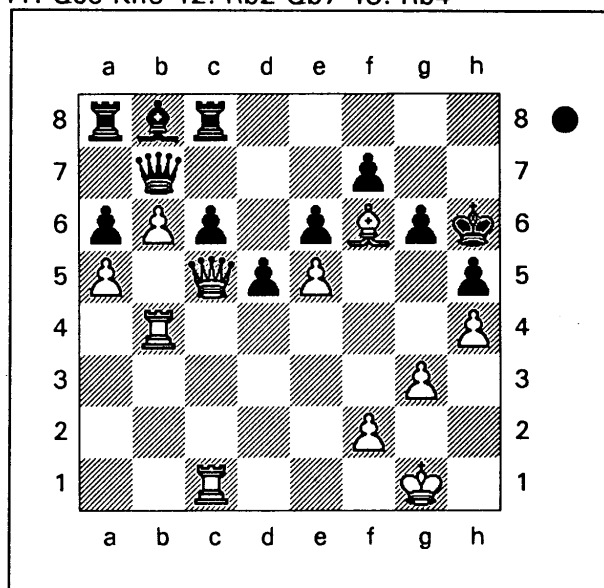
Date: 1996



1. Nf3 d5 2. d4 c6 3. c4 e6 4. Nbd2 Nf6 5. e3 c5 (After the way it lost in game five, It appeared that Deep Blue still had a long way to go before becoming World Champion. This game just provides further evidence. Kasparov disdains from playing drawish chess to wrap up the match, and instead, proceeds to just paralyze the Super Computer.) 6. b3 Nc6 7. Bb2 cxd4 8. exd4 Be7 9. Rc1 O-O 10. Bd3 Bd7 11. O-O Nh5 12. Re1 Nf4 13. Bb1 Bd6 14. g3 Ng6 15. Ne5 Rc8 16. Nxd7 (Black loses a tempo but tries to open the position , perhaps because of an adjustment in the contempt factor, which gauges how hard the computer "attempts" to) 16. ... Qxd7 17. Nf3 Bb4 18. Re3 Rfd8 19. h4 (This Knight tour is a poor) 19. ... Nge7 20. a3 Ba5 21. b4 Bc7 22. c5! Re8 23. Qd3 g6 24. Re2 Nf5 (An excellent move, removing the "bad" bishop but also taking a lot of the potential life out of Black's position. The center is still very fluid and could open at any moment. The strong Knight on e5 can be replaced by the one on d2. The Black Knights lack central posts, which is critical to their) 25. Bc3? h5 26. B5 (A pointless move. The Bishop move allows Kasparov to lift his rook , and gain several tempo to expand on the Queenside.) 26. ... Nce7 [26. ... Na5!] 27. Bd2 Kg7 28. a4 Ra8 29. a5 a6 30. b6 [30. c6 bxc6 31. B6 (A very hard move for a computer to react to. The computer has decide if h5 and h6 by white is a threat. It will loom in the position constantly unless Black deals with its consequences.)] 30. ... Bb8 [30. ... Bd8] 31. Bc2 Nc6 32. Ba4 Re7 33. Bc3 (Now Kasparov controls both sides of the board. Computers, in general, react to this queenside advance by playing...a5 at some point. In the present game , such a move just fires White's) 33. ... Ne5 34. dxe5 Qxa4 35. Nd4 Nxd4 36. Qxd4 Qd7 (diagram top of next column) (Finally a Knight



with a decent) 37. Bd2 Re8 38. Bg5 Rc8 39. Bf6 + Kh7 40. c6 bxc6 [40. ... Rxc6 41. Rec2] 41. Qc5 Kh6 42. Rb2 Qb7 43. Rb4



(Kasparov realizes, that a Kingside attack is risky since black has done a reasonable job bracing that wing, and prepares to switch) 1-0

ABOUT THE AUTHOR:

Roger is a resident of Long Island. He is a FIDE Master with a FIDE rating of 2395.

DEEPBLUE - DEEPTHOUGHT 2

by Paul Hsieh

DB or DT2 should have a rating of 2900-3000 or so by now isn't that right? Clearly that mark has not been reached. Recent performances also indicate that DB/DT2's progress has been slow in the past couple years. The most notable achievements have been 1.5/2.0 vs. Judit Polgar,

about 50% against a team of Danish players (including Bent Larsen) and a fine performance (though not winning) at the recent HK tournament.

I would guess it at about 2650 Elo, perhaps Hsu can give a better comment.

Assume GK wins his match next fall. Say he makes 4 wins and 4 draws as has been suggested. What do you think will be the most important lessons from this match? This remains to be seen. But just for fun I will speculate on what will be learned: 1) DT's book needs a serious overhaul, 2) Some bug or another in DT will have to be worked on, 3) DT's positional sense will be just too much of a weakness that must be addressed.

As far as score is concerned I am more likely to believe that DB/DT will take a game or two off GK. Just because GK seems to be cursed lately as far as playing against computers are concerned. If Hsu et al really does a good job this time though, I would not be entirely surprised if DB/DT actually wins the match. Hsu has made claims regarding some superior evaluation methods, he is aware and intends to address their "repetition detection bug", he intends to be running a version that is distributed over hundreds of processors and probably most importantly, his eyes have opened up regarding his fairly weak book methodology. He has some time. If he fixes all these things DB/DT will probably be significantly stronger in February.

On a slightly related topic: Doesn't this come awfully close to the potential PCA vs. FIDE world championships? Assuming he plays Anand later on this year, and maybe wins, will he be postponing a potential match with the FIDE champ until AFTER this exhibition with DB?

I have another question, assuming DB/DT truly makes its mark in Feb. (I would call 2.5/8.0 against Kasparov a "mark") will people start seriously considering letting machines enter the World Championships?

It happened in Checkers, why not chess?

ABOUT THE AUTHOR:

Paul received a BS in math from the University of Waterloo in 1993 and a Masters of math from the University of Toronto in 1994. In the past he was an active computer Othello programmer. He currently is involved with work in the fields of support software for mass market PC graphics coprocessors for the past 2 years.

PC SOFTWARE REVIEWS

by Nick Schoonmaker

Several new versions of top PC programs have been released in recent months. A noticeable trend the past few years is that many updates come out at the end of the year, just in time for Christmas shopping - but too late to be reviewed by ICD during this merry season. New versions of top programs that are now available are: M-Chess Professional 5.0, ChessGenius 4.0 for Windows, REBEL 7.0, HIARCS 4.0, Fritz 4, and Chessmaster 4000 - Windows 95 Edition. Another fairly recent program worth discussing is Grandmaster Championship Chess, which came out shortly after the previous issue of CCR. The above mentioned programs are reviewed here, with the exception of HIARCS 4.0 and Fritz 4, which are reviewed in a separate article by Larry Kaufman. One interesting freeware program is also looked at in this article - REBEL Decade, which is a weakened (but still strong) version of the commercial REBEL 6.0 program. Ply ratings which are quoted in this article are from the 2/4/96 list. It is likely that a more recent list will be available by the time this article goes to print.

In CCR Vol. 5 No. 1, I discussed a trend whereby the capabilities of chess playing programs were merging with those of chess database programs. This trend is continuing. Chess playing programs are adding more and more database capabilities and are becoming more universal in their abilities of handling different types of files. Processing of PGN files (Portable Game Notation - ASCII files used for storage of games) and EPD files (Extended Position Description - ASCII files used for storage of positions) are now standard among top programs, with few exceptions. The top programs also typically provide for easy conversions among different database formats (PGN, ChessBase, NicBase, etc.). However, chessplayers who plan to use one of the top programs in conjunction with a powerful database program should pay close attention to the database file types handled by the different chess playing programs. Not all programs handle all file types. For example, ChessGenius 4.0 saves games in ChessBase but not NicBase format. On the other hand, REBEL 7.0 saves games in NicBase but not ChessBase format. Issues like this point to the advantages of having a top program fully integrated within a database program (e.g., Johan de Konig's 'King' and TascBase). Program specific details on database

capabilities are included in the reviews that follow.

M-CHESS PROFESSIONAL 5.0

Whereas the past few years the Mephisto ChessGenius programs by Richard Lang have edged out the competition, M-Chess Professional 5.0 by Marty Hirsch now seems to have taken a slight lead. It is ranked first by Ply and recently won the 1995 World Micro Computer Championship, defeating ChessGenius 4.0 in the tie break game (See separate article on this tournament.). M-Chess Pro 5.0 also recently won an action tournament (G/30) in Iceland against a human team from Finland consisting of 1 GM, 3 IMs, and 1 FM. Other programs which battled the humans in this tournament were ChessGenius 4.0, REBEL 7.0, Fritz 4.0, and King 2.42. The games are given elsewhere in this issue of CCR.

M-Chess Pro 5.0 has a number of important enhancements over its predecessor, both in playing strength and in features. The latest Ply ratings from 90 MHz Pentium testing place M-Chess Pro 5.0 at 65 points higher than M-Chess Pro 4.0; and 486/50-66 MHz testing places M-Chess Pro 5.0 at 45 points higher. The program's author informed me that much of this comes from improved endgame algorithms. There are also substantial improvements to the program's opening book, which now contains about 400,000 moves (compared to 350,000 for M-Chess Pro 4.0). For this upgrade, not nearly as much emphasis was placed on improving the program's middlegame play. This is reflected in the results I obtained from the One-Hour CCR test, which shows only marginal improvement over M-Chess Pro 4.0. On my Pentium computer M-Chess Pro 5.0 scored 64 points (compared to 62 for M-Chess Pro 4.0), and on my 386DX computer it scored 48 points (compared to 47 for M-Chess Pro 4.0), for predicted rating gains of 16 and 8 points on the respective computers. Keep in mind that although all the problems in this test are from opening theory, they essentially test the program's middlegame capabilities, both positional and tactical. Improvements in the opening book and endgame do not show up in this test.

M-Chess Pro 5.0 has improved capabilities for processing PGN and EPD files. M-Chess Pro 4.0 allowed for analysis of a single game within a PGN file. In order to analyze multiple games within one file, the user would need to command the program to analyze each game one at a time. M-Chess Pro 5.0 can now analyze an entire PGN database of games with one command. Similarly, with one command M-Chess Pro 5.0 can analyze an EPD file containing multiple positions. A new

capability regarding EPD files is the program's ability to delete existing analysis (e.g., analysis generated by another chess playing program) in order to produce a raw file.

Another significant enhancement with M-Chess Pro 5.0 is that it can be integrated with Book-Up and Chess Assistant, much in the same manner as Fritz operates with ChessBase. While running either Book-Up or Chess Assistant, M-Chess Pro 5.0 can be called from the database program being used in order to compute and display an evaluation of the current position.

M-Chess Pro 4.0 had an Enable Learning feature in which the program would remember its mistakes and use information from past games if certain positions repeated themselves. M-Chess Pro 5.0 expands this capability to include its opening book. With the program's new Book Learning function, the program automatically updates its opening book (writing to the hard disk) if upon leaving its book knowledge, the program determines it has a particularly poor position. Moves can be both added to and removed from the opening book.

An enhancement to the program's clock is that it has a Bonus Time feature, in which a predetermined number of seconds is allowed to elapse each move prior to the player's clock starting. However, this extra time is not cumulative. If a player makes a move prior to the end of the delay, the remaining portion of the delay is not added to the player's clock.

There are many other minor enhancements with M-Chess Pro 5.0. These include: display of more information, allowing the opponent to resign or offer a draw, and estimation of opponent's rating based on results of multiple games and type/speed of processor.

All in all, M-Chess Pro is a fine upgrade, both in terms of improved playing strength and in new features. This program is now the one to beat.

CHESS GENIUS 4.0 FOR WINDOWS

Chess Genius 4.0, the latest program from Richard Lang, takes on a whole new look over its predecessor as it acquires a Windows interface. This is a pure Windows program (operating under Windows 3.1, Windows 3.11 for Workgroups, or Windows 95) and will not run from DOS. Among the top programs, this is the most visibly different from its predecessor. Much is available at the user's fingertips that was not the case with ChessGenius 3.0. A complete and easy to use on-line help system is available, making the printed manual almost obsolete. The look of the program can be much more customized than before. Chess Genius 3.0 provided only very limited control. Only one set of pieces and one

board size were available; and only a few color selections could be made for the pieces, board, and text/menu. Now, several sets are available. The chessboard, as well as any of the windows chosen to be displayed, can be changed to any size with the mouse. And the colors are now completely adjustable as combinations of red, green, and blue. (Note that some of these controls have been available for some time with other top programs, but not with previous versions of ChessGenius.) Even fonts for some of the displayed text can be changed. The program's many functions are logically arranged in pull-down menus as in ChessGenius 3.0. But ChessGenius 4.0 also has a tool bar with quick access to 27 common commands (similar to the tool bars with many windows programs). Different commands are available depending on which mouse button (left or right) is depressed. All in all, the new windows interface is very slick.

But in terms of playing strength, ChessGenius 4.0 does not seem to be an improvement over version 3.0. In fact, Ply rates Genius 4.0 at 10 points lower than Genius 3.0 on a 90 MHz Pentium (Ply rates Genius 4.0 at 14 points higher on a 486/50-60 MHz but this is based on a much smaller sample of data). But even so, it is higher rated than the rest of the competition (with the exception of M-Chess Pro 5.0), although only barely edging out REBEL 7.0. In the One-Hour CCR test, Genius 4.0 scored lower on both a 100 MHz Pentium (lower by 5 points) and a 33 MHz 386 (lower by 2 points) than did Genius 3.0. The slight weakening in strength is likely due to the new overhead processing resulting from making ChessGenius 4.0 a Windows program and providing many new features. However, an interesting note regarding Chess Genius 3.0 is that aside from the minimal hash table size (384 KB) when running from Windows, there is barely a perceptible slowing down of the program. I obtained identical results with the One-Hour CCR test when running ChessGenius 3.0 under both MS-DOS 6.2 and Windows for Workgroups 3.11. So even under the Windows environment, ChessGenius 4.0 is slightly outperformed by its predecessor (with the exception of hash table implementation - see discussion below). Keep in mind though, that if there is a reduction in playing strength, it would likely be too little to be noticeable by the user.

Regardless of perhaps a very small drop in playing strength, Chess Genius 4.0's many new features and Windows interface make the program a worthwhile upgrade. Some of the new Windows features have been discussed, but there are a number of other important enhancements.

To begin with, Chess Genius 4.0's database functions are significantly improved over

ChessGenius 3.0. In addition to handling ChessBase files as did its predecessor, the program now supports PGN files, providing both import and export capability. Also, the program now allows the user to search through a database of games, using the players' names, venue, year, result of game, ECO opening code, and game length as search criteria. This is a big improvement over Chess Genius 3.0, which had no search capabilities. Another improvement is that with one command the program can analyze an entire database of games, instead of just one game, as was the case with ChessGenius 3.0. As with ChessGenius 3.0, ChessGenius 4.0 can import, export, and analyze EPD files.

For running under Windows, the hash table implementation is much improved with ChessGenius 4.0. ChessGenius 3.0 limits its hash table size to 384 KB (conventional memory only) unless the program start-up command is appended with the /x switch, which allows use of the computer's extended memory. However, this switch can only be used if there is no expanded/extended memory manager installed. But without a memory manager installed, Windows will not run. The net effect is that 384 KB is the largest hash table size that ChessGenius 3.0 can use when running under Windows. On the other hand, ChessGenius 4.0 can access all the available extended memory for its hash table. Another improvement with ChessGenius 4.0 is that the hash table size is adjustable. The user can tinker with this and try to determine an optimum setting for the type of game (e.g., blitz vs. slow game) being played. However, when ChessGenius 3.0 is run with the /x switch, the program uses the maximum amount of available memory. The user cannot experiment with different sizes as can now be done with ChessGenius 4.0.

Another enhancement with ChessGenius 4.0 is that in addition to having a selection for interfacing with the Saitek Kasparov Autoboard, selections are also available for interfacing with the TASC SmartBoards I and II.

The one slightly annoying thing about ChessGenius 4.0 is its copy protection scheme. Periodically upon starting the program (about once per month), the user is prompted to insert the original master disk; otherwise the program will not function. This could create a problem for someone who does not keep his floppy disks safe and well organized. On the other hand, the copy protection does allow an unlimited number of installations. This is an improvement over ChessGenius 3.0, which allows only three installations.

But aside from having to insert the master disk about once per month, ChessGenius 4.0 is a

joy to use. It is one of the strongest, most full-featured programs. With its new, but well polished user interface, it is highly recommended.

REBEL 7.0

REBEL 7.0 is a fine upgrade to an already powerful program, REBEL 6.0. Its strength is noticeably improved and it incorporates a number of nice new features. The program's author, Ed Schroder, estimates that the REBEL 7.0 plays about 50 points stronger than its predecessor. This is supported reasonably well by my testing, in which it performed noticeably better in the One Hour CCR Test. On my Pentium computer it scored 74 points (compared to 69 for REBEL 6.0) and on my 386DX computer it scored 57 points (compared to 51 for REBEL 6.0), for predicted rating gains of 40 and 48 points on the respective computers. Ply results are somewhat more interesting. Results from 90 MHz Pentium testing place REBEL 7.0 only 3 points higher than REBEL 6.0, but 486/50-66 MHz testing places REBEL 7.0 at 58 points higher. The truth is probably somewhere in the middle. But in terms of strength, it is certainly one of the top several programs. Incidentally, Ed Schroder is currently working on a new chess engine (dubbed "Test Version 96.1"). Testing that has been done so far (matches played on 90 MHz Pentium computers at a time control of 40 moves in 2 hours vs. ChessGenius 3.0, M-Chess Pro 5.0, Hiarcs 3.0, W-Chess 1.06, and Fritz 3) has had encouraging results (63.09% score vs. the competition compared to 57.18% for REBEL 7.0).

REBEL 6.0 had quite powerful database capabilities and REBEL 7.0 improves on these. The program now provides integrated support for PGN and NicBase files, allowing both export and import capability. A new pull-down menu provides instant access to these features. REBEL 6.0 provided no PGN file support, and conversions to REBEL format from NicBase as well as ChessBase formats were handled through separate conversion programs, not within the REBEL program itself. Also, with REBEL 6.0, conversions were only one way; REBEL databases could not be converted to NicBase and ChessBase formats. But REBEL 7.0 does allow conversion to NicBase format. Curiously though, the much improved support for PGN and NicBase formats was not extended to ChessBase format. A separate utility program must still be used to convert ChessBase files to REBEL files, and files still cannot be converted to ChessBase format. This is not a real problem for ChessBase users though since there are other ways of converting between PGN, NicBase, and ChessBase formats.

A significant enhancement, but one which only applies to very high-end computers, is that the maximum hash table size is now 64 MB. REBEL 6.0 allowed up to 16 MB for its hash table. However, when running under Microsoft Windows, REBEL 7.0 limits the hash table to 256 KB. With Windows 95 though, running the program from a DOS window removes this barrier. And to maximize the size of the hash table on a computer with Windows 95, the computer should be started in MS-DOS mode. On my Pentium computer, which has 16 MB of RAM, I achieved a 13 MB hash table in this manner. In general, owners of computers with 64 MB of RAM may wish to consider the large hash table available with REBEL 7.0 since other top programs limit their maximum hash table sizes to smaller values.

The standard opening book with REBEL 7.0 is larger than its predecessor, containing about 550,000 moves in contrast to about 400,000 moves with REBEL 6.0. But in addition to the standard opening books that come with the program, huge REBEL libraries are available from Schroder B.V. that contain many millions of moves.

REBEL 7.0 has many other enhancements over REBEL 6.0. One minor one, but one which improves its ease of play, is that the program now allows the user to drag the pieces with the mouse - a feature that has been standard for years with many other programs. Rather than having to click the mouse on both the 'from' and 'to' squares, you can click on the piece you are moving, and then release the mouse button after moving the pointer to the destination square. Related to this feature are the program's animation levels (none, normal, or fast), which define how the pieces slide across the chessboard when the computer makes a move. Regarding improvements with the display, the program can also provide additional information while it is computing its move. This includes information on ply depth, percentage of the hash table that is being used, selectiveness of the program's search, and an estimate of the time that the program will use to make its move. Another improvement is the program's copy protection. REBEL 7.0 allows unlimited installations, compared to three for REBEL 6.0.

One cannot go wrong with REBEL 7.0. It is one of the strongest and most full featured chess programs available.

CHESS MASTER 4000 - WINDOWS 95 EDITION

Chess Master 4000 - Windows 95 Edition is only a minor upgrade to the standard version of

Volume 5, Number 3+4

the program, which has already been out for a few years. This latest version was released while Mindscape (formerly Software Toolworks) has been preparing Chess Master 5000, a major upgrade (with a new chess engine by Johan de Konig), later this year.

Chess Master 4000 - Windows 95 Edition is essentially identical to its predecessor but is optimized for Windows 95. The look and feel of both programs are the same; no new features are provided with this upgrade. There have been some reports of incompatibility problems between the older Chessmaster 4000 and Windows 95 but I do not have all the details. On my 100 MHz Pentium computer with Windows 95, the only problem I have experienced with the older Chessmaster 4000 is that when saving a game, I am unable to change its title from the default name in the text field.

Aside from cleaning up any potential Windows 95 incompatibility problems, the only significant improvement with the upgraded program is its improved speed. My testing indicates that the new version runs approximately 15% faster than the old program. Interestingly, both versions produced identical results in the One-Hour CCR test despite this speed difference. But with the speed increase, the new program should play slightly stronger - probably on the order of about 12 points.

Chessmaster 4000 (either version) has one nice advantage over most of the other top programs - the lack of copy protection. Even though most of the latest generation of programs has improved copy protection (typically unlimited installations with the master disk) there is always the possibility of the master disk getting misplaced or damaged, just when it is needed most.

Chessmaster 4000 - Windows 95 Edition is a powerful, full featured program. It does not have all the database capabilities typically offered by other top programs, but this may not be important to many users. Its advantages include a low cost (compared to its competitors) and lack of copy protection. The program is also ideal for beginners because of its many instructive tutorials and tests. However, for the consumer who already owns the earlier Chessmaster 4000 and runs it successfully under Windows 95, there is not much reason to upgrade to this product. One might rather wait for the release of Chessmaster 5000.

GRANDMASTER CHAMPIONSHIP CHESS **FOR WINDOWS**

This program is a disappointment. Prior to its release, Grandmaster Championship Chess

seemed promising. Its chess engine (NOW, developed by Mark Lefler) performed solidly in the 1994 Harvard Cup, defeating GMs Patrick Wolff and Alexander Shabalov. However, the commercial version (at least the copy I received) has numerous bugs and plays weakly. The program was clearly released prematurely, without adequate testing.

First of all, I have been unable to get Grandmaster Championship Chess to work on my 386DX computer, despite the fact that it more than meets the program's system requirements (I have had virtually no problem getting any other program, chess or otherwise, to run on this computer.). However, the program does run on my Pentium computer, and that is where the problems showed up.

During the One-Hour CCR Test, strange things happened. Although I had the level set on Infinite (in which the program should never move until commanded to move or it sees a forced checkmate), the program sometimes made a move anyway after some time elapsed. Also, the sequence of moves displayed as best by the program under 'Thinking' sometimes showed illegal or illogical moves. In a few cases I ended up simply commanding the computer to make a move at the time intervals required by the test. After stumbling through this test, the program finished with only 45 points, much lower than any other program I have tested on my Pentium computer.

It is also interesting to note that this program has no Ply rating. Virtually all the top programs are tested by the SSDF, with their results and ratings published in Ply.

In actual games I have played against Grandmaster Championship Chess, it seemed to play significantly weaker than the other programs. On a few occasions the program exhibited a bizarre quirk. Upon my attempting to make a move, the program disallowed it, stating that the move (actually another move, not the one attempted) was illegal. It seems that perhaps there was some communication problem with the mouse in which the program thought that the mouse pointer was on a different square than where it actually was. Here is one example (computer is Black): 1.e4 c5 2.Nf3 d6 3.d4 cd 4.Nd4 Nf6 5.Nc3 e6 6.Be2 a6 7.Be3 Nbd7 8.O-O (attempted). At this point the program declared the move to be illegal, stating that the King cannot go from e1 to a1. However, I was attempting to move the King to g1 (castling King-side), not a1.

I noticed a number of other minor things I do not like about this program, but I will not detail everything here. But to point out just one more area of carelessness, there are quite a few editing

errors in the on-line lessons. Words are misspelled in the displayed text (e.g., "brining" instead of "bringing", "agin" instead of "again") and the voice narration that goes along with the displayed text sometimes does not match the text (e.g., "nominally" correctly displayed, but "normally" incorrectly spoken).

I checked out IntraCorp's home page on the Internet to see if they documented problems with this program or offered a patch to fix them. However, all I found was an advertisement for Grandmaster Championship Chess, and nothing regarding any of the problems with it. I have made no other attempt to contact the manufacturer so I am not sure if they have released a fixed version of the program. I hope they have. And I also hope that all the bugs are worked out prior to releasing the next version. But in the meantime, with so many other top notch chess programs available, I see no good reason to purchase this product.

REBEL DECADE

REBEL Decade, freeware by Schroder B.V. that can be downloaded from the Internet and other sources (I suggest downloading it directly from Schroder B.V. at [http:// www.xs4all.nl/~rebchess/](http://www.xs4all.nl/~rebchess/)), is a weakened version of REBEL 6.0. (The documentation indicates that it should play about 200 points weaker.) But even so, it is still quite a fine program. Aside from its weakened play, the user interface and database functions from REBEL 6.0 are fully intact. And REBEL Decade comes with the same opening books as well. What are missing though, that REBEL 6.0 has, are separate utility programs to convert databases from ChessBase and NicBase formats to REBEL format.

The documentation to the program does not explicitly indicate in what manner the program's play has been weakened. However, one obvious difference is the implementation of its hash table. REBEL 6.0 (as well as REBEL 7.0) tries to reserve as much free memory as possible at the start of the program. However, during testing it appeared that REBEL Decade limits the hash table size to 192 KB. This was the case on both my 33 MHz 386DX (8 MB RAM) and 100 MHz Pentium (16 MB RAM) computers. The resultant performance degradation should be most noticeable in the endgame, where the use of hash tables is most important.

Schroder B.V.'s Internet page provides the results of testing performed with the program. In a match played against REBEL 7.0 on 90 MHz Pentium computers at a time control of 40/2, the score was 35-14 in favor of REBEL 7.0. Problem sets are also provided, which consist of

middlegame and endgame combinations. In most of these problems REBEL 7.0 found the solution much faster than did REBEL Decade. But in a number of forced mating combinations, both programs scored the same.

The program did surprisingly well in the One-Hour CCR Test. The results (68 points vs. 69 points for REBEL 6.0 on my Pentium, and 49 points vs. 51 points for REBEL 6.0 on my 386DX) correspond to a drop in strength from REBEL 6.0 of only 8 rating points for the Pentium and 16 rating points for the 386DX. This is nowhere near the 200-point drop estimated by Ed Schroder, but he obviously knows more about his own program than I do. Also, keep in mind that the One-Hour CCR test contains no endgame problems. I would like to have tested REBEL Decade's endgame play with the Franz Maresch Problem Set (given in CCR Vol. 5 No. 2) but there was not time to do so for this issue of CCR. Perhaps an interested reader might try this out.

For a chessplayer seeking one of the strongest programs, REBEL Decade is surely not the right choice. All the recent top programs should be significantly stronger. Also, it has no conversion utilities for PGN, ChessBase, or NicBase formats. But this program is highly recommended for anyone considering purchasing REBEL 7.0. The Decade version provides a good test drive of the user interface and many of REBEL 7.0's features. And for everyone else, there is no reason not to try out the program. REBEL Decade's price can't be beat. It's free!

FRITZ 4 REVIEW

by Larry Kaufman

Fritz 4 is the Windows version of Fritz. As might be expected, the changes are mostly in terms of ease of use, which is indeed much improved. The chess play maintains the basic style of Fritz 3, namely a very fast tactical search combined with rudimentary positional and endgame chess knowledge, at least by comparison to other top PC programs. Just to cite one example, Fritz does not seem even to be aware of the advantage of the pair of bishops, relying on simply evaluating bishops as better than knights. My evidence for this statement is that if one removes the white Queen's Bishop from the opening position and performs a two ply search, the program evaluates black's advantage as 3.03; if next the move is retracted and both player's king's bishops are removed (so that black will no longer have the advantage of the bishop pair) black's advantage remains at 3.03. The evidence seems to be overwhelming to me that this is incorrect; even if bishops are generally

worth a bit more than knights, the bishop pair deserves a bonus over and above this.

My point here is that Fritz is essentially a program that asserts that tactics are all-important; the programmer (Franz Morsch) apparently believes that adding sophistication would weaken the program tactically by slowing down the search and that the net result would be a smarter but weaker program. While this may possibly be true in games between computers, it is my belief that greater chess knowledge is more important against human players than a little extra speed, though this is open to debate. Due to its great tactical prowess, tied to the use of the null-move algorithm (which pretends that "passing" is legal in chess), Fritz is a favorite choice of many for analyzing variations tactically or for solving tactical problems, but for actually playing games and learning from them I would prefer one of the slower but more sophisticated programs. Be that as it may, the many features and ease of use of Fritz 4 make it a fine program to own. On my one-hour CCR test, running on a Pentium 66 MHz, Fritz 4 scored 62 points for an estimated USCF rating of 2500, a very impressive figure but still a notch below the top few programs.

HIARCS 4 REVIEW

by Larry Kaufman

Hiarcs 4.0 is a very well featured, strong chess program. Current "Ply" ratings put it a bit behind the latest versions of MChess Pro, Genius, and Rebel, but ahead of the rest of the pack. Results on my "One-Hour" test agree well with this, rating it at 2540 on my Pentium 90, which puts it below only Genius and Rebel. It has all the features one expects of a state-of-the-art chess program today, and a couple original ones. Positions can be imported/exported from an EPD file, a feature intended especially for use with the "Bookup" program (see separate software review). Games can be saved in PGN format and restored. Positions can of course be edited. There are the usual monitor mode, takeback, and forward options. Positions can be marked for quick reference, and one may "goto" a particular move number.

Other features include "analyze game", flip board, print moves, and swap sides. Coordinates, sound, and piece flash may be turned on or off. Time controls include the recently popular increment method, as used on the Internet Chess Club. Hint, autoplay, and rating are available. Thinking on the opponent's time may be turned on or off. The selective

search normally used may be made "very" selective or turned off entirely. Three styles of play are offered, aggressive (the default), solid, and normal. A combinations mode may be turned on or off. Short algebraic notation is an option.

In summary, Hiarcs 4 is an excellent program, but it has not yet proven itself to be fully equal to the top three rated programs.

NEW SOFTWARE REVIEWS

by Larry Kaufman

Now that the top chess-playing software can defeat all but a handful of chess-players, attention is starting to turn to chess software that teaches chess or assists players in preparing for battle. In this article we'll look at various new products that fall into this category. Many of these require CD-ROM drive.

Rebel Silver is a combination of a chess playing program, database, and special opening books. The program is a version of the Rebel program but is not as strong as Rebel 6 or 7. Since the other features of Rebel Silver will work with Rebel 6 or 7, it is necessary to purchase both Rebel Silver and Rebel 7 for optimum performance. Silver comes with three opening books totaling 150,000 moves; a large varied book, a small tournament book containing only the (supposedly) best lines, and a book consisting only of openings played by Gary Kasparov, the PCA World champion. You can choose which of these three books you want Rebel to use. Silver also comes with a database of 150,000 games in the format for ChessBase, for NicBase, for Rebel 6.0 (and 7.0), and for Fritz. Also included are two problem sets used for testing computers, and another of 56 nice tactical problems of all sorts.

Next we come to Chess Mentor. This is, as its name implies, purely a teaching program. It consists of a number of positions from actual games, where the user is asked to find the correct continuation. Various hints are available if needed, and text accompanies the problems to explain the ideas. IM Jeremy Silman is the chess teacher who wrote these commentaries. The problems cover the range from elementary to advanced, and include both positional and tactical problems. The product is aimed mostly at players in classes B, C and D, but class A players and novices will also find a reasonable number of problems suitable for them. I feel that the quality is good, but the quantity of problems is not enough yet. My son, who is age 13 and in class B, enjoys the program and has learned from it.

In the database arena, a newcomer is "PerfectBase". This very reasonably priced database includes TascBase 1.0 16 bit, so no other software is required to use this Database, though more can be done with it with more advanced software such as Tascbase 2.0 32 bit (which includes a very strong chess playing program, King 2.5). PerfectBase contains 250,000 games, mostly between strong masters and grandmasters, with no weak players represented. Elo ratings, titles, and nationalities of the players are given, and the data is in TascBase, ChessBase and PGN-format. Games are included up to August '95. I find it a very good tool for choosing openings, since it will display instantly the winning percentage and number of games played as well as the average rating of the white and black players for each move in the opening. For example, 1 d4 is clearly the best move (statistically) with 56.3% followed by 1 e4 at 54%, with the best subsequent moves after 1 d4 (excluding moves played only a small percentage of the time), being 1...Nf6 2 c4 e6 3 g3, the Catalan. The Sicilian is clearly the best defense statistically against 1 e4, as it holds white to only a 52% edge. This type of analysis is useless if the games are played by weak players, but is rather useful with a database like this one. Also available for TascBase and ChessBase is "FIDECHESSE Encyclopaedia", which includes 4 million moves, analysis on all 500 of the ECO codes (that is to say all book openings), and over 120,000 extra games.

Next is Bookup 8. There are now several opening books on disc available for use with Bookup 8. The basic idea is that it is possible to play through one's choice of openings with the moves being made for you automatically on the screen. Thus it is similar to using regular opening books but with a diagram after each move. This makes it possible to learn theory much more rapidly than is possible with printed books. Another feature is that books can be "backsolved"; the idea is that given the author's evaluations of the final positions, the computer can work out the implied evaluation of all earlier positions. For example, I got the book on disc by GM Barlov titled "White is better - 1 d4 ". After "backsolving" the book, many lines can be evaluated as advantage for white after just three or four moves, for example 1 d4 Nf6 2 c4 e5 3 dxe5 Ne4 or 1 d4 f5 2 g3 Nc6 3 d5. Unfortunately this book has many lines ending with no evaluation or commentary, in many cases because white's advantage is obvious enough not to need explanation, so backsolving doesn't produce the intended result (advantage to white in all lines). The books on disk written by FM Chuck Schulien have much more commentary and

have evaluations for all terminal positions, but the choice of moves is aimed at average tournament players rather than masters, as is the case with the books written by grandmasters. Also the books by Schulien are much less complete than the GM books in terms of covering all important replies to the recommended repertoire. Curiously, the book "Closed Game" that gives a recommended repertoire for black against 1 d4 based on the Queen's Gambit Accepted, when backsolved concludes that white is better after 1 d4 d5 but can equalize by 1 d4 Nf6. The explanation is that the book does not cover the main lines of the Indian defenses that begin with 2 c4, and hence the conclusion that 1 ...Nf6 is superior is not justified. In other words, the backsolving technique is only as good as the book being backsolved. New books are expected soon for Bookup 8.



CHESS PLAYING SOFTWARE COMPARISON CHART

ESTIMATED RATINGS	Mchess 5.0	Genius 4.0	Rebel 7.0	Hiarcs 4.0
Pentium 90 MHz	2620	2598	2597	2569
Pentium 60 MHz	2590	2568	2567	2544
486 - 66 MHz	2555	2533	2532	2504
486 - 33 MHz	2520	2498	2497	2469
386 - 33 MHz	2460	2438	2437	2409

REQUIREMENTS

RAM	640K	4 Meg ¹	2 Meg	640K
Hard Drive Space	4 Meg	2 Meg	1½ Meg	N/A
CPU	386	386	386	386
Operating System	DOS	WIN	DOS	DOS

FEATURES

Installations	20	∞	∞	∞
Copy Protection	Can't copy	Key Disk ²	Can't Copy	Can't Copy
2 Player Mode				
Analyze Games				
Autoplay				
Bonus Time				
Change Colors				
Change Set				
Draws / Resigns				
Force				
Goto Move #				
Hints				
Max. Hash	10 Meg	Unspecified ⁵	64 Meg	64 Meg
Mouse Use				
Names Opening				
Next Best				
Opening Book	400,000	200,000	550,000	100,000
Play black or				
Position				
Position Set Up				
Prog. Opening				
Rates Player				
Save/Restore				
Styles Of Play	3	3	5	3
Take Back Full				
Trace Forward				
Vary Piece Value				

COMPATIBILITY

ChessBase				
Chess Assistant				
Bookup (EPD)				
NICbase				
PGN Support				

- ¹ 8 Meg recommended for WIN95.
- ² Periodically requests original disk.
- ³ Clocks such as the Fischer Clock.
- ⁴ System RAM must exceed selected Hash table size.
- ⁵ 5 Meg recommended.

CHESS PLAYING SOFTWARE COMPARISON CHART

Hiarcs for MAC

Chess Master
4000 (Win95)

Fritz 4.0

Virtual Chess

ESTIMATED RATINGS

2510	2539	2536	N/A	Pentium 90 MHz
on 6100/66 AV	2514	2511	N/A	Pentium 60 MHz
w/Speed	2474	2471	N/A	486 - 66 MHz
Doubler	2439	2436	N/A	486 - 33 MHz
66Mhz PPC601	2379	2376	N/A	386 - 33 MHz

REQUIREMENTS

4 Meg	8 Meg	4 Meg	2 Meg	RAM
5 Meg	12 Meg	5 Meg	5 Meg	Hard Drive Space
68020 +	486 +	386 +	386 +	CPU
System 7.1	WIN 95	Win 3.1 +	DOS 5, Win 3.	Operating System

FEATURES

∞	∞	CD - 6 days	CD	Installations
Can't Copy	None	CD	CD	Copy Protection
				2 Player Mode
		N/A		Analyze Games
				Autoplay
		N/A		Bonus Time
				Change Colors
				Change Set
				Draws / Resigns
				Force
				Goto Move #
				Hints
64 Meg	N/A	N/A	Available	Max. Hash
				Mouse Use
				Names Opening
				Next Best
100,000	50,000	N/A	N/A	Opening Book
				Play black or
				Position
				Position Set Up
		N/A		Prog. Opening
		N/A		Rates Player
				Save/Restore
3	N/A	N/A		Styles Of Play
				Take Back Full
				Trace Forward
				Vary Piece Value

COMPATIBILITY

				ChessBase
				Chess Assistant
				Bookup (EPD)
				NICbase
				PGN Support

⁶ Clocks such as the Fischer Clock.

⁷ System RAM must exceed selected Hash table size.

UPDATED ONE- HOUR CCR TEST RESULTS - PC SOFTWARE

by Nick Schoonmaker

Provided here are updated results with the One-Hour CCR Test, which was given in the Vol. 5 No. 1 issue of CCR. Several programs among the latest crop have been evaluated. Tests were performed on both a 100 MHz Pentium computer (Digital Equipment Corporation, Starion 930) with 16 MB of RAM and operating under Windows 95; and a 33 MHz 386DX computer with 8 MB of RAM and operating under MS-DOS 6.2 & Windows for Workgroups 3.11. This combination provides a good cross-section among relatively high and low end computers. However, we have elected not to estimate USCF ratings based only on these test results [The rating formula is: multiply the test score by 8 and add it to 2000 (for British ratings, add 1900; for Swedish, add 1820)]. The primary reason is that all the problems involve strategic decisions and tactics in the opening, with no emphasis given to the endgame; and it has been observed that different programs tend to have significantly different results even though other tests (e.g., games against other computer programs and games against humans) do not indicate such discrepancies. The effects of different processor speeds on different programs can be important too. For instance, there is evidence that the Chess Genius programs lose less chess strength than some other programs when going from a 486 to a 386.

The results from this test are quite useful, especially in cases where this same test was given to an older version of the same program. The results can be used to predict the improvement (if any) of the updated version if the strength of the earlier version had been established through other testing. Using this test, for each additional point scored by the newer version, an eight-point rating (USCF) improvement is assumed. In addition, for opening/middlegame positional play and tactics, the results certainly provide some comparative measure of chess strength and should be of interest to the reader.

Listed below are the raw scores (which can vary from 0 - 100) for programs evaluated with the One Hour CCR Test, which is comprised of 25 problems.

Program	386DX 33 MHz	Pentium 100 MHz
ChessGenius 3.0	66	77
REBEL 7.0	57	74
Genius 4.0	64	72
Genius 2.0	65	
CM 4000 for Win 95		69
CM 4000	53	69
The King (w/TascBase)		53
HIARC 3.01	62	69
HIARCS 2.1	51	
REBEL 6.0	51	69
Mephisto Advantage	51	69
REBEL Decade (freeware)	49	68
Wchess	51	66
Fritz3	50	58
Fritz2	48	
M-Chess Pro 5.0	48	64
M-Chess Pro 4.0	47	62
Socrates 3	45	
Mephisto Gideon Pro	45	
M-Chess Pro 3.5	44	
Grandmaster Championship Chess	45	

EVALUATIONS OF CHESS SOFTWARE - A PERSONAL VIEW

by Dr. Ingo Althoefer

I am involved in computer chess by several activities, for instance by my 3-Hirn-experiments. (3-Hirn: a human coordinator and 2 different chess computers collaborate: The computers make their proposals, and the humans takes the final choice, if the 2 proposals are different.)

Together with Genius 3 and Fritz3 I have attained a rating of about 2600 in several games under tournament conditions.

Recently I have bought Rebel 7, M-Chess 5, Hiarcs 4 (for IBM), Fritz 4 and Genius 4. The comments below do not say anything about the chess strengths of these programs, but only about the comfort of their user interfaces. This comfort is very important for me, as in 3-Hirn-

experiments I have to operate two machines at the same time.

Rebel 7 has the best interface. The information's are presented on the screen in a very clear way. Especially the "war-room" gives a lot of helpful information.

M-Chess 5 is also not bad. One disadvantage is that it does not monitor when the last iteration (of the iterative deepening process) had been finished. So a constructive interactive timing (as I do it in 3-Hirn) is difficult to organize.

Hiarcs 4 is in a technical sense to slow: If you want to give in the move e2e4 it is not sufficient to press "e2e4". You have to press "e2e4 <return>".

You may say that this one extra button to press does not count. The problem is that "quasi as a standard" all other commercial programs do not need this "<return>". So sometimes I simply forget it when working with Hiarcs.

Fritz 4 is in one sense very nice: It allows to compute not only the best but the k best moves in a position (k can be chosen arbitrarily).

(Hiarcs allows this for $k \leq 3$). This is interesting as a variation of 3-Hirn (not two computers with one proposal each, but one machines with several proposals). The "optimized" way of giving in moves by as few button presses as possible is bad: It provokes input errors - especially if you are working with other programs at the same time. (For example see the input error in the December TV match of Fritz 4 vs. Kasparov.) One more bad thing is that Fritz 4 is available only on CD-ROM. So I can not start it on my notebook. Also you can enter positions only if you have a mouse. (This contradicts former Fritz- and ChessBase-philosophy which said that you should be able to use the computer without mouse).

Genius4 has (for me) mainly one problem: The script size in the notation window and in the analysis window is to small. I am shortsighted, and in front of my notebook (with a small screen) I have problems to identify the letter in these windows.

In April 96 I will participate in the AEGON tournament with a 3-Hirn. Mainly because of the reasons above I will use Rebel 7 and probably M-Chess 5 as the two computers. (According to chess strength all five programs should be almost equal.)

EVALUATING THE COMMERCIAL

CHESS PLAYING PROGRAMS

by Mike Leahy (BOOKUP)

We try to test them all, and we also get a tremendous amount of feedback from our customers.

Our (BOOKUP) customers are primarily concerned with how the programs work with EPD files. The two most popular questions we get are...

1) Which program is your favorite?

When editing and proofing our books-on-disk our favorite "quick checker" is Chess Genius. It is tactically sharp, spotting mates that even Kasparov misses in our Scheveningen Sicilian book. The DOS version is the easiest of the bunch to use for processing EPD files. The Windows version of Genius makes the job that much simpler as both BOOKUP and Genius can run at the same time.

For longer periods of analysis (read "deeper") our favorite has been HIARCS. It seems to have a better position sense in positions where little seems to be going on. Lately we've also done a lot of testing with MChess Pro 5 and it seems to have similar position sensibilities.

2) Do you know of any bugs?

Sure. MChess Pro 5 has a tendency to "resign" certain positions during overnight analysis. This can be frustrating when you're hoping for eight hours of completed analysis in the morning and you awake to find that MChess 5.0 has "resigned" one of the positions after only an hour or so.

Chess Genius does not always interpret EPD records with en passant captures. The only work-around is to remove those positions from the EPD file with a text editor and have Genius complete the process.

ABOUT THE AUTHOR:

Mike Leahy began programming a tree-shaped chess database for himself on (now antiquated) System 23 IBM computers in 1982 when he couldn't keep up with the chess theoreticians in the local Dark Horse chess club. By 1984 Mike had created a version for the new IBM PC and began selling it through the mail to serious chess players as a hobby business.

Twelve years later BOOKUP for DOS, Windows and Macintosh is used in 41 countries by the world's best players. Each new revision brought more publishing and training features as well as better integration with game database systems and strong playing programs.

In 1994 Mike decided to introduce "books-on-disk" which allowed players to read and train against chess books on personal computers. These electronic books now comprise half of BOOKUP's sales. Mike created free DOS and shareware Windows viewing programs so that BOOKUP is not required to read this breakthrough material.

In 1994 Mike also brought the best selling chess book of all time, "Bobby Fischer Teaches Chess" to CD ROM.

Mike is currently finishing a new version of BOOKUP that contains the engine from Zarkov 4.0 for strong on-the-fly analysis while studying. He is also working on the successor to "Bobby Fischer Teaches Chess" which should be in stores for Christmas 1996.

MACINTOSH CHESS

PLAYING

SOFTWARE

REVIEW

by Richard A. Fowell

INTRODUCTION

Last year was good for Macintosh chess-playing software. The first Macintosh "professional" chess program arrived - HIARCS Mac (December), using the HIARCS 4.0 engine. The first "native" Power Macintosh chess engines appeared - Grandmaster Chess and GNUChess 4.0b5. Finally, a very strong, full featured freeware Macintosh chess program was released - MacChess 2.0 (December). This year looks promising for Mac chess software, too. Here we discuss which programs are available, how strong they are, how to get them to play their best, where to obtain them, and what their features are.

This review focuses on Macintosh chess-playing software. A Macintosh Chess FAQ is periodically posted to the Internet newsgroup rec.games.chess.computer - it also discusses Macintosh chess databases and utilities. There are three Mac chess databases: Bookup, DejaVu and SmartChess. For information, send email to the developers: Bookup: bookup@bronze.coil.com, DejaVu: dejavu@chessworks.com, and SmartChess: maeser@inf.ethz.ch.

GNUChess, MacChess 2.0, and the HIARCS demo are available on the Wide World Web and AOL. On the Web, go to <http://hyperarchive.lcs.mit.edu/HyperArchive.html> and search for

"chess" and "hiarcs". On America On Line, go to keyword "chess", and look in the Chess File Library.

TEST RESULTS

To test chess engine strength, I ran the One-Hour CCR test from CCR v5n1 to gauge tactical/position strength, and the Maresch test from CCR v5n2 to gauge ending strength. The One-Hour test used a Power Macintosh 6100/66AV (66Mhz PPC 601) with the Connectix "Speed Doubler" 680X0 emulation software. The Maresch test used a Quadra 610 (25Mhz 68040), and was only run on the top six programs. When programs offered different playing styles, the software was set to whatever the documentation recommended as strongest.

Besides helping to rank the software, these tests provided insights into how to get the best out of the software, and the effects of the hardware platform, including a data point on how the PowerPC compares to the Pentium as a chess platform. See the table under "Speed Effects of Hardware Configurations" to estimate how the rankings might change if run on a 680X0 Mac, or if Speed Doubler were not present. A factor of two in speed is worth roughly 60 rating points in this range.

Here are the results. Keep in mind that these "ratings" are guesses at what these programs USCF ratings (Swedish "Ply" ratings + 180 points) might be at tournament time controls. While the "One Hour" test estimate is pretty good in general, the deviation between the "One Hour" test results printed in CCR v5n2 and "Ply + 180" ranged from -69 to +102 points. Also, some programs are relatively strong at "Blitz" chess and weak at "slow" chess, and vice versa.

Listed in order of average "rating"

Macintosh Software	Version	"One Hour" Points	"One Hour" Rating	"Maresch" Points	"Maresch" Rating	Average
HIARCS Mac	1.0	63	2510	25	2400	2455
Sargon V	1.0	52	2400	23	2340	2370
MacChess 2	2.0	43	2310	16	2130	2220
Grandmaster Chess	1.0	45	2330	15	2100	2215
Psion Chess	1.6	43	2310	12	2010	2160
Chessmaster 3000	1.1	36	2240	10	1950	2095
MacChess	1.0	28	2160	**	****	****
Checkmate	1.05	14	2020	**	****	****
GNUChess	4.0b5	14	2020	**	****	****

Note that the relative rankings of the two "native" programs: Grandmaster Chess and GNUChess, will depend heavily on the machine you use. On a PowerMac without Speed Doubler, Grandmaster Chess should be stronger than Sargon V, but not quite as strong as HIARCS. On

a non-PowerMac, Grandmaster Chess should be weaker than Chessmaster 3000.

Speed Effects of Software Configurations

I tried various software configurations to see what slowed down program thinking speed. In descending order, they were: another program running in foreground, turning off Speed Doubler, another program running in background, and using color vs. B/W. Most chess engines pause completely as long as another program is in front - one even did so when the screen saver came on. Check this before you running overnight! On the PowerMac, non-native programs ran much more slowly using Apple's default emulator - turning Speed Doubler off slowed them by a factor of 2-5 times. Different programs were effected differently. HIARCS ran one-quarter as fast, and Chessmaster 3000 ran half as fast. I found that simply having a SimpleText document open in the background slowed programs considerably - HIARCS took 32 seconds to solve a problem that took 20 seconds when Teachtext was off. Finally, some Macintoshes slowed down slightly when going from B/W to 256 color, and some didn't. To measure the effect on your machine, time a p

Speed Effects of Hardware Configurations

A 50 Mhz machine runs twice as fast as a 25 Mhz machine, all other things being equal. And the PowerMacs run at much faster clock rates than the 680X0 Macs. But how does the type of processor affect thinking speed? We need to know this to predict how machines of different types and processor speeds will do against each other. The table shows how different processors affected HIARCS speed, after scaling to remove the effects of different clock rates. These results were different for different programs - perhaps the type of code and compiler causes the difference. All but the 68030 case and the PPC 601 native case below were computed from three test problems run on HIARCS (CCR 1-hr problems 1, 9 & 11). The Pentium case used HIARCS 4.0 on a Pentium 90 (same chess engine). Only one HIARCS test was run on the 68030. Since there is no HIARCS PPC 601 native version, I ran 5 problems on Grandmaster Chess on the 6100/66 and the Quadra 610 to see how native PPC code compared to 680X0 code. It is interesting to compare the PPC native result to the Pentium result. This indicates that the PPC 601 may be a better chess platform than the Pentium. When "native" versions of professional chess programs become available, we'll be able to test that hypothesis!

Code: Processor	Normalized Speed.
680X0: 68040 (baseline)	1.0
680X0: PPC 601, Apple emulator	0.18
680X0: 68030	0.47

Computer Chess Reports

680X0: PPC 601, Speed Doubler 0.74

Intel: Pentium 1.3 (1.2 - 1.5)

PPC: PPC 601 (native) 2.7 (1.5 - 4.0)

Features

The "Macintosh Chess Programs: Features" table lists some features of six of these programs. Please note that features common to all programs are listed at the bottom, and that some features are not mentioned, due to space limitations.

HIARCS 1.0 MAC

HIARCS seems the right choice for the serious analyst, but at \$150 and no return policy, it's not a lightly made choice. PowerMac owners will want Speed Doubler with this. The HIARCS chess engine is Mark Uniacke's HIARCS 4.0. Not surprisingly, it seems to be the strongest Mac program by a good margin. It is also the only released Mac program that handles PGN and EPD files. It and Chessmaster 3000 seem to be the only programs that will annotate a whole game for you. It has a "next best" feature for exploring alternate lines in a position that is a real help for serious analysis. There's a "Process EPD" command that's supposed to process Bookup files - since I don't have Bookup, I haven't tried it.

HIARCS graphics seem pretty good to me. Since this is largely personal taste, those who are greatly concerned should download the demo mentioned above. HIARCS has only one "chess set", but I like it best of any of the Mac chess sets. The pieces are the 2D diagram style I'm used to from decades of chess magazines. There's also only one board choice. Several people have expressed a desire for a different board pattern. I find the pattern perfectly acceptable in the 256-color mode (buff light squares, finely checkered green dark squares), but find the dark squares a little too dark in B/W. Since the board looks distinctly different in 2/4/16/256+ colors, most people should be able to find one they like by experimenting with their monitor color depth setting. For those comfortable with a resource editor such as ResEdit the square patterns (ppats #128 and #129) are easily changed, but this isn't a good option for the inexperienced.

HIARCS requires a 68020 processor or better, 2M RAM, 1.3M disk space, and System 7.1 or better. No copy protection. The U.S. distributor is ICD (1-800-645-4710). The publisher is Applied Computer Concepts Limited, The Latton Bush Business Centre, Southern Way, Harlow, Essex, CM18 &BH, England. Email address: hiarcs@acc-ltd.demon.co.uk.

SARGON V

The right program if you want a strong Mac chess program, but don't want to spend \$150 for HIARCS. Sargon V uses an engine from Dan and Kathe Spracklen. It is the second strongest of the

Volume 5, Number 3+4

Mac chess programs, and much cheaper than HIARCS - I just paid less than \$20 for it last month. Many features, including some tutorial. I'd like to see some "diagram" style pieces, though.

Sargon requires a Mac Plus or better, 1.2M RAM, 2M disk space, and System 6.0.7 or better. Book copy protection - answer a question to successfully install. The publisher is Activision (310) 479-5644. I had trouble finding a distributor - I got my copy from Cyberian Outpost, Inc. at www.cybout.com (203-927-2050).

MACCHESS 2.0

MacChess is strong, full-featured and free - what's not to like? W.A. Beusekom wrote MacChess, which evolved from the "TOBBER" Atari program he entered in the 1989 Dutch Computer Chess Championship. In the 1995 championship, MacChess scored 5 1/2 - 5 1/2. Given its hardware disadvantage, that's good. (It ran on a Centris 610 (25Mhz 68040). Most of its opponents were ran on 100+ Mhz Pentiums). He hopes to release a native PowerPC version by next January. MacChess 2.0 prints nice graphic diagrams, and the text diagrams it exports can be read by Chessmaster 3000. The clock display is the most elaborate I've seen (10 fields). MacChess is also the only program that lists the number of positions evaluated. It has six piece sets - the default is a classic 2D style reminiscent of the Hastings chess font.

MacChess requires a 68020 or better, 2M RAM, 0.6M disk space, and System 7 or better. Available on-line as described above. Also on the Internet at: ftp://mirrors.aol.com/pub/info-mac/game/brd/mac-chess-20.hqx

GRANDMASTER CHESS

This uses a Mark Lefler chess engine based on his "NOW" program. It is a "fat" program - both 680X0 and PowerMac code coexist in one file. It is one of the few programs that supports modem/network play. The least attractive feature is that it refuses to launch if the CD is not in the drive, so Powerbook owners should look elsewhere.

Grandmaster Chess requires a system with 4M RAM, 1M disk space (optional), System 7 or better, and a CD-ROM drive (2X minimum). CD-ROM protection check at each program launch. The publisher is Capstone (800-468-7226). Most of the big Mac mail-order houses didn't have it. MacZone had it for \$39 (800-248-0800).

PSION 1.6

Psion is an old Richard Lang program (June 1985). It has been out of print for many years, but is discussed here because it remains one of the strongest Mac chess programs. It is a tribute to Psion's authors and the Apple system programmers that a program written when the high-end Mac had 512K RAM and a 68000 processor still runs on PowerMacs (albeit with some screen artifacts). Crafty Mac

This uses a multiplatform chess engine from Bob Hyatt (author of Cray Blitz). The source code and non-Mac binaries of Crafty are freely available on the Internet. The Mac port is being worked on, but has not been released. I've played with a beta just briefly. It should be quite strong, based on the performance of the DOS version. The interface is currently keyboard input and text graphics output on the Mac.



MACINTOSH SOFTWARE COMPARISONS

	HIARCS	SARGON	MAC Chess2	GM Chess	CM 3000	CHECKMATE
Mouse Click & Drag						
Click Piece, Square						
Keyboard/Modem						
PGN, EPD, BookUp						
Forsythe, Listing						
Text Moving List						
PGN/List + Analysis						
Forsythe Position						
Text/Graphic Board						
Move List (print)	3 Ways			5 Ways		
Diagram (print)	Graphic	Either	Text	Graphic	Graphic	Display
2D sets.boards	1	3/3?	7	4/10	3	1
3D sets/boards	0	3/3	0	4/10	4	1
Blindfold Play						
Playing Styles	3	1	1	3	Tunable	2
Opening Books	2	1	1	4	Tunable	Tunable
Time Control Levels	3	3	2	1	1	Odd
Preset Time Control	12		256	4		
Pause						
Next Best Move						
Analyze Game						
Narrative Analysis						

CHESSMASTER 3000

Best choice for novices, or those wanting to play against varying styles. No credited author for the chess engine. There are many tutorial features: on-line tutorials for rules, notation, endings, mates, and tactics. Also will show legal moves, squares threatened, run opening practice. Offers detailed position analysis in narrative form. Quite full featured. Offers 17 built in "player personalities" and lets you create more by tweaking ten controls. This is how you turn off "permanent brain" and "opening book," if you wish. Includes Morphy, Marshall, Lasker, Capablanca, Tal styles.

If only the engine were stronger! It looks like the next Mac update will be Chessmaster 5000, hopefully sometime this summer.

Chessmaster 3000 requires 68020 or better, 1.5M RAM, 1.7M disk space, System 7.0 or better. Book copy protection - answer a question to successfully install. The publisher is Mindscape (415-883-3000). Seems to be widely available. If you have a CD-ROM, available in "MacPack" form

bundled with other games, e.g., "Mac 5 Pak" at the Mac Zone (800-248-0800) is \$20.

CHECKMATE

Checkmate seems like a good program to get if you want to play other humans over a modem. Checkmate uses a Chris Whittington engine. Its modem feature is also compatible with Battlechess, which is fairly popular on both Macs and PCs. The manual has a nice tutorial on the rules of chess, but there is no on-line tutorial. The program has a decent set of features, it just seems weak.

Checkmate requires a Mac Plus or better, 1M RAM, 1.5M disk space. Book copy protection - answer a question to successfully install. The publisher is MacPlay (714) 553-3530, 71333.1467@compuserve.com. MacWarehouse (800 255 6227) has it for \$15.

GNUCHES 4.0b5

Until I found MacChess, I recommended GNUChess as the freeware Mac chess game to get. Now its main benefits are: it is an example of a "fat" chess program, and its source code is available (so is Crafty's). Very few features: it

doesn't show what the program is thinking, no "Hint" feature, and has no "setup" feature. Available on AOL or the Web as mentioned above, or on the Internet at: <ftp://mirrors.aol.com/pub/info-mac/game/brd/gnu-chess-40b5.hqx>

(1) All programs tested:

read own file format, export own format, display: White at top or bottom of screen, time for both sides, move listing, principal variation, principal variation score; allow position setup, "infinite" time mode, can disable opening book and thinking on opponent's time, give hint, have either human or computer play either side, force/retract move.

ABOUT THE AUTHOR:

Dr. Richard A. Fowell designs satellites for Hughes Aircraft in Los Angeles while waiting for his Macs to finish overnight chess analyses. A USCF life member (rating 2210), he retired from tournaments after over 1500 rated games. He has only one refereed paper on computer programming

COMPUTERS' EVALUATION SPEED

by Don Getkey

I do think the only "conclusion" one can draw from this position solving test, is that in times past programs/computers DID lack the sophistication to solve them. Whatever that sophistication was? Not only that, but such a problem seems to dispell the notion that little, other than CPU speed, and designer book knowledge has changed about chess programs. As a further "test" of this assumption, I will run the problem using the now "ancient" CM3000, on a modern Pentium 75 with 16 megs of RAM. A PC that was not publicly available when CM3000 was released for sale as a new chess program. CCR listed CM3000 at an averaged out USCF equivalence of 2252 in the 1994 Vol.4 No.2 issue. They further suggest that you should add between 50 to 75 points for a P75. So lets add 62.5 for a max rating of 2314.5. Too high you say!? Probably so. Then lets average this to the lowest rating I have ever read which was 1950, shall we? 2132.25. I think this is reasonable. I think we can safely say with certainty that CM3000 is with all due respect, no more, and no less, than an Expert chess player of the not too distant past. If my assumption is generally correct, that today's best programs ARE more than merely refined opening book monsters running on much faster equipment as

demonstrated by this kind of tactical problem, CM3000 (though an Expert) will not find Bxg6 even on equal equipment no matter how long you let it think. Question is, why? If as Bob suggest this is a relatively easy tactical spot. Or in his words, "relatively doable for many years"? I'll post CM3000s result as soon as it has one some 24 hours or so from now I would guess.

Here is the position, and the actual game!

: White:

: Kb1, Qe6, Rd1-g3 ,Bd3 ,Nc3-f3 ,Pb2-d4-e5-f4-g2

: Black:

: Kg8, Qa5, Rc8-f8 ,Be7-f7 ,Nc6 ,Pa7-a3-d5-g6-h7

: White to move.

[Event "?"]

[Site "New York"]

[Date "1947.??.""]

[Round "?"]

[White "Evans, L."]

[Black "Pilnick, C."]

[Result "1-0"]

[ECO "C13"]

1. e4 e6 2. d4 d5 3. Nc3 Nf6 4. Bg5 Be7 5. Bxf6 Bxf6 6. e5 Be7 7. Qg4 O-O 8. O-O-O c5 9. h4 cxd4 10. Nce2 Nc6 11. f4 Qa5 12. Kb1 d3 13. cxd3 Bd7 14. Rh3 Rac8 15. Rg3 g6 16. d4 b5 17. h5 Nb4 18. a3 Nc6 19. hxg6 fxg6 20. Nc3 b4 21. Bd3 Be8 22. Nf3 bxa3 23. Qxe6 + Bf7 24. Bxg6 axb2 25. Bxh7 + Kh8 26. Qh6 Qa1 + 27. Kc2 b1 =Q + 28. Rxb1 Nb4 + 29. Kd1 1-0

Here is a hr/MN/sec list of quickest to slowest, that people have reported their programs found Bxg6 in. A few inconsistencies that may be more to do with operator error to some degree or another. Cray Blitz is absolutely staggering! As I understand it, it took GM Evans over 30 minutes to play Bxg6! GM Kasparov would do well to put in some time with a GM or IM who specializes in playing computers before he meets Deep Blue. designates my own findings.

Cray Blitz	8 ply search,	+ 3.00	00:00:01.9
Virtua	P83 overdrive 16MB		00:00:35
Chess	RAM		
Fritz 4	P133 16MB RAM	- 3.69	00:02:01
Fritz3	P90 16MB RAM		00:02:14
Fritz 3	P120 16MB RAM	-3.19	00:02:43
Stobor	P133		00:07:40
Fritz 4	486/66 8MB RAM	- 2.53	00:10:08
Genius 3	P90 16MB RAM		00:12:14
Genius-2	P100 24 MB RAM	-3.30	00:13:00
Genius-4	P100 24 MB RAM	-3.75	00:14:40
*Rebel	P75 16MB RAM 8 ply	-2.54	00:19:51
Decade			
Hiarcs	P100 24 MB RAM		00:27:00
Genius 4	P100 24 MB RAM		00:40:00

HIARCS	P90 16MB RAM	01:05:00
3.01		
MCP5	P120, 16 megs RAM	01:41:00
*MCP5	P75 16MB RAM	+3.58 03:25:14
MCP5	P100 24 MB RAM	+3.80 06:00:00
*CM4000	P75 16MB RAM	06:01:55
1993		19:00:00
Tasc R30		

AN INTERVIEW WITH RICHARD LANG (GENIUS 4.0)

The Englishman Richard Lang, 39 years old, has been dominating the computer chess world championships since the year 1984. He has written many successful Mephisto programs. For a few years now, he has been producing the famous ChessGenius PC-Programs.

We asked Richard Lang a few questions after the end of the 13th Microcomputer World Championship in Paderborn.

Q: Richard, ChessGenius has just lost the 60-minute play off game against MChess Pro. I assume you're very disappointed now.

A: It's not that bad. This game looked fine in the beginning, but it didn't proceed very luckily for my program. Probably we somewhere missed the win. But I tell you I am quite happy because now I can take home a World Champion trophy for the 10th time. I have now quite an impressive collection of trophies at home.

Q: ChessGenius didn't start very strongly. Have you expected this success after the 4th round of the tournament?

A: Of course not. Before the tournament I didn't have a lot of time to test all the changes in the program thoroughly enough. For me it was an unusual risk to use a new program version in the World Championship without knowing its characteristics in all details. After having lost two games in the beginning I didn't expect to gain a World Champion Title, to be honest.

Q: Why was it not possible for you to finish the program in time?

A: This year the timing was very bad. Quite late, in the end of July, I received the invitation for Paderborn. At this moment me and my partner Ossi Weiner had already booked family holidays in August. And when I came back, the next bad surprise was already waiting for me: I was

obligated to serve the whole month of September as a member of a jury in court. In England may not reject such an obligation.

So only two weeks were left to finish the chess program. And not to forget, our tournament machine was stolen during the tournament and I had to use a slower machine for the decisive last rounds. That was not the best for my nerves.

Q: Under these circumstances a very nice success for you, isn't it?

A: You can say so! I'm really satisfied with my new program, and I not only mean the achieved points, but also the beautiful way the program was playing.

Q: OK, so tell us what's new in Chess Genius 4?

A: ChessGenius 4 is a completely new windows program with all advantages of this comfortable operating system. For example you can open and close, enlarge and move windows in a very comfortable way and you can watch several windows at the same time. Also printing of games and diagrams and the import export of files is now much easier. Then Genius 4 offers a range of new data base features, as you know them from Genius 2 for Windows. New as well is the option to read and write files in ChessBase and PGN formats. So I think that ChessGenius 4 can offer many new program features.

Q: And what about the playing strength?

A: I cannot estimate this exactly at the moment. On the top of the ranking list my competitors aren't so far away anymore, and it is definitely not easy to improve a top program. But the first test results are encouraging and I hope to keep the top place of the Swedish ranking list.

But far more important than 20 or 30 Elo points is the interesting playing style of my program. Have you noticed that in Hong Kong 4 out of 5 games were drawn, but here in Paderborn we had only 2 draws in 11 games? Have you noticed how aggressively ChessGenius played in a few games?

Q: Yes, that looked quite lively. Home come?

A: I intensively worked on improving the tactics, so certain mate attacks can be recognized now faster. This causes the program play more actively. Of course this is without risk, you easily can loose if you play this way. But it's getting more interesting.

Q: Can you tell us what will happen in the future?

A: I think the integration of chess programs and data bases is getting more and more important. And I am sure the MS-DOS programs will die out soon.

Let me thank German Genius fans for their warm support during the tournament; many of them were very friendly to me.

Also in the future I will always continue striving to improve the playing strength and features of my program.

Q: Richard, thank you for this interview.

PROTECTING PROTECTION

by Carlos Tillotson

Right you all seem so upset about 'dongles' and 'refueling' disks and the ilk. Do us all a favor, come up with a copy protection device that is

1. Uncrackable
2. Stops thieving gits from nicking software

When you have come up with this wonderful device, and it fits your ideals tell the computing world so that the hard working dedicated programmers who sweat their butts out can make a living without thinking that 90% of the money that their products earn go into the pockets of some back street hack.

Until you do, I suggest you stop bleating about 'copy protection'. If there wasn't a copying problem then you wouldn't need it. I for one wouldn't mind having to reinsert my CD {most will be CD's these days} once in a while knowing that I have purchased the software legit. Remember, Chess Software is a niche market. The market place is very limited and the last things that the likes of Lang etc want is to spend their time programming these new wonderful chess engines to find them come up on the local boot market. In the end they will be driven away from the PC market and will only produce 'Chess Machines'

ABOUT THE AUTHOR:

Carlos is married, 30 years old, and has 3 kids. He says that he plays chess to keep himself sane !!!

Carl works in the computer industry. His main function is supporting and developing Manpower Systems for his client base which is mainly health orientated. He is still a fledgling chess player, only playing seriously for a year or so. His favorite openings/defense at the moment is "Center-Counter {Jadoul Variation}" and "New St George".

CHESS COMPUTERS AS TEACHERS

by Simon Read

If you say that you can race against a Porsche, but it won't teach you anything about how to run, then you're saying you can play against a computer and the opposite happens: it *does* teach you how to be a better chessplayer. This is very interesting and in fact I disagree. This is how I think the analogy should go:

By racing against a Porsche, you exercise your muscles, coordination, stamina, etc. The act of racing teaches you because you are observing your own performance. You learn nothing from the machine, however, because you can't race in the same way that the machine does. It has wheels, you have legs. You can even run on your own. You don't need an opponent. You teach yourself about running in a different way.

By playing against a computer, you exercise your mind: memory, recognition of positional features, tactical skill, strategic planning, etc. The act of playing teaches you because you are observing your own performance. You learn nothing from the machine, however, because you can't play chess in the same way that the machine does. It has algorithms, brute-force alpha-beta search, hash tables, a 100MHz clock, 16 MB of RAM, etc. You have pattern-recognition, highly selective move exploration, positional understanding, neurons, synapses, etc.

You can even play chess on your own. You sit at a board and analyze variations. You teach yourself about chess in a different way. So as to computers teaching humans about chess, I believe computers simply give humans an exercise-ground in which to practice. You play against a computer to explore chess, and use that exploration to learn how to play better chess, but the computer cannot teach you how to play.

ABOUT THE AUTHOR:

Simon Read, 30 years of age and from England, says that he is desperately trying to finish off his Ph.D. in the aerodynamics of jet engine compressors at the University of Cranfield. His hobbies are computers and chess; he says that his chess is not so good, but he is an experienced programmer. Simon worked for British Aerospace for over three years and that is where he received background in aerodynamics

STARTUP FILES

by Tim Mirabile

One thing that non-Windows 95 users may not know is that when creating a shortcut icon to a DOS program, you can set it up to force the machine to reboot with custom config.sys and autoexec.bat files. I have a different set of startup files optimized for each DOS mode program that I use. For this reason, it's easier to run "state of the art" resource squeezing DOS programs in a Windows 95 machine than a Windows 3.1 or even a DOS only machine. No more boot disks, startup menus, etc. You can even take it one step further. I have two icons set up for Fritz. One reboots into an optimal configuration, when I want maximum speed. The other just runs it in a DOS window, allowing me to use it with other programs running.

ABOUT THE AUTHOR:

Tim has a BS in electrical engineering and computer science. He has been playing chess for about 13 years and postal for about 8 years, and his OTB rating is 2238.

LEARNING FROM CHESS COMPUTERS?

by Benjamin Tilly

There is a lot of arguing about when computers will manage to be able to beat everybody. From a practical standpoint this is kind of pointless since there are easily available computer programs that will beat anybody whom I know or who I have much interest in playing. (Being instructively demolished is not very fun...) So what about a more interesting question...namely what can we learn from computer chess? Since the best way to get conversation going is to offer controversial opinions, let me do just that. I am of the opinion that using a computer program's opinion as a teacher is likely counterproductive. Why? Because of a question of style! A good computer program plays chess by doing a very superficial analysis of a great many positions. A good human does a very good analysis of very few positions. For a human to get better the human has to learn how to do this analysis. (Any good chessbook will give a lot of recommendations of what sorts of things to look for.) A computer can give you virtually no feedback about the concepts that you need to look for. What a computer can do is show you

what it thinks is best...but the reasoning behind that decision is impossible for it to explain. And in the very middlegame positions where it is most important to carry out a human type analysis of the positions, the computer is least capable of singling out the good moves! This is an extreme version of the problem of a teacher and a student having mismatched styles. Worse than that, the human does not even have the possibility of learning to play like the computer does. Furthermore if the human plays the student too much then there is a real danger of the human learning to target the computer's weaknesses...and concentrating on this to the point of becoming a worse player against people!

So what do other people think? And more importantly, is it possible to develop a computer teacher that addresses these weaknesses to some extent? (I am deliberately ignoring the endgame analysis, there computers can learn to play perfectly but even so the computer's advice is relatively useless until a human learns to interpret the result. Once a human does that then other humans do better to learn from the first human than from the computer...)

ABOUT THE AUTHOR:

Benjamin is a married graduate student in mathematics at Dartmouth College who is presently working towards a PhD. (His wife is a graduate student in molecular and cell biology.) He is originally from Victoria, BC, Canada. He plays on ICC under the name "Mathwhiz". Ben claims to unfortunately lack chess prowess, and based upon his ICC performance he would probably be class C.

COMPUTERS & OPERATORS

by Mark Uniacke (Hiarc 4.0)

I believe that IF the problem is of the program's making then it should forfeit the game. This includes time loss where the program has overstepped the timecontrol because it thought too long (not because the programs clock goes out of sync with the real chess clock through operator slowness). For example if program X thinks it has 5 minutes left for the last move and the real clock only shows 2 minutes you should not penalize the program for taking 4 minutes over its move. This can be helped by allowing correction of a program's clock when it is not correct. I believe program bugs and crashes should also cause the game to be forfeit IN MY HUMBLE OPINION, . Exceptions would be events outside of the programs control, like power failure, hardware faults etc.

Hiarcs time usage (as recorded by CSTal) was Opening book to move 5 Moves 5 to 30 played at c. 1.96 minutes a move Moves 31 to 40 played at c. 2.90 minutes a move Moves 41 to 50 played at c. 1.70 minutes a move Moves 51 to 60 played at c. 1.50 minutes a move Moves 62 to 70 played at c. 1.80 minutes a move

It still looks to me that the Hiarcs time over-usage was in its 'difficult' period from moves 30 to 40.

You don't seem to understand, this is how it should be. Once the time control is reached at move 30 and the next one is not until move 70, it would not make much sense to move quickly between moves 30-50 because that is where most games will be resolved. A poor time time control allocation would be: Moves 5 to 30 played at c. 1.96 minutes a move Moves 31 to 40 played at c. 1.50 minutes a move Moves 41 to 50 played at c. 1.70 minutes a move Moves 51 to 60 played at c. 1.80 minutes a move Moves 62 to 70 played at c. 2.90 minutes a move

This is where a program moves quickly until the game is really lost then thinks of a way out. I prefer HIARCS to have a good think as early as possible even if the evaluation is only dropping by a fraction of a pawn. In this way the later problems are usually avoided.

As for an operator time of 10 seconds being inadequate, I use an operator time of 5 or 6 seconds when I am operating HIARCS and then I am usually typing the moves in! I know of a number of operators who are also able to use considerably less than 10 seconds.

PERFECT CHESS?

by Patrick Leung

I have similar prospects about Kasparov's match with Deep Blue. In fact, I don't think it will ever be possible to make a computer play perfect chess which no human will be able to beat. Computers are dead, and can not think; they tie some fixed value to each board position returned by the evaluation function; however they really have no understanding of how good a given board position is. And as you say, a computer chess program never learns anything new, unless of course you, the human being, input more stuff to the database or improve the evaluation function. One thing that I never see any computer chess program do is to do any heavy sacrifices of material to open up an attack. For instance, I like to sacrifice my bishop or knight in return for one of my opponent's pawns protecting his king. That way, I will expose his king, and in the moves ahead, I will have a chance to attack and

checkmate him. I haven't as of yet seen any computer chess programs do this. From my perspective, it really doesn't matter how much further a computer chess program searches, 40 plys or 100plys. Theoretically, the deeper the tree search, the better the performance of a computer chess program. However, there is no guarantee that it is doing meaning less tree searching. You just can't tie a number to a board as the goodness of that board. I think the value of a board position really depends on what you have in mind, and what you can do with your pieces, and NOT what pieces you have.

The main advantages computers have are patience to do many tedious calculations and perfect memory. Human chess players tend to be greedy sometimes, and take when they shouldn't. Kasparov may some day lose in a match against the next generation computer chess programs, not because the computer will be better than Kasparov, but because the computer has more patience and better memory than Kasparov. No one really has made any fantastic discoveries in new chess algorithms, since Shannon. The major change between a computer chess program back in 1950 and today is that computers today are much faster, and have much more memory which enable computer chess programs today to do more tree searching in shorter time frame.

ABOUT THE AUTHOR:

Patrick specializes in computer game AI techniques and computer graphics. He is a junior attending the University of Buffalo in New York State, and he is pursuing a Bachelor of Science degree in Computer Science. At his university, he works as a computer consultant for CIT (Center for Information Technology) and he also works as a computer consultant for the Computer Science Department's undergraduate lab.

AUTOPLAYERS

by Mark Uniacke (Hiarcs 4.0)

As the author of HIARCS I would certainly strongly endorse an autoplayer approach to future World Championships. Don Beal did run a couple of similar tournaments in 93 and 94 which were both attended by HIARCS and MChess. It means we can have many more rounds (perhaps a double round-robin) and much less chance (almost 0) for operator error. I hope more authors of the strongest programs would support such events. At present the quality of an operator can have a definite influence on the outcome of certain games. For example in the World Micro Championship HIARCS lost on time (at move 70) to Chess System Tal despite HIARCS having a won position. Such results can affect the

outcome of a tournament. Apparently, HIARCS' operator had had to leave the board a number of times meaning the internal and real chess clocks went out of sync. Had the internal clock been reset correctly the problem could have been avoided. Autoplaying would eradicate such result anomalies.

HOW TO CHOOSE THE TOP COMPUTER PROGRAM

by Randy Schmidt

I liken these computer chess tournaments as legitimizing the winning chess program as a strong entry into the computer chess program market, but nothing more. Consider the PGA (golf) tour. Trevino wins one week, then John Cook wins next week, Nick Faldo breaks through in a playoff the 3rd week, etc. Now who is the best golfer?? I suggest that anyone in the market for a chess 'puter, look at the Swedish List and then examine and compare the features of the top 5 programs. I would prefer to make my decision from this information rather than who tricked who in an individual game. What do I look for? Which of the major database programs will this interface with? ChessBase, Chess Assistant, NICBase (though I don't own this one)? How about BookUp? Will it analyze a game for me over night and write its analysis to disk so I can look at it later? How much meg does it use for Hash Tables? Do I have that much? How easy is the interface? Do I like the looks of the chessboard? (I mean I will be staring at it for hours and hours). Is it copy protected? If so, and all but one are!, will this affect me in any way? (I doubt it but your situation is different).

Then I make my decision!! I do not just look at who won what last week.

ABOUT THE AUTHOR:

Randy lives in Green Bay, Wisconsin. He is married with two daughters ages 6 and 4. He is currently employed as a general manager for a manufacturing distributor. He has been playing in USCF tournaments for 27 years and his USCF rating is 2065. He also plays postal chess with a postal rating of 2239. Randy enjoys all sports and says he is a rabid Packer fan.

My PERSONAL EVALUATIONS

by Michael Byrne

I'm sorry, but this kind of paranoid by the distributors will ruin the market. I have purchased the following products, most have copy protection:

Knight Stalker (aka Fritz 1 in Europe) (no copy protection) purchased it just to upgrade to Fritz3 (that was good deal) 3 installs w/ ability to de-install. Fritz has CB capability - probably sees more nodes per second than any other program - excellent in isolated d-pawn games -- both with and against. Because of it's search depth - probably best (quickest) at identifying a possible attack. at standard time controls (attacks that are not identify until the 9th ply or so) CB Demo Fritz's module may be even quicker than this (not by much). I like this program. Genius2 (3 installs w/ ability to de-install) excellent program - the best when it first came out. upgraded to -- Genius3 -- not such a good deal, the difference is not that great to me. (had to send in Genius 2 disk for upgrade) --3 installs w/ ability to de-install Genius is an excellent program -- my favorite for a long time. W/O a doubt probably the best at blitz against humans and most programs, except for the M-Chess Pro 5 'killer Genius' book.

WChess (3 install w/ NO ability to de-install - not a good feature) plays very strong - graphics are the poorest - even worse than CM4000. Chess Machine (PC Card - I liked this program-- obsolete w/ today's fast machines but I originally had it in a 286 -- no copy protection - why bother). I purchased Widen Pro mainly because I had the Ed Schroder version of the Chess Machine program -- very impressive program w/ good graphics features. CM4000 - picked up very cheap, no copy protection -- but I don't care for the graphics -- willing to sell CD version for US \$13 (cheap - e-mail me for info) Gideon Pro (good program, but I expected a little better from Ed, the best thing about this software, -- I was able to upgrade to Rebel 7 at low cost), Ed made the wait worthwhile - 3 installs w/ ability to de-install-- had to trade disk in to get -- Rebel 7 (I like this program a lot) Copy protection but unlimited installs! perhaps the best right now in 'true' playing ability @ 40/2. I don't consider M-Chess Pro's excellent book part of it's true analytical chess ability. I picked MChess Pro 3.5 very cheaply -- didn't really use the program a lot because I bought it just to upgrade to -- M Chess Pro 5.0. (data disk had to be sent in). I like this program -- but I don't necessarily agree that this

program s/b considered the best right now. Without a doubt it has the best opening book against other programs - somebody did a masterful job in developing this book. It also has learning function that really seems to work. Plays very human like. For such a strong program, sees' substantially less nodes per second compared to other programs. It seems to be a little weaker in the end game than Genius. 20 installs w/ ability to de-install - 20 installs is a sufficient number that I can't imagine this being a problem unless I live to be a 120 or so. Hiarcs 2.1 very nice program, strong, was one of the first to work w/ Bookup. Keyboard commands & menus more awkward (or nonexistent) compared to other programs Genius, Rebel, Fritz and M-Chess Pro. 3 installs w/ ability to de-install - upgraded to -- Hiarcs3.01 by sending in 'Dedication to Millie' page in manual. If this program had the same 'feel' as Genius, Rebel, Fritz and M-Chess Pro - I would put it in the same class - but it doesn't - consequently I didn't use it as much. I will probably upgrade to Hiarcs 4 to see what the differences are and also to get Hiarcs for the MAC.

Genius 68030/33mhz (dedicated machine) - I like this when I feel like playing on a board. (no copy protection :)). This machine won against woman on ICC (as Fitter) in speed chess. Almost identical as Genius 2 on a 486/50 MHz machine. Knowing this was in assembly code for the 68030 chip -- I was expecting (hoping) to see Genius come out for the MAC. So far - no luck. 3 installs w/ ability to de-install.

I have made up my mind NOT to purchase Fritz4 or Genius4 because of the insane periodic proof of ownership copy protection. (Obviously, I'm the type of person who doesn't mind spending my hard earned money on a chess program that I don't really need -- so for me to say 'that's enough - I'm not taking it anymore' (copy protection) is saying something (exactly what, I'm not sure but that's a post for another usenet group). I had experience periodic proof of ownership w/ some MAC programs and that takes all the fun out of it when you have to search for the disk (I easily have 250-300 disks) or CD -- a true pain in the dongle.

3 installs w/ ability to de-install didn't bother me that much -- but I do like 'unlimited installs' or '20 installs' a lot better. I just don't understand why they sell it that way - at least in the US. I don't see a whole lot of illegal copying -- but then I hardly see any illegal activity of any kind. I must hang out w/ the wrong crowd.

SUMMARY:

MY FAVORITES: (these 2 PC programs may be the two strongest w/ excellent display and a whole list of features)

Rebel 7
M Chess Pro 5
Genius 68030 (dedicated unit)(it's the board I like)

SECOND PLACE: (nothing wrong w/ these programs -- I just prefer the other 2 right now, both of these were favorites at one time)

Genius 3

Fritz 3

3RD PLACE: Hiarcs 3 Chess Machine

4TH PLACE: Gideon Pro - I just couldn't get this to run right under Windows.

W-Chess - poor graphics plus didn't run right under Windows (for me)

5TH PLACE: CM4000 - I just don't like the graphics --3d & all. I just want the plain non-eye-straining board. I wish they would just make the graphics simple so I don't have to install 14mb on my hard drive. I don't need a marble, modern, metal fantasy or any other set than the simple board w/ pieces. If I wanted a graphics program, I would buy one -- trust me.

MARESCH PROBLEM SET CORRECTIONS

by Larry Kaufman

It has come to my attention that some errors appeared in our last issue in the "Franz Maresch Problem Set". Following is a summary.

The solutions to problems 14 and 15 were transposed, i.e. the solution to 14 is given under 15 and vice-versa. In problem 16 the white king should be on f1, not g1, since with the king on g1 white could answer ...Bh3 by g3!, winning. This was a clerical error by CCR, not an error in the actual problem set. On problem 19 I am told that databases show alternate solutions. It was also pointed out that while most of the problems are of the "find the win" variety, several are "find the draw", and for the benefit of those readers who might not recognize these problems as such, they are # 2, 12, 13, 16, 20, 25, 29, and 34.

THE COMPUTER'S STRENGTHS AND WEAKNESSES

by Bruce Moreland

The best position for a computer is one that looks to a human like jumbled up hash. The human can't use any experiential knowledge to make sense out of the position, but the computer says, "Cool, a position, what's the best move?"

The worst position for a computer is one that the human has seen a zillion times, the human "knows" what to do, but the computer says, "Cool, a position, what's the best move?"

This is a reason why computers are good at finding very strong moves in some positions, they are unencumbered by "knowing", they can be "creative", and find moves very quickly that a human wouldn't necessarily consider.

It's a reason why they flounder like fish in some other circumstances. I can't imagine that ANY computer would open a chess game "d4 d5 c4" without an opening book, unless it had some really nasty randomness in its eval function. Likewise, in some attacking situations, you "know" what the stock sacrifice is, but the computer is still saying "Cool, a position, what's the best move?"

TACTICAL ABILITIES OF THE PROGRAM NODE SEARCHES

by Robert Hyatt

The question is, "From the estimates done so far, would anyone like to make an intelligent guess as to whether the time taken 'being intelligent' at a node is time better spent than time used to generate deeper searches?"

I'll give you a replay of what I used to use when answering this question:

Imagine a container filled with atoms of an incompressible liquid. Each atom represents one computing "cycle" (or even one instruction.) You have this container, that's made in the shape of a cylinder, so that you can adjust either the radius or the height, but not both, since the liquid volume is static. This matches well with a chess

program. Here you have three things that affect the shape of this thing:

1. search depth
2. branching factor
3. evaluation knowledge.

Each of these factors directly affects our tree. To search deeper, you have to reduce 2 and 3, since the computational cycles remains constant.

So, to answer your question, you might be exactly right. A really smart program may not search very deeply, while a really stupid program can, simply because we choose to spend our "cycles" in different places. Who's to say that all approaches (assuming *no* bugs) are not equal in overall capability? That is, your "knowledge" needs information about what happens after sequences of moves (AKA search) while my search needs information about what the position means after a sequence of moves (knowledge). In the best case, these two trade. Our challenge is to find inexpensive pieces of knowledge that give more "information" than the equivalent expenditure of cycles on search. When we do this, we get better, when we fail, we get worse. There have been many knowledge ideas that do more than offset their corresponding cost of using search to produce the same results. Maybe we might argue that the search we chose was not well-designed and could be done more cheaply.

In any case, there's lots of room for debate. Of course, with hardware improvements going like they are, the volume of the cylinder is growing at a steady pace. This isn't hurting us at all...

THE ART OF TWEAKING

by Bruce Moreland

Hans Berliner has described a process wherein you can make anything beat anything. You start both programs in book, and when your program makes a mistake you correct the book, then restart the programs in the same book variation. You fix the next mistake, and repeat. Eventually the opponent makes a fatal mistake and you win. He caused an early (and very weak) version of one of his programs to beat one of the strongest programs out there using this method.

This is a great thing to do in a computer chess tournament. If your object is to beat someone, this is a fine thing to do. But the Swedish list is a means of predicting how well a given program will do against YOU, and there is no place for this killer book stuff in such a ranking scheme.

EARLY HUMAN- COMPUTER GAMES

by Alastair Scott

The human was me. By 1981 I had been playing chess for about two years.

The first game is against Boris Diplomat; the second my first-ever game against a computer, the mysterious Chess Partner 2000. Observe that, fifteen years ago, position ideas such as keeping pawn structures intact whenever possible were simply not considered by computers: after thirteen moves Diplomat has six pawns left, all isolated and four doubled to boot. And why did it prefer to win a pawn with 25. ... Rxf2, missing a mate in one, where 25. ... h5 would have at least kept it going for a while, although with a lost endgame because of the wrecked pawns? The Chess Partner game is incomplete - it went on for more unrecorded moves after the resignation given here - but White was the exchange up and bound to win. Note, in this case, not neglect of pawn structure but neglect of development - the Black QR moves six times in the first sixteen moves, and the Black KB is not even capable of moving until the eighteenth move.

The third game is my first ever against the first computer I owned: a Chess Challenger 7. Once again there are the same problems - lack of development, poor pawn structure and the tell-tale h5 on the eighth move, the Chess Challenger being particularly fond of ... a5 and ... h5 when it could find nothing better to do. Its handling of the endgame is terrible - as soon as the white a-pawn gets moving it is almost magnetically pulled towards the eighth rank despite there being a black king and bishop fairly close by. The fourth and fifth games are my first against a PC program: in this case the "PC" was a ZX Spectrum (Timex Sinclair 2000 in the USA) and the program, I believe, an early Chris Whittington one. The fourth game looks remarkably modern. White doesn't make any really dreadful mistakes or position oversights, but simply underestimates - more likely, doesn't even consider - a Black sacrifice of the exchange for a big advantage in development and the initiative, and is eventually demolished by an attack on its king trapped in the center. By contrast, the fifth game is a real throwback. Once again there is a program forgetting to develop its pieces, not understanding the endgame at all and making three rooks' pawn moves in succession. It is hard to believe, given the difference in quality, that both these games were played by the same program, but that's what the score sheets say

Alastair

[Event "Match"]

[Site "Grangemouth Junior Chess Club"]

[Date "1981.11.13"]

[Round "1"]

[White "Alastair Scott"]

[Black "Boris Diplomat"]

[Result "1-0"]

1. e4 d5 2. exd5 Qxd5 3. Nc3 Qe5 + 4. Qe2 Qxe2 5. Bxe2 e5 6. d3 Nf6 7. Nf3 Bd6 8. Bg5 O-O 9. O-O h6 10. Bxf6 gxf6 11. d4 exd4 12. Nxd4 Nc6 13. Nxc6 bxc6 14. Rad1 Bf5 15. Bd3 Bxd3 16. Rxd3 Rfe8 17. Rfd1 Rab8 18. b3 Rb4 19. a3 Rf4 20. Rg3 + Kh8 21. h3 Bxa3 22. Rd7 Re7 23. Rd8 + Kh7 24. Rdg8 Re1 25. Kh2 Rxf2 26. R3g7# 1-0

[Event "Match"]

[Site "Grangemouth Junior Chess Club"]

[Date "1981.3.12"]

[Round "1"]

[White "Alastair Scott"]

[Black "Chess Partner 2000"]

[Result "1-0"]

1. e4 d5 2. exd5 Qxd5 3. Nc3 Qe5 + 4. Qe2 Nc6 5. Nf3 Qxe2 + 6. Bxe2 Be6 7. d4 O-O-O 8. O-O Nxd4 9. Nxd4 Rxd4 10. Be3 Rb4 11. Rab1 a6 12. a3 Rh4 13. Rfd1 Nf6 14. g3 Rh3 15. Bf1 Rh5 16. Bg2 Rf5 17. Re1 Bc4 18. Bh3 e6 19. Bxf5 exf5 20. Rbd1 Bd6 21. Kg2 Be5 22. Bd4 Bxd4 23. Rxd4 b5 24. a4 g6 25. axb5 axb5 26. b3 Be6 27. Nxb5 1-0

[Event "Game"]

[Site "?"]

[Date "1981.12.25"]

[Round "1"]

[White "Alastair Scott"]

[Black "Chess Challenger 7 (level 3)"]

[Result "1-0"]

1. e4 c5 2. Nf3 d6 3. d4 cxd4 4. c3 Qa5 5. Nxd4 Nc6 6. Be3 Nf6 7. Nd2 Bg4 8. Be2 h5 9. h3 Be6 10. Nxe6 fxe6 11. O-O Qe5 12. Bf3 a5 13. Re1 g5 14. Nf1 Bg7 15. Bd4 Qb5 16. Qe2 Nxd4 17. cxd4 Qc6 18. e5 Nd5 19. Bxd5 Qxd5 20. Qe4 Rf8 21. Qxd5 exd5 22. exd6 Rf7 23. Rxe7 + Kf8 24. Rxf7 + Kxf7 25. Re1 Re8 26. Rxe8 Kxe8 27. Ne3 Bxd4 28. Nxd5 Kd7 29. b3 Kxd6 30. Ne3 Be5 31. Nc4 + Kd5 32. Nxa5 b5 33. a4 b4 34. Nb7 h4 35. a5 Ke4 36. a6 Bd4 37. Nd6 + Kd5 38. Nb5 Be5 39. a7 Ke6 40. a8=Q Bd6 41. Qc6 Kf5 42. Nxd6 + Kg6 43. Ne4 + Kh5 44. Qf6 g4 45. Qg5# 1-0

[Event "Match"]

[Site "?"]

[Date "1984.4.9"]

[Round "1"]

[White "Chess 3.0"]

[Black "Alastair Scott"]

[Result "0-1"]

1. d4 Nf6 2. c4 c5 3. Nc3 e6 4. Nf3 cxd4 5. Nxd4 b6 6. Bf4 Bb7 7. Ndb5 Na6 8. Nd6+ Bxd6 9. Bxd6 Rc8 10. Nb5 Rxc4 11. Ba3 Rc6 12. Nd6+ Rxd6 13. Bxd6 Ne4 14. Bf4 Qf6 15. Qc1 g5 16. Be3 d5 17. f4 gxf4 18. Bxf4 e5 19. Be3 d4 20. Bh6 Qh4+ 21. g3 Nxg3 22. Bg5 Qe4 23. Rg1 Nb4 24. Rxg3 Nc2+ 25. Kd1 Nxa1 26. Rf3 Rg8 27. h4 d3 28. Qxa1 h6 29. Bf6 dxe2+ 30. Bxe2 Ba6 31. Rf2 Rg1+ 32. Bf1 Qd3+ 33. Kc1 Rxf1+ 34. Rxf1 Qxf1+ 35. Kd2 Qxa1 36. Bxe5 Qxa2 0-1

[Event "Match"]

[Site "?"]

[Date "1984.4.13"]

[Round "2"]

[White "Alastair Scott"]

[Black "Chess 3.0"]

[Result "1-0"]

1. e4 e5 2. f4 exf4 3. Nf3 d5 4. xd5 Nf6 5. Bb5+ Bd7 6. Bxd7+ Nbx d7 7. Nc3 Qe7+ 8. Qe2 Qxe2+ 9. Kxe2 Nb6 10. d3 Nbx d5 11. Nxd5 Nxd5 12. c4 Ne3 13. Bxe3 fxe3 14. Kxe3 Bc5+ 15. d4 Be7 16. Rhe1 a5 17. a3 h5 18. Kd2 a4 19. Re2 Kf8 20. Rae1 Bd6 21. Ne5 Bxe5 22. Rxe5 h4 23. Re7 b6 24. Rxc7 Rh5 25. Ree7 Rf5 26. Ke3 Re8 27. Rxe8+ Kxe8 28. Ra7 Ra5 29. Rxa5 bxa5 30. c5 g5 31. d5 f5 32. g3 h3 33. Kd4 g4 34. Ke5 1-0

ABOUT THE AUTHOR:

Alastair is 27 years old. He was born and brought up in Scotland but lives in London. He has a BSc in physics from the University of Edinburgh. His current job is as a software engineer with Logica, a British systems integrator: he writes training courses for a big air traffic control system which will be coming on line in the next couple of years. Alastair began playing chess when he was about 8 years old, lost interest when he was at university, but the Internet has charged up his batteries again. He is about a 1900 player. Besides a chess player, he is a keen musician (violin and piano), concert-goer, cyclist and (enthusiastic but strictly amateur) writer.

THE VALUE OF COMPUTER VS COMPUTER RESULTS

by Bruce Moreland

Imagine that I produced a "strength test" for chess programs, and that everyone knew about this strength test and trusted it.

Imagine that you are writing a chess program, and that you figure out that the strength test doesn't really measure strength. Furthermore, you figure out what the strength test really does measure.

You have some choices at this point. You can program toward the strength test, creating a weaker program that will test out better, or you can create a program that you are pretty sure is stronger, but you know won't test out as well.

Which do you choose?

What a horrible choice to have to make. You can do what you want to do, and what you know that your customers want, or you can do what your customers think they want, and what your competitors' ads will tell them they want. I think the Swedish list is an instance of such a strength test.

There was a game I saw between MChess and Genius, in which MChess beat Genius in some enormous thirty or forty move book line, which if true seems to have been an instance of a "killer book", a book tailored to a specific competing program. I read an ad for MChess the other day (it is in the issue of Inside Chess which has Wolfe on the cover), which lists as a feature of MChess that it learns from its mistakes, and will play moves that it finds "instantly". This lends credibility to the killer book story, since it sounds like this is a feature that will automatically generate a killer book against you.

My program Ferret had the fortune to play in two tournaments along with Genius. In the World Microcomputer Championship in Germany (Oct '95) I heard rumors that Genius had been configured, as a result of customer comments, to be more aggressive, and there was some concern that this had hurt its strength against other computers.

I cannot stand the concept of a killer book. A killer book is, pure and simple, an attempt to corrupt the results of any match played between two programs by an independent party (such as the Swedish rating list people). If I play 100 games with program A versus program B, and program A wins 55% of the games, I expect program A to be 35 ELO points stronger than program B. But if some small percentage of these games had results that were influenced by the killer book, the rating comparison between these programs could be way off.

You can't argue that a killer book makes a program stronger against a specific opponent, anything that results in a higher winning percentage implies increased strength AGAINST THAT OPPONENT. The problem is that these ELO numbers are then used to make a conclusion, that if program A has an ELO rating X points higher than program B, that it must be X points better

than program B against YOU! And this may be absolutely false. Even without a killer book this can be false, with one it's even worse.

I would caution against buying any program based upon program vs program matches. You would do better, I think, to choose based upon how much the program can teach you, and how well it supports your other chess activities. To pick based upon a few ELO points difference, given that the rating pool is small, and that killer books can easily be created, is silly.

WINDOWS 95 & COMPUTER CHESS

by Halibut

If Genius 4 manages to have improved sufficiently (over Genius 3) to overcome the fact that it is running under the GUI called Win95, to be approximately equal to Mchess Pro 5 and Rebel 7, then that is certainly fine.

But I certainly think it's relevant to point out that things running under Win95 will be slower than running under DOS. Win95 is ITSELF slower than Win 3.11 and even Win 3.1. Is it not relevant to point out that someone has decided to program for the masses, and is willing to accept slowdowns? Such a change in philosophy is worthy of mention, I think. It is indicative of a change towards becoming a mass market program. Which, again, is not necessarily an "evil" thing. But if I am seeking ultimate strength, while a mass market program like ChessMaster may be pretty strong, I would rather buy something which is ABSOLUTE state of the art, not something which is even a slight compromise. And running something under Win95 represents a compromise.

In Computer Shopper, 2/1996, page 570, it is pointed out that Win95 is 13% slower than Win 3.11, and 8.5% slower than Win 3.1 (Winstone 96). Tell me, did you ever feel that with Windows 3.1 or Windows 3.11 you were getting blazing speed? So how about Win95, which is 13% slower? Do you like something slower?

About the Author:

Halibut is an internet icon who chooses to remain anonymous.

CM 4000 PERSONALITIES

by Al Cargill

In order to try and work out the strongest personality I carried out the following tournament.

Note that there is one personality based upon figures passed on to me. The results tables are given with the final first down to the first rounds last (presumably in order of significance of results.)

It is interesting that the amended personality did so well - there is obviously room to fiddle!!

INCIDENTALLY, apologies for calling new personality AI but it's the only way I was going to win the tournament. All games carried out on a 486/DX2/66 - things might be different on other processors?

Tournament between the various CM4000 personalities. The AI personality is based upon some figures passed onto me as being possibly the best for CM4000 on a 486 - it also required the changing of the TT-TABLE value in the CM.INI file from 19 to 23 (for the purposes of the second final I changed it to 22 to reduce any possible negative effects upon it's opponent.) The settings for the "AI" personality were derived by someone after months of testing - I am not sure exactly whom but they were to be published in P.C.Schach so maybe someone can enlighten us!

The settings are- Attack/Defense -14 S/Search 10 Material 4 Mobility 103 King safety 170 Pawn weakness 125 with the rest remaining as for the Chessmaster personality/

As can be seen from the finals results the effect of changing the

TT-Table setting results in a dramatic change in the overall result. Whether this is due to the Chessmaster personality playing worse is open to debate but timings on a couple of positions seem to show that both personalities speed up when TT- TABLE is changed from 19-22.

All splits in the preliminary groups were based on results between the individual personalities - if still tied a play off was played. It is quite interesting how some of the personalities have much better results at the faster time limits and then tail off.

<u>FINAL</u>					
Player	W	L	D	Games	Score
AI	11	2	3	16	12.5
CM 4000	2	11	3	16	3.5

Tourn Results - 1 min/move TT-Table = 19

<u>FINAL</u>					
Player	W	L	D	Games	Score
CM 4000	5	1	12	18	11
AI	1	5	12	18	7.0

Tourn Results - 30secs/move - Semi-final

Player	W	L	D	Games	Score
AI	12	7	11	30	17.5
CM 4000	12	10	8	30	16.0
Smyslov-Style	9	8	13	30	15.5
Expert	11	11	8	30	15.0
Difficult	9	10	11	30	14.5

Reti-Style	10	17	3	30	11.5
Tournament Results - 15 secs/move - 1/4-final					
Player	W	L	D	Games	Score
Chessmaster	9	3	8	20	13.0
AI	9	5	6	20	12.0
Difficult	8	6	6	20	11.0
Kashdan-Style	10	8	2	20	11.0
Moderate	6	7	7	20	9.5
Fischer-Style	3	16	1	20	3.5

Tournament Results - 15 secs/move - 1/4-final					
Player	W	L	D	Games	Score
Reti-Style	13	5	2	20	14.0
Expert	9	8	3	20	10.5
Smyslov-Style	9	8	3	20	10.5
Brute Force	8	9	3	20	9.5
Morphy-Style	7	9	4	20	9.0
Pawnmaster	5	12	3	20	6.5

Tournament Results - 5mins/game					
Playoff of best 2nd round losers plus winner of best of 1st round losers					
Player	W	L	D	Games	Score
Reti-Style	6	0	0	6	6.0
Moderate	3	2	1	6	3.5
Karpov-Style	1	4	1	6	1.5
Seirawan-Style	1	5	0	6	1.0

Tournament Results - 2mins/game					
Playoff of best 1st round losers					
Player	W	L	D	Games	Score
Moderate	9	2	3	14	10.5
Capablanca-Style	9	4	1	14	9.5
Alekhine-Style	9	5	0	14	9.0
Lasker-Style	8	5	1	14	8.5
Petrosian-Style	5	7	2	14	6.0
Nimzovich-Style	5	8	1	14	5.5
Pawngrabber	4	9	1	14	4.5
Drawmaster	0	9	5	14	2.5

Tournament Results - 5secs/move - second round					
Player	W	L	D	Games	Score
Pawnmaster	6	2	4	12	8.0
AI	7	3	2	12	8.0
Karpov-Style	6	4	2	12	7.0
Tarrasch-Style	1	11	0	12	1.0

Tournament Results - 5secs/move - second round					
Player	W	L	D	Games	Score
Chessmaster	8	2	2	12	9.0
Morphy-Style	7	2	3	12	8.5
Reshevsky-Style	4	8	0	12	4.0
Marshall-Style	2	9	1	12	2.5

Tournament Results - 5secs/move - second round					
Player	W	L	D	Games	Score
Expert	7	3	2	12	8.0
Kashdan-Style	5	6	1	12	5.5
Seirawan-Style	5	6	1	12	5.5
Andersson-Style	3	5	4	12	5.0

Tournament Results - 5secs/move - second round					
Player	W	L	D	Games	Score
Difficult	9	2	1	12	9.5
Brute Force	5	4	3	12	6.5
Reti-Style	6	5	1	12	6.5

Defender	1	10	1	12	1.5
Tournament Results - 5secs/move - second round					
Player	W	L	D	Games	Score
Smyslov-Style	7	3	2	12	8.0
Fischer-Style	6	5	1	12	6.5
Maverick	4	6	2	12	5.0
Botvinnik-Style	3	6	3	12	4.5

Tournament Results - 2 secs/move - first round					
Player	W	L	D	Games	Score
Pawnmaster	11	2	1	14	11.5
Chessmaster	10	3	1	14	10.5
Expert	8	4	2	14	9.0
Reti-Style	9	5	0	14	9.0
Moderate	7	4	3	14	8.5
Alekhine-Style	5	8	1	14	5.5
Kasparov-Style	2	12	0	14	2.0
Spielman-Style	0	14	0	14	0.0

Tournament Results - 2 secs/move - first round					
Player	W	L	D	Games	Score
Morphy-Style	13	1	0	14	13.0
Andersson-Style	8	4	2	14	9.0
Defender	8	5	1	14	8.5
Fischer-Style	7	7	0	14	7.0
Lasker-Style	5	6	3	14	6.5
Petrosian-Style	6	8	0	14	6.0
Tal-Style	4	10	0	14	4.0
Rubinstein-Style	2	12	0	14	2.0

Tournament Results - 2 secs/move - first round					
Player	W	L	D	Games	Score
Seirawan-Style	11	2	1	14	11.5
Botvinnik-Style	11	3	0	14	11.0
Difficult	11	3	0	14	11.0
Tarrasch-Style	9	4	1	14	9.5
Positional	5	9	0	14	5.0
Light	4	10	0	14	4.0
Kamikaze	4	10	0	14	4.0
Newcomer	0	14	0	14	0.0

Tournament Results - 2 secs/move - first round					
Player	W	L	D	Games	Score
Brute Force	11	2	1	14	11.5
Smyslov-Style	10	2	2	14	11.0
Karpov-Style	7	4	3	14	8.5
Marshall-Style	6	6	2	14	7.0
Nimzovich-Style	5	6	3	14	6.5
Drawmaster	3	4	7	14	6.5
Queentaker	0	9	5	14	2.5
Woodpusher	1	10	3	14	2.5

Tournament Results - 2 secs/move - first round					
Player	W	L	D	Games	Score
AI	10	1	3	14	11.5
Maverick	11	2	1	14	11.5
Reshevsky-Style	8	5	1	14	8.5
Kashdan-Style	6	4	4	14	8.0
Capablanca-Style	6	8	0	14	6.0
Pawngrabber	5	7	2	14	6.0
Spassky-Style	4	9	1	14	4.5
Easy	0	14	0	14	0.0

Tournament Results - 1 sec / move

Player	W	L	D	Games	Score
Chessmaster	48	23	29	100	62.5
AI	23	48	29	100	37.5

ABOUT THE AUTHOR:

Al Cargill is a research chemist living in the U.K. He has been playing chess for about 15 years and says that he has sadly stopped improving a while ago. His playing strength is 1900 ELO. Al enjoys following the changes in the computer chess field and has predicted that a computer will beat the human world champion in a match by the end of 1999, so he like to say that his knowledge of the field can be judged in the light of that statement!

TECHNICAL REVIEW OF FRITZ4

by Andreas Toenne

Fritz4 is the commercial version of Quest, the winner of the 1995 Computer Chess Championship. Its playing strength is thus doubtless sufficient for all practical purposes and I will concentrate on the tools and interface that supports playing, editing, analyzing and storing games. The Fritz programs were among the first to support the analysis of games and a small game database that makes Fritz a self-contained environment for studying chess.

1. TECHNICAL ISSUES

Fritz is a Windows program (version 3.1 and higher) that requires at least 8MB memory. Recommended are a Pentium 90MHz with 16MB, 800x600 pixels and a Windows compatible soundcard. Fritz comes on CD-ROM only; this CD-ROM contains the Fritz program, chess engines for Fritz1, Fritz3 and Fritz4, several game databases with more than 35000 games, endgame databases for QP-Q, RP-R, Q-RP, QR-R and CBWin1.1 analysis engines for Fritz3.1 and Fritz4. Fritz is able to use customized versions of other chess programs, e.g. Hiarcs and Doctor?, the CBWin native analysis engine.

I tested Fritz4 on a 486/66 PCI, 32MB, ATI Mach32 both under Win3.1 and OS/2. The program ran flawlessly and smooth except for the 3D chess board.

Fritz4 is copy-protected: every six days the program is started it checks the CD-ROM drive for the distribution CD-ROM. Some features are gradually disabled if this check fails. One could argue that the CD-ROM is in the drive usually since the endgame database cannot be copied to a local hard disk but on machines that are used for other work this quickly becomes a nuisance.

2. THE INTERFACE

Fritz starts in one full-screen window without the usual controls to move or resize this window but only to minimize Fritz. I would prefer separate windows for the interface components like in CM4k. The interface itself is, as usual, clearly arranged and simple to use. Its components are the board in 2D or 3D, clock, move list, search and book information and a button row for the menus. The chess board is displayed either in the known 2D view which looks like chess diagrams in books and is very good to read. Alternatively one can use a polygon based 3D board. This is the best three-dimensional presentation of a chess board I have seen so far; easy to read and with manifold customization options. Unfortunately it is sloooowww: my machine is rated 15% graphics wise and this is exactly like it feels.

The search window has a cute, new feature: optionally the accumulated evaluations are shown in a bar-chart together with the move numbers. This is a fine way to see the critical moments in a game.

3. PLAYING GAMES

It is needless to point out that all usual ways to manipulate games and time controls are supported. In addition, Fritz offers game options that are unusual for a "professional" program: a detailed handicap mode, a coach and a serious tournament mode with no takebacks or hints. A nice feature is the possibility to use different chess engines and to even mix these engines for tactical or strategic decisions.

The handicap mode allows to fine-tune the playing strength with various options: ELO strength, king's attack, piece trading, aggressively, preferred side, blunder range, king's safety and preferred pieces. The adjustable range of playing strength depends on the hardware of course.

The coach is a great and unique help for beginners and intermediate players. If activated, the coach warns the player in critical situations and offers hints or explicit help. The coach also analyses a position and tells the player his general assessment. Attacked pieces, attackers and undefended pieces are shown in red and green, and also a suggestion or Fritz' plan are shown with green and red arrows on request.

4. STUDYING GAMES

Fritz supports all game annotations that are known from CBWin: variants, textual comments, informant rating symbols and graphics like colored squares and arrows.

Games (the one currently played or a range of games from a database) can be automatically annotated also. Fritz checks each move for blunders or alternative better or obvious but wrong lines and inserts rating symbols or natural

language comments. These comments are well done and rather informative (and fun too). Automatic analysis is supported in Fritz3 and many other programs but with Fritz4 there are some very sore points:

- the search depth per move is fixed and limited to a maximum of 7 plys
- all annotations and variants are removed from the games before the analysis starts This means one cannot use Fritz to run over a manually annotated game and check the annotations for mistakes. 10 penalty points for a seriously stupid design decision!

5. THE GAME DATABASE

In short, all major database functions of CBWin are supported. Fritz works with CBWin and PGN databases of unlimited size (checked with the 450.000 Mega database) and supports all types of keys like openings, alpha and theme keys. Other features: merging games to a variant tree, batch analysis of games, user-defined keys, searching (no move or exclusion masks) and opening classification of the current game.

This is the most powerful game database in all current chess programs and it is fully satisfactory for the amateur.

6. BUGS

Fritz is surprisingly stable (for a Windows program) and has but a few minor problems. Except that the endgame database on the CD-ROM sports a capital BUG: it lacks the databases for piece promotion. This means, once Fritz switched to its database mode Fritz is no longer able to promote pawns simply because such a move is not in the database and Fritz does not compute as long as the database contains at least one move for the current position. I have seen several endgames where Fritz had a sure win but played for a draw as the win involved a promotion. ChessBase plans to release a general patch around April/May but I do not know whether they fix the endgame database.

ABOUT THE AUTHOR:

Andreas Toenne lives in Saarland, Germany (near the border to France). Andreas is currently writing up my PhD thesis in theoretical computer science.

FRITZ AT THE WCCC

by Goran Grotting

I was talking to Frans Morsch and I received the following information:

1. Fritz was using a special tournament library, written by Cock de Gorter. This library was originally written for Johan de Koning's King-

program and has a quite risky style, which suits Fritz' playing style fine, according to Frans.

2. The library is in no way adjusted to beat Deep Blue. Of course Frans have looked through many of Deep Blue's official games, but he has never seen it play the Sicilian-Schevingen.

3. Frans has no Internet account, and he has never played himself or with Fritz on ICS vs Deep Blue.

4. Frans thinks, that the white castling was a very bad move, which Deep Blue played by itself. Probably was the game lost from there. And probably could some of the other PC-programs also have won the game from that point. The loss for Deep Blue had nothing to do with booking.

5. The Fritz participating was very close to the commercial Fritz 3.0 (but with another opening library). Only small adjustments have been made since then. It is not the program that is going to be Fritz 4.0. Frans usually starts from the beginning when he writes a new version. A time consuming way to work, but that is his method. He hopes to have his new program ready in September, so he can use it in the Michro World Championship in Cologne - if this will be arranged.

ABOUT THE AUTHOR:

Goran Grotting is the founder of the Swedish rating list. He was born April 22, 1948, is married and has three boys. He is a journalist on Goteborgs-Posten, a rather big daily paper in Sweden, and lives in Lindome at the West Coast of Sweden. He drives a SAAB, quit smoking more than 3 years ago, and his hobbies are computers and chess.

FRITZ4 - THE IN- YOUR-FACE CHESS TRAINER

by Don Maddox (ChessBase)

"Ah, it's Mr. Maddox, one of Hagerstown's most original players!" Do I detect a note of sarcasm in my chess partner's greeting? At least he's a bit friendlier than yesterday when he announced he was going to beat the living something' out of me. We start a game, blitz using Fischer clocks. Fritz4 plays the opening perfectly - and even boasts about it. I can barely remember the name, much less the moves, of the deep variation he has led me into.

On Move 20, I play something that makes him blush. "Your move 20. g4 will lead to a serious problem, Don," he warns. I don't see the danger. "OK, what did I miss," I ask. "You

overlooked a strong threat," he replies. I want a broader hint. "Aren't you afraid of 85Rxb2?" he asks. I saw that, but black can't take the pawn, can he? "I don't believe you," I answer. We proceed, and - as usual - he's right. I overlooked a pin that allows him to finish me off. I take back 20. g4 and a number of other moves in the game. He doesn't object, but he comments each and every time I retract a move. "Haven't you heard of touch-move, Don?" "Why can't you concentrate a bit better, my friend?"

I get tired of blitz and decide to do some work. I had asked Fritz4 to go over the games in the New York World Championship match for me to look at, and he spent the whole night analyzing for me. I take a look at his notes. The first two games aren't very interesting - he's added only a few brief remarks. But the third looks like a real jungle, with tons of analysis attached to key positions, and all hell seems to have broken loose in Games 9 to 11 - I must take a look at them.

To give you a taste of Fritz4's annotation style, I'm going to give you a verbatim transcript of his commentary on a position in the 11th game of the match:

V. Anand - G. Kasparov (11)

World Ch New York 1995

(position after 28. b4 axb4)

29.axb4. 29.Nxe7? doesn't work because of 29 85bxa3+ 30. Kxa3 and now: A) 30 85Rxc2 31.Red1 (31.Rxd6?? White will choke on that pawn: 31 85b4+ 32.Ka4 Ra8+ 33. Kb5 Rb8+ 34. Rb6 Bd7+ 35. Ka5 Ra2+ 36. Kxb4 Rxb6+ 37. Kc5 Re6-+) 31 85Ra8+ 32. Kb4 Rc4+ 33. Kxb5 Rb8+ 34. Ka5 Rc5+ 35.Ka6 Bc4+ and Black is winning; or B) 30 85Re8 and Black is winning. 29 85Rc4 30. Nb6? The decisive mistake. 30. Nxe7 was definitely advisable: 30 85R8c7 (30 85Rxb4+ 31.Kc1 Ba2 32. Rxd6 Rb1+ 33. Kd2 Rxc2+ 34. Kxc2 Rxe1 35. Nc6 3D) 31. Nd5 Bxd5 32. Rxd5 Rxc2+ (32 85Rxb4+ 33. Ka3 Rbc4 is a little better for White) 33. Kb1 Rxc2 34. Rxb5 (34. Rxd6 Rc4 would be better for Black) 34 85Rc3 35. f4 with a slight advantage for Black. 30 85Rxb4+ 31. Ka3 Rxc2 sealing the opponent fate. 0-1 ("How, exactly?" I ask. My trainer responds almost instantly - 32. Rxc2 Rb3+ 33. Ka2 Re3+ and 85Rxe1. Of course, I really should have seen that myself.)

SWITCHING TO WINDOWS

Fritz4 is a revolutionary development, a Windows program that represents a radical departure from its MS-DOS predecessor. It plays against you, coaches, analyzes, annotates and chatters merrily along in a dialog box below the chessboard while it plays a game.

TRAINING FOR BEGINNERS

Tremendous emphasis has been placed on teaching and coaching in Fritz4. During regular play, users have access to a number of training functions - some taken and improved on from Fritz3, others brand new. The most interesting is "Coach." While "coach" is active, the chess teacher will warn you anytime you start to go wrong. All of Fritz4 advice is offered in plain English:

"Now, is that a safe square for the bishop?"

"Can't I simply play cxd4, Don?"

If you still can't find a good alternative, there is more assistance available: Click the "Hint" button at the bottom of the screen, or press F2. This activates a special Dialog Box that offers extensive advice. First, there is a general remark about the nature of the position (e.g., What do you think, does the king really belong in the center?). Often colored squares are used to illustrate the point. The buttons in the Dialog Box allow you to go through the position with the computer:

"Attackers" highlights enemy pieces threatening your pieces "Attacked" highlights your pieces under attack "Undefended" highlights your hanging pieces

"Fritz plan" shows you, with the help of a red arrow, what Fritz intends to do if you don't prevent it.

The last function is also available directly from the keyboard. When I play through GM games, I often find myself pressing "T" to find out what one player was threatening and why his opponent answered the way he did. Combining this with Fritz "Threatened squares" function, I can come close to actually understanding what going on in these games.

FULL ON-LINE ANALYSIS

A very important touch is the implementation of "on-line analysis," well known to ChessBase users. When this function is active, the program will not play against you, but simply analyzes the current board position in the background. You can press "+" or "-" to increase or decrease the number of lines the program analyzes simultaneously. As you play quickly through an existing game or enter a new one, the program warmly recommends two or three lines in the on-line analysis window. You can see instantly whether there are other viable alternatives or a move is forced (in which case the evaluation in the first line is much higher than in the others). At the beginning of the game, Fritz4 displays the available lines from the current opening book - just click on the line from the list you want to test. The moves are color-coded: black for moves optimized for the computer playing style, blue for generally good moves, yellow for dangerous

gambit moves and red for bad moves - from the computer point of view.

EVALUATION PROFILE

Quite spectacular and very useful for a novice is the evaluation profile generated during a game or analysis. The program displays a bar graph of Fritz' ongoing analysis of the position, showing you graphically how the game proceeded for both sides - and if you click on any part of the evaluation profile, the program jumps to the corresponding position on the screen - the best way to find where the tide turned for one side or the other.

AUTOMATIC ANNOTATION

Fritz4 "Automatic analysis" function is more than a gimmick. It actually produces very useful commentary, sometimes indistinguishable from a master annotations - at least at first sight. This function is pretty amazing. Most automatic computer chess annotations routinely suggest moves that are better than those actually played in the game, but Fritz4 actually includes alternatives that are weaker than the text move. The program tries to anticipate questions that might occur to the average player or novice: "Why can't White simply take the pawn on e7?" Fritz notes might answer, "The pawn on e7 cannot be taken: 29. Nxe7 85, " followed by the refutation. And Fritz can distinguish between the meaningful and the trivial. I've never seen the program offer something silly like " 85Qxh2 fails to Kxh2." Fritz4 actually gives didactic alternatives to produce notes like the ones we saw for Anand-Kasparov at the beginning of this article. The automatic analysis can be set to work on the current game or on a whole series of games in the database. To analyze all of the games of the New York WCh, I went into the database, pressed Shift/Arrow Dwn to mark them and clicked "Analyze." I specified the search depth, whether to look at black or white (or both) moves, the depth of variations, whether blunders only should be annotated, how bad a mistake must be to be analyzed, and other similar parameters. The only thing left for you to do is remember to switch the monitor off if you've given the program a number of games and asked for very thorough analysis.

MULTIPLE ENGINES

On the Fritz4 CD, you get three "chess engines," software modules that actually perform the move calculation. Fritz1.2 was the very first Fritz engine and is perfect for handicap levels. Fritz3.1 is the engine which won the World Computer Chess Championship in Hong Kong in 1995 and tied for first with Garry Kasparov in the Munich 1994 blitz tournament. Fritz4.0 is Frans Morsch' latest program and is about 50 points stronger than Fritz3. Other engines such as Hiarcs

3.7 and Doctor 2.0 can be purchased as Fritz4 add-ons. They can be used in place of or in conjunction with the three that come with the program. More engines are certain to follow. There is also an endgame engine included with the program that plays certain five-piece endings (e.g., rook and pawn vs rook) perfectly. When you play against the computer, you can choose an engine to play against, or you can leave the decision to the "virtual engine manager" built into Fritz4. The program may decide to use Fritz4.0 in tactically complicated positions and Hiarcs (if this engine has been installed) in more quiet positional ones. Naturally it will load the endgame engine if a five-piece ending it knows occurs on the board. A remarkable feature is Fritz4' ability to play one engine against another. We've already said Fritz4 is 50 points stronger than Fritz3. How do we know? Well, we instructed the program to play the two engines against each other at Game-60, with each side playing the same opening once with White and once with Black. The program handled the rest without our bothering with task-switching or other complicated manipulations. After my Pentium 90 had worked for two nights and a day, the program presented us with a database of 26 games, of which Fritz4 had won six, lost two and drawn the rest. It even calculated the Elo performance, which showed Fritz4 48 points ahead of Fritz3. The entire operation required fewer than half a dozen mouse clicks.

VIRTUAL 3-D CHESS

The sophisticated redesign of the Fritz interface is immediately obvious when you start the program. There are icon buttons at the bottom of the screen instead of the standard Windows menu - after all, Fritz is a game, not an office application. There are six different board sizes for different resolutions and monitors. All the other elements - clocks, notation, search information, etc. - can be resized or made to disappear completely. So you can put together a desktop that suits your needs perfectly. But Fritz4 most impressive visual feature is its 3-D chessboard. This is not a jury-rigged job with simple bit mapped pieces that do not change their size or angle as they move across the board - the sort of unrealistic - and unpopular - work around provided by most programs. Fritz4 has a 3-D virtual reality board and pieces that exist as vector descriptions in the computer. They can be viewed at any angle and from any distance. You can move to a spot high above the board or take a position directly behind the king on e1. The pieces glide realistically over the board (knights jump, as do the rooks in castling), and they decrease in size as they move further away. The angle, distance, perspective, even the intensity of

1.GM I. Glek	2590	.	=	=	=	1	=	1	1	1	1	1	1	8.5
2.GM Y. Piskov	2540	=	.	=	=	=	=	0	1	=	1	1	1	7.0
3.GM E. Kengis	2575	=	=	.	=	=	0	1	1	1	=	=	=	7.0
4.IM R. Slobodjan	2465	=	=	=	.	=	0	1	1	1	=	=	=	6.5
5.IM K.H. Podzielný	2455	=	=	=	=	.	1	=	=	0	=	1	1	6.5
6.IM J.U. Maiwald	2455	0	=	1	1	0	.	=	0	=	=	1	1	6.0
7. Fritz 3		=	1	=	0	=	=	.	=	=	0	=	1	5.5
8.GM A. Kveinys	2525	0	0	=	0	=	1	=	.	=	1	1	=	5.5
9.FM J. Wintzer	2335	0	=	0	0	1	=	=	=	.	=	1	=	5.0
10.IM A. Kerzesz	2365	0	0	0	=	=	=	1	0	=	.	0	=	3.5
11. S. Grimm	2315	0	0	0	=	0	0	=	0	0	1	.	1	3.0
12.IM D. Heinbuch	2355	0	0	0	=	0	0	0	=	=	=	0	.	2.0

the lighting and the length of the shadows can be changed. Of course, all of this works best on a powerful computer with a fast graphics card - Fritz4 will test your equipment and tell you what to expect. A number of good chess players have told me they enjoy playing on the 3-D board. John Nunn says he initially thought Fritz4 was a bit weaker than Fritz3, but then he discovered he was winning more games because he could see things better on the 3-D board!

Other functions

Fritz4 has many functions which we consider "standard" and hardly need mentioning. Here are the most important:

Database: This is fully ChessBase compatible and is more powerful than in Fritz3 (e.g., no limit to the number of games and alternate keys). PGN format: Fritz4 owners can read games directly in PGN format and convert back and forth between PGN and ChessBase compressed format. This opens a tremendous source of games on the Internet.

Handicap levels: These have been extended and improved so that even the rank beginner should be able to beat the computer occasionally. You can program your own handicap levels or select from a list of predefined opponents (moron, patzer, drunk, fraidy cat, desperado, etc.).

Rated games: There is a function to rate your play in serious games without take-back, hints, search information or other unfair advantages for the human.

Hash tables: The size can be defined freely, depending on the amount of RAM available and the configuration of your computer.

Printing: This is similar to ChessBase for Windows, with plain or figurine algebraic notation, commentary symbols, boldface and italics for moves and variations, and high-quality diagrams at points marked by the user with a diagram symbol in the game. The program provides an automatic two-column printout for one game or the entire database!

Music and sound effects: If you have a midi sound card, you will hear music win you start the

program or win a rated game. If you switch on the special sound effects, you will hear the pieces being set up on the board, the clocks, an occasional cough, grunt or groan - the latter when the computer discovers it is losing.

PRODUCT INFORMATION

Fritz4 is delivered only on CD-ROM and is not copy protected. Some functions - such as the perfect five-piece endgame play - are not transferred to your hard drive during installation (the files are hundreds of megabytes in size). Fritz will ask to see the original CD occasionally to make sure it is legally installed, but you start receiving warnings several days before the program becomes really insistent about it.

JUST HOW GOOD IS FRITZ ANYWAY?

by Steven Rix

The first we heard was from Frederik Friedel:

Final standings of the Third Godesberg GM Tournament:

50% against an average opponent's rating of 2452 would normally be good enough to earn an IM norm (tournament performance of 2450+). As discussed here at the time, though, computers are not eligible for FIDE ratings, norms and titles. Still, not bad for a commercial chess program running on a Pentium.

At the Katowice Open in Poland last May, Fritz3 did even better. To summarize:

Rd	versus	FIDE	result
1	Szczepanek, Piotr	2180	1
2	Masternak, Grzegorz	2350	0.5
3	Umansky, Vladimir	2350	0.5
4	Borngaesser, Rene	2365	1
5	Gorjatschkin, W	2440	1
6	Nikolenko, Oleg	2480	1
7	Kaminski, Marcin	2455	0
8	Pinkas, Karol	2370	0.5
9	Grabarczyk, Miroslaw	2440	1

That's 6.5/9 against an average opponent's rating of 2381. Against this sort of opposition, the IM norm would be about 5.4/9, so Fritz3 exceeded that with about a point to spare. With four opponents rated over 2435, it probably faced enough IMs for the title requirement. The tournament performance of this result can be obtained by noting that Fritz3 scored 72.2%, which places it about 169 points above its opponents; $2381 + 169 = 2550$, i.e. GM norm territory (although it most probably didn't play enough GMs). Did it win the tournament??

At The Hague's AEGON tournament, Fritz3 began with a loss to H. Grooten (2355), beat two apparently unrated players (A. Muenninghoff and M. Voorn, who I couldn't find in the Jan 1995 FIDE rating list), then beat two rateds, P. Boersma (2355) and J. van der Wal (2270). 4/5, 50% against a pair of 2355s and a win against another rated player. Not bad, even for a 2400. The games can be found in the same place as those from Katowice, mentioned above. Question: was this Allegro rates or 40/2 hrs?

Last month, Fritz3 won the World Computer Championships, beating Deep Thought. Maybe this was a bit of an upset result due to a superior opening book and an unlucky disconnection for the DT team at a key moment...

But what about the results from Godesberg, AEGON and Katowice? Surely not *all* of its opponents took it too lightly. Just how long is it going to take before people accept that Fritz3 appears to be performing *regularly* at the 2450 level? (Are there any bad performances from Fritz3 which I haven't heard about?)

ABOUT THE AUTHOR:

Steven Rix was born near London and brought up near Manchester.

Steven received a M.Eng degree at Cambridge University, then started a Ph.D. in Edinburgh in 1992. Still working at it. He has a 2225 FIDE on the January and July 1995 lists. He says it should have risen to 2235 or so but they messed up his rating and took 20 points away instead. 2105 on the Scottish list, which might be more realistic.

A SMALL BUG IS FOUND IN FRITZ 4

by Birger Boyens

I noticed a slight bug in the Fritz4 analysis module: Whenever Fritz4 is in (manual) analysis mode and is confronted with a position, where there is only one legal move, Fritz4 only analysis up to exhaustive search depth is 1, (selective search depth maybe some moves higher),

therefore creating a probably wrong judgment of the position, which leads to some irritations in the graph showing the development of the game.

Also in some situations there are completely wrong judgments of variations involving en passant captures. Although Fritz4 is a very nice program with its many features, but there are still some problems ...

ABOUT THE AUTHOR:

Birger Boyens, is from Rantrum near Husum/Northsea (Germany). He is 26 years old and is a student of Computer Science in Paderborn. Birger's favorite problem is: White: Ka7, Rb2, Bb3 vs Black: Kd3, Nc6, Nd6. White to move. Believe it or not, it is a win in 223 moves !!! 1.Ka6 Nb4 223.Bg6: +- No takebacks, moretimes, aborts, please. See if you can solve it.

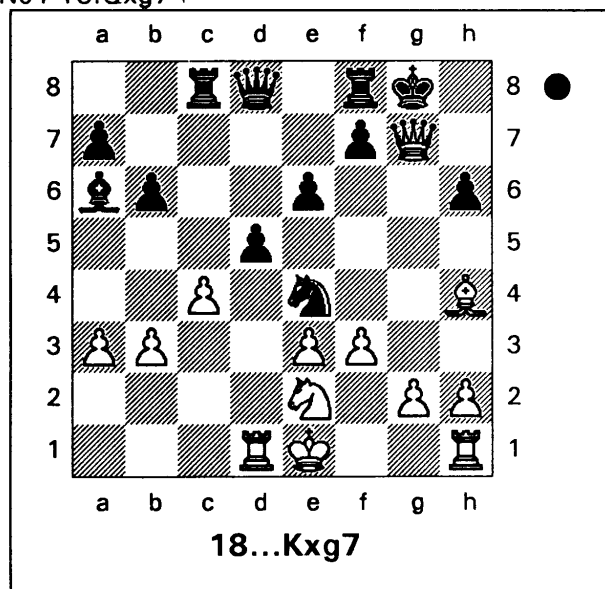
His chess rating on fics is about 2100, and he says that in real life his rating is DWZ (Deutsche Wertungszahl) 1938.

KASPAROV BEATS FRITZ4

by Paul Hodges

Results from the match, Kasparov v. Pentium/Fritz4, London, 13 December 1995. Pentium-Kasparov (Game 1)

1.d4 Nf6 2.c4 e6 3.Nc3 Bb4 4.Qc2 0-0 5.a3 Bxc3+ 6.Qxc3 b6 7.Bg5 Ba6 8.e3 d6 9.f3 Nbd7 10.Bd3 h6 11.Bh4 c5 12.Rd1 Rc8 13.Ne2 cxd4 14.Qxd4 Ne5 15.b3 Nxd3+ 16.Qxd3 d5 17.Qc3 Ne4 18.Qxg7 +

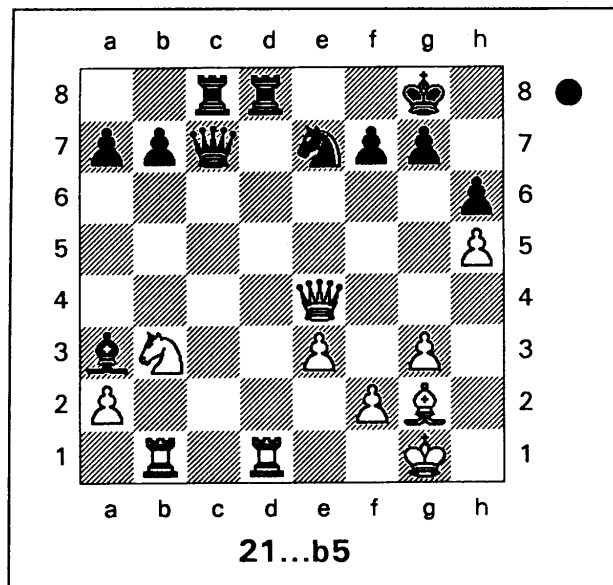


Kxg7 19.Bxd8 Rfxd8 20.fxe4 dxc4 21.bxc4 Rxd1 + 22.Kxd1 Rxc4 23.Kd2 Ra4 24.Ra1 Bxe2 25.Kxe2 b5 26.Rb1 a6 27.Rb3 Rxe4 28.Rc3 Ra4 29.h3 h5 30.g3 f5 31.Rb3 Kf6 32.Rc3 Ke5 33.Kf3 Kd5 34.Rd3+ Kc4 35.Rd6 Kb3 36.Rxe6

Kxa3 37.Ke2 a5 38.Re5 b4 39.Rb5 b3 40.Kd3
Kb2 41.h4 Ra1 42.Rxf5 a4 44.Ra5 a2 45.h5 Rh1
46.Ke4 a1Q 0-1

Kasparov-Pentium (Game 2)

1.d4 d5 2.c4 e6 3.Nf3 c5 4.cxd5 exd5 5.g3
Nf6 6.Bg2 Nc6 7.O-O Be7 8.Nc3 O-O 9.Bg5 cxd4
10.Nxd4 Qb6 11.Nb3 Be6 12.Bxf6 Bxf6 13.Nxd5
Bxd5 14.Qxd5 Rfd8 15.Qf5 Bxb2 16.Rab1 Ba3
17.e3 Rac8 18.h4 Qc7 19.Rfd1 h6 20.h5 Ne7
21.Qe4



b5 22.Nd4 a6 23.Qb7 Rd6 24.Rb3 Qxb7
25.Bxb7 Rc7 26.Be4 Bc5 27.Rbd3 Bb6 28.Nf5
Rxd3 29.Rxd3 Rc1+ 30.Kg2 Nxf5 31.Bxf5 a5
32.Rd7 b4 33.Be4 Kf8 34.Bd5 Rc7 35.Rxc7
Bxc7 36.Bb3 Be5 37.f4 Bf6 38.Kf3 Bd8 39.e4 g6
40.hxg6 fxg6 41.g4 h5 42.gxh5 gxh5 43.e5 Bc7
44.Ba4 Kg7 45.Bc6 Kg6 46.Ke4 Bb6 47.f5+
Kg5 48.f6 Bc5 49.Kd5 Bf8 50.Be8 h4 51.Bd7
Kg6 52.Ke6 h3 53.Be8+ Kg5 54.Kf7 Bc5 55.e6
Bd4 56.e7 Bxf6 57.Bd7 Bxe7 58.Bxh3 a4 59.Be6
Bd8 60.Ke8 Kf6 61.Bg8 Be7 62.Kd7 Bf8 0.5-0.5

Quote from a press release:

"When you play a human being it could make
a mistake, and some of your moves could scare
your opponents to death. Computer is very
powerful and calculates like God within its limits."
- Gary Kasparov.

ABOUT THE AUTHOR:

Paul Hodges was born December 6th 1957 in
Cardiff, Wales (United Kingdom) He now lives in
the US. Paul has a BS. (1981) and a Ph.D. (1984)
in Chemistry. His current occupation is as a
senior editor/general manager and partner in R&D
Publishing - a company based in Manasquan, NJ,
USA specializing in chess books, chess videos
and chess software (SmartChess & SmartBooks
for Macintosh). Other partners are GM Ron
Henley and GM Anatoly Karpov. Paul is the
author and/or editor of about 30 chess books

(paperback and/or electronic). Database and
Research consultant for Anatoly Karpov and his
analytical team. Chess trainer of GM Ron Henley.
???OTB - "USCF Advanced Expert"

Correspondence Chess Master - primarily
playing in ICCF World Master events.

CHess GENIUS 4

by Richard Lang (Genius 4.0)

The most obvious change to Genius 4
compared with Genius 3 is that it is a Windows
program, it also has many more features such as
the ability to read and write to both PGN and
ChessBase compatible databases and it allows
moves to be commented. The automatic analysis
is also much improved, entire databases can be
analyzed and optionally the analysis can be added
as text comments to moves. When the project
started I did not like Windows or programs that
ran under Windows. I have now changed my

mind and I like the standard interface that
windows provides. I find the new Genius
Windows interface much easier to use and like
the more professional look and feel. Some
features were actually easier to program under
windows, for example printing graphic board
diagrams, file handling and implementing on line
help.

There is no performance loss due to
Windows. So long as Genius 4 is the only
application running it is exactly the same speed as
a DOS version would be. The Windows interface
code and graphics was written by an experienced
Windows programmer in the 'C' language, and
represents about one and a half man years of
work. The chess engine is still 100% assembly
language. I continued to develop the chess engine
and believe that I have made good progress. The
program is generally tactically sharper and has a
more aggressive playing style. Some new special
code enables it to recognize many checkmates
one ply earlier. The opening book has been
expanded and it remains very broad.

GENIUS 4.0 - A PERSONAL VIEW

by Mark Rawlings

I've been a subscriber to Computer Chess
Reports since the first issue in the early 1980's,
and have been closely following the computer
chess industry ever since. I've owned numerous
chess computers and programs over the years,
starting with the historic Chess Challenger 7.
About three weeks ago, I purchased Genius 4.0

from ICD and have been running it on a Pentium 100 with 16M RAM. Without a doubt, it is the best chess program I've ever owned!

Genius 4.0 is a very strong, fast program. It is Windows compatible with a user-friendly interface. I like the fact that you can easily re-size the one of the features I like best is the compatibility with ChessBase files, which are available free at various internet sites. I frequently search my ChessBase database for certain types of endgames and then play them out against Genius. In my opinion, the endgame is one of the major strengths of Genius 4.0.

Copy protection has always been a hot topic for discussion on the internet newsgroup rec.games.chess.computers. The Genius 4.0 copy protection scheme has been transparent to me so far, since I have not yet had to verify ownership by inserting the original disk. I don't think it will be burdensome anyway. I had previously avoided buying any of the professional chess programs because of the limited number of installs.

One comment on the Windows environment that may be of interest to the CCR readers: I run Genius 4.0 a lot for long-term analysis of games and positions and, when running in the Windows (Windows?) background, have found that it really slows down other programs. To me this is only a minor annoyance and does not negate the many benefits of the Windows interface.

ABOUT THE AUTHOR:

Mark is a 39 year old engineer working for the federal government. He graduated from the University of Virginia in 1978 and has been playing chess for as long as he can remember. Mark does not have an official USCF rating, however, he believes that he is probably in the 1600 to 1800 range, based on results against various programs. He enjoys reading the chess related newsgroups on the Internet, as well as visiting all of the chess web sites. He says he especially enjoys playing chess with his three kids: Jenny, Bobby, and Kevin.

THE EFFECT OF WINDOWS ON CHESS PROGRAMS

by Halibut

It appears that Genius has lost their marketing focus. I'll explain:

There are basically two kinds of commercial programs in the market. The first are mass market, and don't even need to be all that strong, except for some marketing advantages.

The main example of this is the Chessmaster series. For a long time, they were not all that strong, but had mass appeal, and were low priced. The last version was much stronger. It was almost a contender for a berth in the top slots of "best programs". The second kind are "state-of-the-art". They are designed to squeeze every possible resource out of the machine. Processor optimizations, hash tables, etc... They are expensive. The top program in this category was always MChess, until Chess Genius knocked it out a few years ago, and we don't know what the current top program is. Genius, MChess, Rebel compete in this category. There is a small, but dedicated, market for them.

However, if MChess Pro 5 is a DOS program, and Genius 4 is a Windows program, then my money is on MChess Pro 5. And it's not just because I think Windows (95 or 3.11) is bad. It is bad. (And this is not a plug for OS/2 Warp either. When I want absolute top performance from a chess program, I do a clean boot from DOS with nothing, and give all memory to the chess program) But even well-written programs have ALWAYS done worse in Windows than in DOS.

The current Windows 95 is NOT the platform for speed of processing. Its memory management is a DOS nightmare joke. Even as I speak, Quarterdeck and Helix software are competing in a market to maximize Win95's LOWER MEMORY! Do you realize what this means?

Again, even though I knock Win95 and plug OS/2 Warp elsewhere, this particular message is NOT that. It is a simple statement of truth. A Win95 program will NOT run as well or as fast as a DOS program. Since details are VERY sketchy at this point, I can : only say that I asked the Genius folks whether the Windows application : would make this Genius 4 slower than a DOS version (should they ever : release one) and they said that it should not.

Steve, did you really expect them to say something like "Yes, it will do so, but only by 10-15%. Just remember that we will now be able to sell to the Win95 crowd"?

I asked the same question of Larry Kaufman and he said that there might be a difference but it could possibly be only an academic difference.

Larry has been doing this a long time. I hope he stays honest in his reports. : Time will tell.

And, hopefully, you will too. Remember that ICS does not live or die by Genius 4. It stays where it is by maintaining a reputation in the industry. If the Genius people are turning it into a mass market program, that's fine. And you'll still make money from them and others. But please report accurately just how far behind MChess Pro 5 that Genius 4 ends up.

One final question/statement. I assume that when Genius 4 did as it did in recent tournaments, it was not running under Windows 3.11 or Win95, right?

PERSONAL HIARCS (Mac) RESULTS

by William Wright

Are the HIARCS people sure that their program survived the port to the Mac without losing any strength? The win with White was annoyingly easy, and I swindled it in the ending as Black very similar to how I swindle other chess programs. Rather doubt a program (or person) can really call themselves 2450 (which HIARCS did) and LOSE a pawn up ending that's as clear as the second game. Another nit-pick is that when I exported the PGN file, it asked for a site which I filled in, but the field was blank when I opened the text file. Machine used was a Power120 w/Speed Doubter, 24 MB RAM and a total of 8 extensions. Comments are HIARCS evaluation with some of my own inserted.

In both games HIARCS resigned (Nice feature! As well as the offer of a draw.) so games did not go out to checkmate. Rating for me is USCF

[Event "Training Match G/30"]

[Site "My House"]

[Date "1996.02.07"]

[Round "1"]

[White "William Wright 2220"]

[Black "HIARCS International "]

[Result "1-0"]

1.d4 Nf6 {H4: 1...Nf6 = 0} 2.c4 e6 {H4: 2...e6 = 0} 3.Nc3 Bb4 {H4: 3...Bb4 = 0} 4.a3 Bxc3+ {H4: 4...Bxc3+ = 0} 5.bxc3 c5 {H4: 5...c5 = 0} 6.e3 b6 {H4: 6...b6 = 0} 7.Bd3 Bb7 {H4: 7...Bb7 = 0} 8.f3 Nc6 {H4: 8...Nc6 = 0} 9.Ne2 O-O {H4: 9...O-O = 0} 10.O-O e5 {H4: 10...e5 Rb1 Qc7 Qd2 Qd6 Bf5 = -6} 11.e4 cxd4 {H4: 11...cxd4 cxd4 exd4 Bb2 Qe7 Bxd4 Qd6 Bc2 = -14} 12.cxd4 exd4 {H4: 12...exd4 Bb2 Qe7 Bxd4 Qd6 Bc2 = -14} 13.Bb2 Qe7 {H4: 13...Qe7 Nxd4 Qc5 Be2 Rae8 Qd3 = 1} 14.Nxd4 Qc5 {H4: 14...Qc5 Be2 Rae8 Qd3 Ne5 Qc3 = -10} 15.Be2 Ba6 {H4: 15...Ba6 Rf2 Ne5 Nf5 Bxc4 Bd4 Qc7 = 4 It goes from +4 to -126 in 3 moves and to -205 in 5 moves} 16.Rc1 Rae8 {?! Accomplishes nothing. I expected more piling up on c4 H4: 16...Rae8 Kh1 Nh5 f4 Nf6 e5 = -25} 17.Kh1 Nh5 {H4: 17...Nh5 Nf5 Ne7 Nd6 Ra8 Qd4 = -67} 18.Nf5 Ne7 {? 18...f6 perhaps. Its definitely worse. I notice now that I am playing its

recommended moves but is evaluation is getting steadily worse. This says to me that it is not thinking deeply. H4: 18...Ne7 Nd6 Rd8 f4 Nf6 Bxf6 gxf6 = -126} 19.Nd6 Rd8 {H4: 19...Rd8 f4 Nf6 Bxf6 gxf6 Qa4 Qxd6 Qxa6 Qe6 Qxa7 Qxe4 = -163} 20.f4 Nf6 {H4: 20...Nf6 Bxf6 gxf6 Qd3 Kh8 Bg4 Kg8 Rcd1 = -205} 21.Bxf6 gxf6 {H4: 21...gxf6 Qd3 Kh8 Bg4 Kg8 Rcd1 = -203} 22.Qd3 h6 {H4: 22...h6 Qg3+ Kh7 e5 = -259} 23.Rf3 Rb8 {H4: 23...Rb8 Rd1 Kh8 Rh3 Kg7 Rg3+ Kh8 = -255} 24.Rh3 Kg7 {H4: 24...Kg7 Bh5 Rfd8 Bxf7 Rf8 Rg3+ Kh8 = -327} 25.Qg3+ Kh7 {H4: 25...Kh7 Qh4 Ng8 = -314} 26.e5 fxe5 {H4: 26...fxe5 fxe5 Ng6 Qg5 Rh8 Rxh6+ Kg7 Rxh8 Kxh8 Nxf7+ Kh7 = -453} 27.fxe5 f5 {H4: 27...f5 exf6 Rxf6 Ne4 Rg6 Qxb8 Qd4 Qf4 Qg7 = -814} 28.exf6 Rxf6 {H4: 28...Rxf6 Ne4 Rg6 Qxb8 Qd4 Bd3 Nc6 Qf8 = -882} 29.Ne4 Rg6 {H4: 29...Rg6 Rxh6+ Kxh6 Qf4+ Kh7 Nxc5 bxc5 Qxb8 Nc6 = -1167} 30.Rxh6+ Kxh6 {H4: 30...Kxh6 Qf4+ Kg7 Nxc5 bxc5 Qxb8 Re6 Qxa7 Rxe2 Qxa6 = -1348} 31.Qf4+ Rg5 {H4: 31...Rg5 Nxc5 Ng6 Qxb8 bxc5 Qxa7 Bc8 Qb6 = -1391} 32.Nxc5 Ng6 {H4: 32...Ng6 Qxb8 bxc5 Qxa7 Re5 Qxa6 Rxe2 = -1366} 1-0

[Event "Training Match G/30"]

[Site "My House"]

[Date "1996.02.07"]

[Round "2"]

[White "HIARCS International"]

[Black "William Wright 2220 "]

[Result "0-1"]

1.d4 {H4: 1.d4 = 0} 1...e6 2.e4 {H4: 2.e4 = 0} 2...d5 3.Nc3 {H4: 3.Nc3 = 0} 3...Bb4 4.e5 {H4: 4.e5 = 0} 4...c5 5.a3 {H4: 5.a3 = 0} 5...Bxc3+ 6.bxc3 {H4: 6.bxc3 = 0} 6...Ne7 7.Qg4 {H4: 7.Qg4 = 0} 7...Qc7 8.Qxg7 {H4: 8.Qxg7 = 0} 8...Rg8 9.Qxh7 {H4: 9.Qxh7 = 0} 9...cxd4 10.Ne2 {H4: 10.Ne2 = 0} 10...Nbc6 11.f4 {H4: 11.f4 = 0} 11...Bd7 12.Qd3 {H4: 12.Qd3 = 0} 12...dxc3 13.Qxc3 {H4: 13.Qxc3 = 0} 13...O-O-O 14.Rb1 {H4: 14.Rb1 = 0} 14...Nf5 15.Bd2 {H4: 15.Bd2 Kb8 Qd3 Rc8 c4 d4 = 77} 15...Kb8 16.g3 {H4: 16.g3 d4 = 104} 16...d4 17.Qd3 {H4: 17.Qd3 Nce7 Bh3 Ba4 c4 Qc6 = 83} 17...Nce7 18.Bh3 {H4: 18.Bh3 Ba4 c4 dxc3Qxc3 Bc6 O-O Nd5 = 83} 18...Bc6 19.O-O {H4: 19.O-O Qd7 c4 Rh8 g4 Nh4 = 107} 19...Qd7 20.c4 {H4: 20.c4 dxc3 Qxd7 Rxd7 Bxc3 Rh8 Bxf5 Nxf5 = 119} 20...dxc3 21.Qxd7 {H4: 21.Qxd7 cxd2 Qxd8+ Rxd8 Bxf5 Nxf5 Kf2 Rd3 Rfd1 = 9} 21...Rxd7 22.Bxc3 {H4: 22.Bxc3 Ne3 Rfe1 Nc2 Rec1 Nxa3 = 123} 2...Ne3 23.Rfc1 {H4: 23.Rfc1 Rh8 = 123} 23...Rh8 24.Bf1 {H4: 24.Bf1 N7f5 Rb4 Nxf1Rxf1 Rd3 Rfb1 = 92} 24...N7f5 25.Bb4 {H4: 25.Bb4 Be4 Rb3 Nxf1 Rxf1 Bc2 Rbf3 Bd3 R1f2 = 98} 25...Ka8 26.Rb3 {H4: 26.Rb3 Rdd8 Ba5 Rd5 Bc3 Nxf1 Rxf1 = 119} 26...Nxf1

27.Rxf1 {H4: 27.Rxf1 Bb5 Re1 Bc4 Rbb1 Kb8 = 119} 27...Bb5 28.Re1 {H4: 28.Re1 Bxe2 Rxe2 Nd4 Rd2 a5 Bxa5 Nxb3 Rxd7 Nxa5 Rxf7 = 111} 28...Bc4 29.Rb2 {H4: 29.Rb2 Rdd8 Rc1 Rc8 g4 Ne3 = 124} 29...Nd4 30.Nxd4 {H4: 30.Nxd4 Rxd4 Rc1 b5 h4 Kb7 Bc5 = 184} 30...Rxd4 31.h4 {H4: 31.h4 Rd3 Kf2 Rg8 Rg1 Bd5 = 179} 31...Rd3 32.Kh2 {H4: 32.Kh2 b5 Rd2 Rxd2 + Bxd2 Kb7 Rc1 = 164} 32...Bd5 33.Rd2 {H4: 33.Rd2 Rxd2 + Bxd2 b5 Rb1 a6 Rc1 Kb7 = 196} 33...Rb3 34.Rc1 {H4: 34.Rc1 b5 Kh3 Rg8 Rc3 Rb1 = 199} 34...a5 35.Bxa5 {H4: 35.Bxa5 Rxa3 Bb6 Kb8 Rdc2 Bc6 = 279} 35...Rxa3 36.Bb6 {H4: 36.Bb6 Rg8 g4 Kb8 Bc7 + Ka7 Bd6 = 282} 36...Ra6 37.Rb2 {H4: 37.Rb2 Kb8 Kh3 Be4 Rc4 Bd3 = 289} 37...Kb8 38.Kh3 {H4: 38.Kh3 Be4 Rc4 Bc6 Rcb4 Ra3 = 292} 38...Rc8 39.Rxc8 + {H4: 39.Rxc8 + Kxc8 h5 Ra2 Rb4 Ra1 g4 Rh1 + Kg3 Kd7 = 322} 39...Kxc8 40.h5 {H4: 40.h5 Kd7 h6 Be4 Rb4 Bh7 g4 Ra3 + Kh4 = 309} 40...Kd7 41.h6 {H4: 41.h6 Be4 g4 Kc6 Kg3 Rxb6 Rxb6 + Kxb6 f5 exf5 h7 fxg4 h8 = Q = 300} 41...Be4 42.g4 {H4: 42.g4 Kc6 Rb4 Bh7 Bf2 b5 = 296} 42...Ra1 43.Re2 {H4: 43.Re2 Rh1 + Kg3 Bh7 Rd2 + Ke7 Bc5 + Ke8 g5 = 313} 43...Rh1 + 44.Kg3 {H4: 44.Kg3 Bh7 Rd2 + Ke8 g5 Ke7 Bc5 + Ke8 Rb2 Be4 = 324} 44...Bg6 45.Rd2 + {H4: 45.Rd2 + Kc6 Rd6 + Kb5 Be3 Kc4 Rd4 + Kc3 g5 = 343} 45...Kc6 46.Rd6 + {H4: 46.Rd6 + Kb5 = 365} 46...Kb5 47.g5 {H4: 47.g5 Be4 Bf2 Bc6 Kg4 Kc4 = 372} 47...Ra1 48.Be3 {H4: 48.Be3 Ra6 Rd8 Ra3 Kf3 Bf5 = 365} 48...Kc4 49.Rd4 + {H4: 49.Rd4 + Kb3 Bd2 Ra4 Rd7 b5 Rc7 = 360} 49...Kb3 50.Bd2 {H4: 50.Bd2 Ra4 Rd8 b5 Kf3 b4 Rc8 Bf5 = 333} 50...Ra4 51.Rd7 {H4: 51.Rd7 b5 Rc7 Rc4 Rb7 = 320} 1...b5 52.Be1 {H4: 52.Be1 Kc4 Rc7 + Kd5 Rb7 Kc6 = 312} 52...Ra1 53.Bf2 {H4: 53.Bf2 b4 Rc7 Rh1 Kg4 Ka4 = 314} 53...b4 54.Kg4 {H4: 54.Kg4 Rf1 Kf3 Rh1 Kg2 Rh5 = 307} 54...Rf1 55.Kf3 {H4: 55.Kf3 Kc4 Ke2 Rh1 Rc7 + Kb5 Rc5 + Ka4 = 301} 55...Kc2 56.Ke2 {H4: 56.Ke2 Rh1 Rc7 + Kb3 Ke3 Rh3 + Kd4 Rd3 + Kc5 Rd5 + Kb6 = 312} 56...Rc1 57.Rc7 + {H4: 57.Rc7 + Kb1 Rb7 Rc4 Ke3 Kc2 Rb8 = 313} 57...Kb1 58.Rb7 {H4: 58.Rb7 Rc4 Be1 Re4 + Kf2 Rxf4 + Kg3 Rf5 Rxb4 + Kc2 Rc4 + Kb3 = 297} 58...Rc4 59.Kd2 {H4: 59.Kd2 Ka2 Ke3 b3 Ra7 + Kb2 Rb7 = 298} 9...Kb2 60.Be3 {H4: 60.Be3 b3 Kd1 Bh5 + Ke1 Bg6 Kf2 Kc3 = 243} 60...b3 1.Kd1 {H4: 61.Kd1 Bh5 + Ke1 Bg6 Rb8 Kc3 Bd2 = 242} 61...Ka2 62.Ra7 + {H4: 62.Ra7 + Kb1 Ra8 b2 Ra3 Rc2 Rb3 = 216} 62...Kb1 63.Ra8 {H4: 63.Ra8 b2 Ra7 Rc3 Bd2 Rc2 = 226} 63...b2 64.Kd2 {H4: 64.Kd2 Rc2 + Ke1 Bd3 Bg1 Kc1 Be3 + Kb1 = 0 After move 63, it evaluates its position as +226 and suggests b2. After I play b2, its evaluation changes to 0 It falls for a standard computer trap of continuing to play

'middlegame' and underestimates the value of advancing pawns in an ending.) 64...Rc2 + 65.Ke1 {H4: 65.Ke1 Rc3 Bd4 Rc4 Rd8 Kc1 Bxb2 + Kxb2 Rd2 + Kc3 Rf2 Kd4 = -53} 65...Rc7 66.Bd4 {H4: 66.Bd4 Rc4 Rd8 Kc2 Bxb2 Kxb2 Rd2 + Kb1 = 16} 66...Rc4 67.Rd8 {H4: 67.Rd8 Kc1 Bxb2 + Kxb2 Rd2 + Kc3 Rf2 Bh7 Ke2 = -53} 67...Kc2 68.Bxb2 {H4: 68.Bxb2 Kxb2 Rd2 + Kc3 Rf2 Bh7 Ke2 = -52} 68...Kxb2 69.Rd2 + {H4: 69.Rd2 + Kc3 Rf2 Kd3 Rf3 + Ke4 Kf2 Kf5 Kg3 = -72} 69...Kc3 70.Rf2 {H4: 70.Rf2 Kd3 Rf3 + Ke4 Kf2 Kf5 Kg3 = -71} 70...Kd3 71.Rf3 + {H4: 71.Rf3 + Ke4 Kf2 Rc1 Rh3 Rc2 + Kf1 Bh7 Rh4 = -147} 71...Ke4 72.Kf2 {H4: 72.Kf2 Rc1 Rh3 Rc2 + Kf1 Bh7 Rh4 = -138} 72...Rc1 73.Rh3 {H4: 73.Rh3 Rc2 + = -315} 73...Rc2 + 74.Ke1 {H4: 74.Ke1 Bh7 Rh4 Kf5 Kf1 Rc4 Kg2 Rxf4 Rxf4 + Kxf4 = -307} 74...Bh7 75.Rh4 {H4: 75.Rh4 Ke3 Kd1 Rb2 f5 exf5 Kc1 Rb5 Rh3 + Kf4 = -382} 75...Ke3 76.Kd1 {H4: 76.Kd1 Rb2 f5 exf5 Kc1 Rb5 Rc4 Rxe5 = -418} 76...Rf2 77.Kc1 {H4: 77.Kc1 Rxf4 Rh3 + Ke4 Rh5 Rg4 Kd2 Kf5 Ke3 Rxc5 = -458} 77...Rxf4 78.Rh3 + {H4: 78.Rh3 + Kd4 Rh5 Rf5 Kd2 Rxe5 = -451} 78...Ke4 79.Rh5 {H4: 79.Rh5 g4 Kd2 Kf5 Rh2 Rd4 + Kc3 Kxe5 Re2 + Be4 = -457} 79...Rf5 80.Rh4 + {H4: 80.Rh4 + Kxe5 Rg4 Rf2 Kd1 Rh2 Rc4 f6 Rc5 + Kd6 = -575} 80...Kxe5 81.Rg4 {H4: 81.Rg4 Rf2 Kd1 Kf5 Rg3 Rh2 Ke1 = -577} 81...Rf4 82.Rg3 {H4: 82.Rg3 Rc4 + Kd1 Kf4 Rg1 Rc5 Ke1 Bg6 Ke2 Rxc5 Rf1 + Ke4 = -643} 82...Kf5 83.Kd2 {H4: 83.Kd2 Rg4 Rf3 + Kxc5 Rxf7 Kxh6 Rf6 + Rg6 Rxc6 + Kxc6 = -636} 83...Kg6 84.Kd3 {H4: 84.Kd3 Rf5 = -578} 84...Rf5 85.Ke3 {H4: 85.Ke3 Rxc5 Rf3 Rh5 Rf2 f5 Kf4 Kxh6 = -851} 85...Rxc5 86.Rf3 {H4: 86.Rf3 f5 Rf4 Kxh6 Rh4 + Kg6 Kf4 = -883} 86...Rh5 87.Rf1 {H4: 87.Rf1 f5 Rg1 + Kxh6 Kf3 = -869} 87...Rxc6 88.Kd4 {H4: 88.Kd4 f6 Rg1 + Kf5 Rf1 + Kg4 = -878} 88...Rh5 89.Ke4 {H4: 89.Ke4 Kg5 + Kd4 Bg6 Rg1 + Kf4 Rf1 + Kg4 = -876} 89...Kg7 + 90.Ke3 {H4: 90.Ke3 Bf5 Ke2 Kf6 Rf3 Rh2 + Ke3 = -882} 90...e5 91.Rd1 {H4: 91.Rd1 Rh3 + Kf2 f5 Rd6 f4 Re6 = -926} 91...Rh3 + 92.Kf2 {H4: 92.Kf2 f5 Kg2 Rc3 Rd7 + Kg6 Kf2 Bg8 = -981} 92...f5 93.Kg2 {H4: 93.Kg2 Rc3 Rd7 + Kg6 Re7 e4 Kf2 Bg8 = -941} 93...Ra3 94.Rd7 + {H4: 94.Rd7 + Kg6 Re7 e4 Kf2 Bg8 = -938} 94...Kh6 95.Re7 {H4: 95.Re7 e4 Rf7 Kg6 Re7 = -969} 95...Re3 96.Kg1 {H4: 96.Kg1 f4 Rf7 Rc3 Re7 = -961} 96...Bg6 97.Kf2 {H4: 97.Kf2 f4 Re6 Kg5 = -995} 97...f4 98.Rc7 {H4: 98.Rc7 e4 Rc5 Rb3 Re5 Rb2 + Kf1 = -1033} 98...Kg5 99.Rc5 {H4: 99.Rc5 Bf5 Rc1 e4 Rg1 + Bg4 = -1032} 99...Bh5 100.Rc2 {H4: 100.Rc2 e4 Rc5 + Kh4 Rc2 Rd3 = -1047} 100...Kf5 101.Kf1 {H4: 101.Kf1 Rd3 Kf2 e4 Rc5 + Kg4 = -1056} 101...Bg4 102.Kf2 {H4: 102.Kf2 e4 Rc5 + Kf6 Kf1 Re2 = -1060}

102...Rh3 103.Kf1 {H4:103.Kf1 f3 Rc3 e4 Rb3 Rh1+ Kf2 Rh2+ Ke3 =-1074} 103...Bf3 104.Rc5 {H4:104.Rc5 Rh2 Ke1 Bb7 Rc4 =-1076} 104...Ke6 105.Rc8 {H4:105.Rc8 e4 Re8+ Kf5 Rf8+ Ke5 =-1061} 105...e4 106.Re8+ {H4:106.Re8+ Kf7 =-1113} 106...Kd5 107.Rd8+ {H4:107.Rd8+ Ke5 Re8+ Kd4 Rf8 Rh1+ Kf2 Rh2+ Kg1 Rg2+ Kf1 Ke3 =-1108} 107...Ke5 108.Re8+ {H4:108.Re8+ Kd4 Rb8 Rh1+ Kf2 Rh2+Ke1 Re2+ Kf1 Rd2 =-1131} 108...Kd4 109.Rb8 {H4:109.Rb8 Rh1+ Kf2 Rh2+ Ke1 Re2+ Kf1 Rd2 =-1130} 109...e3 110.Rd8+ {H4:110.Rd8+ Bd5 =-2770} 0-1

About the Author:

William is an engineer and the president and editor of OCS Pew. He has a USCF rating of 2220, and he owns a Power MAC 120 MHz.

HIARCS MAC VS. IBM's TOP CHESS PLAYING GUNS

by Michael Byrne

MCP5 running on a 90 mhz desktop Pentium vs Hiarcs (MAC) on a lowly 540 Powerbook. I say lowly because the Powerbook runs about half the speed of my desktop Apple 68040 40 mhz machine - even though the processor is a 68040 33 mhz chip. Consistently, on all chess 'speed' tests it takes twice as long.

Of note, is the very 'human' like squeeze that Hiarcs put on MCP5, HIARCS consistently showed earlier evaluations of changes in the position. Specifically, by move 29 it thought it was at least a 1.5-2 pawns ahead - MCP5 didn't take notice until 32...Rb6. It was obvious at this point Hiarcs had a winning position since there was nothing that could stop the encroachment of white's King. Hiarcs coordinated its pieces very well applying the pressure with 30. Ra6 Ne7 31.Ra7 Ng6 32. Rc7 following up with Ke3 g3 and Nc5. At that point , MCP5 couldn't do any better than 34. ...Kh8 which doesn't help at all. Interestingly, the game was even on the board until 38.Nxg7 - but the game was over before then. Next opponent - Fritz 3. I have noticed that even on slower processors, Hiarcs is a formidable foe. The setting here is 'Solid', which is probably best when playing opponents on fast Pentium machines.

[Event "Game/60"]

[Site "?"]

[Date "1996.02.02"]

[Round "-"]

[White "Hiarcs - MAC PB540"]

[Black "M-Chess 5 90 mhz Pent"]

[Result "1-0"]

1. e4 c5 2. Nf3 e6 3. d4 cxd4 4. Nxd4 Nf6 5. Nc3 Nc6 6. Nxc6 bxc6 7. e5 Nd5 8. Ne4 Qc7 9. f4 Qb6 10. Bd3 Ba6 11. a3 Be7 12. Bxa6 Qxa6 13. Qe2 Qxe2+ 14. Kxe2 f5 15. Nf2 Rb8 16. c4 Nb6 17. b3 Nc8 18. Rb1 a5 19. Bd2 Bxa3 20. Bxa5 Ra8 21. Bc3 O-O 22. Rhd1 d5 23. exd6 Bxd6 24. Nd3 Ne7 25. Be5 Bb8 26. Ra1 Rxa1 27. Rxa1 Ng6 28. Bxb8 Rxb8 29. b4 h6 30. Ra6 Ne7 31. Ra7 Ng6 32. Rc7 Rb6 33. Ke3 Ra6 34. g3 Kh8 35. Nc5 Rb6 36. Nxe6 Rxb4 37. Kd4 Ra4 38. Nxg7 Nf8 39. Kc3 Ra5 40. Kb4 Ra6 41. Nxf5 Ne6 42. Rd7 h5 43. Rd6 Kh7 44. Kc3 Ra3+ 45. Kb2 Ra5 46. Rxe6 Rxf5 47. Rxc6 h4 48. Kc3 hxg3 49. hxg3 Rh5 50. Kd4 Rh3 51. g4 Rh4 52. Rc5 Rxg4 53. Rh5+ Kg6 1-0

A game between HIARCS 4.0 (MAC version) and Fritz3.

Another Hiarcs (running on a slow PB540) victory over a stud PC program running on a 90 mhz Pentium. Fritz3 was the best program in solving the GM Larry Evans key move ... Bxg6 in around 2 minutes. Refer to 'MCP5 75 vs 120'. But despite making that key move in record time, it missed several moves in this game.

Both sides were out of book fairly quick - in less than 10 moves. HIARCS got the advantage when it forced 3 pawn islands on Fritz3 with 19.Bxf6. The next critical move is 21.... h6 which gives up black's 'a' pawn after 22. Rxd8 Rxd8 23. Nxa7 .. for nothing really. I believed that Fritz3 was expecting to win back the pawn ... expecting 25.Nxe4 - Hiarcs played the much better Nab5!. After 27...Nc2?! - the move seemed to be 28.Rd1! forcing the rooks off and with a winning position. 28.e4? seem to give

Fritz3 life. There was a lot of jostling for position with things dying down with 37.Ke2 and Hiarcs getting the upper hand with 38.Rc6. I think 39.a3! is an absolutely super move as black is in a zugswang type position with almost any move weakening his position. That became evident after 39....Rd8 then the crushing 40.Na7. The response 40.... Ra8 was absolutely no good as 41.Nc8 Kd7 42. Rd6+! started to show the brilliancy of whites moves. Fritz faltered in the end game with 43...Ra5 and HIARCS did not hesitate and snapped the rook up. That also happened against MCP5 - MCP5 allowed a piece clearing rook checked with an easily won end game for HIARCS. I like the way HIARCS is pouncing on those moves. With nothing but pawns on the board, that's a clear win for white. I let them play it out a little further and HIARCS saw that it was Queening with 48.g4! - it took Fritz3 until 52...Kd7 to come to the same conclusion. [Event "Game 60"]

[Site "Philadelphia, PA"]

[Date "1996.02.03"]
[Round ""]
[White "Hiarcs MAC PB540"]
[Black "Fritz3 Pent 90 mhz"]
[Result "1-0"]

1.d4 f5 2.g3 Nf6 3.c4 e6 4.Bg2 Be7 5.Nf3
O-O 6.O-O Ne4 7.Bf4 d5 8.Qd3 b6 9.Ne5 Bb7
10.Nc3 c5 11.dxc5 Nxc5 12.Qd4 dxc4 13.Qxc4
Bxg2 14.Kxg2 Qc8 15.Rad1 Bf6 16.Nf3 Qa6
17.Qxa6 Nbx6 18.Be5 Rfd8 19.Bxf6 gxf6
20.Nd4 Kf7 21.Ndb5 h6 22.Rxd8 Rxd8 23.Nxa7
Rd2 24.Rb1 Ne4 25.Nab5 Nxc3 26.Nxc3 Nb4
27.Kf3 Nc2 28.e4 fxe4+ 29.Nxe4 Rd7 30.Rc1
Nd4+ 31.Ke3 Nf5+ 32.Kf4 Ne7 33.Kf3 f5
34.Nc3 e5 35.Ke3 Ke6 36.Nb5 Nd5+ 37.Ke2
Ke7 38.Rc6 h5 39.a3 Rd8 40.Na7 Ra8 41.Nc8+
Kd7 42.Rd6+ Kxc8 43.Rxd5 Ra5 44.Rxa5 bxa5
45.Kd3 Kd7 46.Kc4 Kc6 47.h3 f4 48.g4 hxg4
49.hxg4 Kd6 50.b4 axb4 51.axb4 e4 52.b5 Kd7
53.Kd4 1-0

OPENING BOOKS & INCREASED RATINGS

by Alexander Fuchs

Quotation from Thoralf Karlsson's (chairman of SSDF) comments to the 8th rating list:

"It seems that the opening book has contributed significantly to the rating increase of MChess Pro 5.0. Sometimes the outcome of the game is already decided when MChess Pro 5.0 starts to think."

So, although M-Chess Pro 5.0 may play better chess than his predecessor, it mainly owes his leading position in the Swedish ranking list to his opening book. Looking at the results of M-Chess Pro 5.0, it is particularly well tuned for Hiarcs and Genius. In the long run this booking will lead to inflated ratings.

In my opinion, there is only one solution to the problem: They have to turn the opening books off when testing the programs! In order to avoid playing the games from the initial board position, they should establish a set of maybe 100 different starting positions. Of course, these positions ought to be balanced in the way that they equally contain closed/open positions. To avoid the return of booking, these starting positions should be kept secret. Like that, the ratings would again truly reflect the real playing strengths of a given program. You may argue that the opening book is part of the program. But I feel that we've reached the point where the role of

the opening book becomes predominant. To me the chess engine itself is a hundred times more important than the opening book. Ratings based on tuned opening book are of *NO* interest to me.

Anyway, the programs' strengths against humans is not affected at all by only adding some killer variations to the opening book. Humans can easily avoid the opening book by leaving the theory in an early stage of the game.

ABOUT THE AUTHOR:

Alexander Fuchs is 27 years old. he lives in Passau, Germany, which is located in Lower Bavaria. He studies economics and loves computer-chess very much. His German rating is 2035, and his FIDE-Rating is 2065. He owns many chess programs, which he enjoys testing. Two of his friends are chess programmers (Stefan Mayer Kahlen : Shredder, Martin Zentner: XXXX). He did a lot of testing work before the WCC in Paderborn. He finds it interesting to be in touch with programmers of chess programs.

MChess Pro 5.0 BOOK LEARNING FEATURE

by Michael Byrne

I went back to this game to see if that could been impacted by that - it was and not the way I expected. Somewhere along the line, I started to play MCP5 without it's book on. Yes, the tournament book was checked -- but where it said MCP5 book was not. Well -- because of it's book learning feature, it started developing it's own book - and I was unaware because it was playing moves quickly as if it was in book. Well - I was able to duplicate my moves for this game 3 times in a row. On the fourth time, it started playing the better 13...Qa5+. What's the story. Well apparently in my attempt to try duplicates Don's moves, it learned that Qa5 was better!

How did I note this? As I was saying, it was learning moves -- because of the nature in the way it learns moves - it tends to learn the one line - because it doesn't know any other moves - so it book learning feature keeps getting deeper and deeper in one line. This explains, in part I believe, how MCP5 developed it's killer book against Genius - and if that's true - I'm a little bit more impressed with program. Anyway, because of the games I had played before against Genius it had learned through 12... Qxa6.

How did I prove this - there is a directory called 'ubook' with files that have the extension .lbk among others. I changed the extension on one of the files and replayed the Hiarcs vs MCP5 game. -- Guess what - it now only knew that line through 8 moves. I changed the extensions on all the files that had the extension .lbk and now my MCP5 knew NO book moves. That is because even though I had the tournament book on - you must also have the option 'MChess Book' on as well. If you want to see what lines your MCP5 has learned - turn MChess Book off and the line it is playing is one that it has learned. In a previous post I had talked about 'hidden' lines - book moves that you don't see in it's listing of book moves - well those are the ones that it has learned.

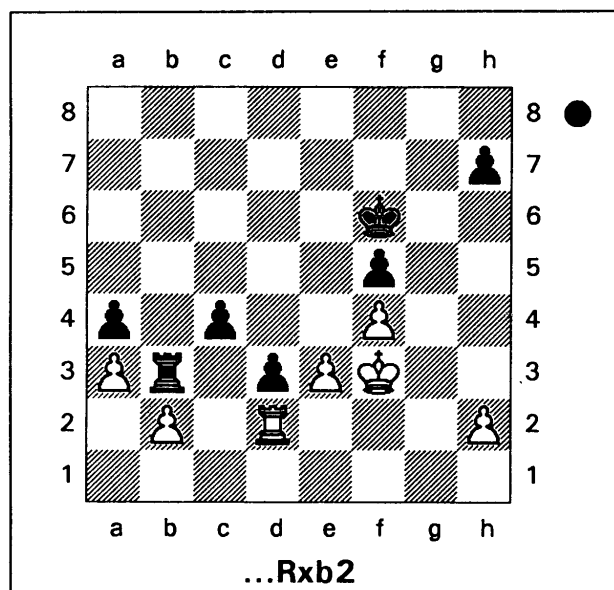
Sorry for all the confusion - but I think we all can have a little finer appreciation of the work Marty has done with this 'learning' feature.

ABOUT THE AUTHOR:

Michael is a CPA. He graduated from the University of Pennsylvania in 1983. He is currently a finance manager for a major telecommunications company on the East Coast. He occasionally hangs out at the West Chester Chess Club and has been seen at the World Open in Philadelphia - mostly on the lower boards he says.

COMPUTER PROBLEM SOLVING

by Bruce Moreland



How fast do chess programs solve this problem? Black to move wins, a reasonably skilled human would see it in a fairly short time.

M-CHess PRO 5.0 'HIDDEN BOOK'

by Michael Byrne

I recently played this game between M-Chess Pro -90 mhz Pentium and Mephisto 68030 33mhz dedicated unit. The time control was 3 hours for the game. What made this game interesting was the discovery of a 'hidden' book in M-Chess Pro 5.0. The settings were full strength with tournament book ON. M Chess Pro 5.0 stayed in book for 39 MOVES. To me that was unbelievable - and also it is worth noting that on 17.Kb1 - Genius 68030 was out of book. The game is essentially over at move 39 - any top program could mop that mess up left on the board. M-Chess Pro used 1 second for 39 moves!. Obviously Marty did a good job of 'tuning' his book against the Genius book. The 68030 book by the way is almost exactly the same as the Genius 2 tournament book. Richard Lang could confirm if it is the same.

I wanted to see how M-Chess Pro would do on it's own after 17. ... a4.

I replayed the position up to that point, turned the M-Chess book off - and it continues to make the same moves instantaneously right up to move 39.

You can't turn this book off -- I even renamed the book -- these moves

are in the program.!

[Event "G/3 HRS."]

[Site "Philadelphia, PA"]

[Date "1995.12.12"]

[Round "1"]

[White "M-Chess 5"]

[Black "Genius 68030"]

[Result "1-0"]

1. e4 c5 2. Nf3 e6 3. d4 cxd4 4. Nxd4 a6 5. Bd3 Bc5 6. Nb3 Ba7 7. Qe2 Nc6 8. Be3 Bxe3 9. Qxe3 d6 10. Nc3 Nf6 11. O-O-O O-O 12. f4 Qc7 13. Rhg1 b5 14. g4 b4 15. g5 Nd7 16. Ne2 a5 17. Kb1 a4 18. Nbc1 a3 19. b3 Bb7 20. h4 Ne7 21. h5 Qc5 22. Qh3 Rfe8 23. g6 hxg6 24. hxg6 Nxg6 25. Rg5 Qf2 26. e5 Ndf8 27. exd6 Nxf4 28. Nxf4 Qxf4 29. Rdg1 Qd4 30. Rxg7+ Qxg7 31. Rxg7+ Kxg7 32. Qg4+ Kh8 33. Qxb4 Bd5 34. Qh4+ Kg8 35. Qg5+ Kh8 36. c4 Bc6 37. Qf6+ Kg8 38. Ne2 Ra5 39. Nd4 Bb7 40. Nb5 Bc6 41. Qg5+ Kh8 42. d7 Bxd7 43. Qf6+ Kg8 44. Nd6 Rb8 45. Qxf7+ Kh8 46. Qf4 Kg7 47. Qg3+ Kf6 48. Ne4+ Kf7 49. Qxb8 Ra6 50. Qf4+ Kg7 51. Qf6+ Kg8 52. c5 Bb5 53. Bxb5 Ra7 54. Qg5+ Rg7 55. f6+ Kh8 56. Qh5+ Rh7 57. Nxh7 Nxh7 58. Bd3 1-0

Now, I am really curious - how well is MCP5 doing against the Genius 2 programs?

MChess Pro 5.0 Pentium 90 MHz, 2458

Genius 3 P90	13-7	Rebel 6.0 P90	16-4
Hiarcs 3 P90	11.5-1.5	MCPPro 4.0 P90	5-7
Rebel7 486/66	9-8	Geniu3 486/66	11.5-8.5
Geniu2 486/66	15-5	WChess P90	6-14
MCPPr40 486/66	12-8	Rebel6 486/66	16-4
Genius 68 030	6.5-2.5	WChess 486/66	14.5-5.5
CM30 King 2.0	4-2	ChGen1 486/66	22-8
MCPPr35 486/66	3-1	Fritz3 486/66	1-1
Kallis 486/66	16.5-3.5	SPARC 20 MHz	4.5-2.5
Meph. RISC	1-0	Chess M. King	3-0

Look at that --21.5 - 7.5 against Genius2(w/Genius 68030) and 13-7 against Genius3.

And what is more amazing - it's only 5-7 (under 50%) against MCP4! MCP4 is only 6.5-13.5 against Genius3.

What's my point -- it appears that Marty has identified significant weaknesses in the Genius programs' opening books - while not greatly improving the actual playing strength of his program - note also the paltry

12-8 record against MCP4 on a 486-66 machine! Granted, the number of games here are not statistically significant - but this may be of interest to consumers/researchers and to those who want to discover gamebusting lines against Genius!.

KILLER OPENING BOOKS-MCCHES

5

by Geoff Wyatt

MCP5 does *not* have a "killer" opening book that reduces it's value as a "playing" program. In fact, it's opening book is rather narrow, and against most defenses it will be out of book within a few moves. It *does* have a very deep book in certain lines it prefers to play, but you do NOT have to worry that it'll roll out 20 moves of book against your Caro or Pirc or Petroff, etc. Maybe it will do that in the most topical variation of the Najdorf, for instance but in general it just doesn't happen.

What is tremendously impressive is the self-learning feature. This is not just some gimmick. I've put it in analysis mode and had it work on a critical position for a few hours, and thereafter it will play the move it found, even at fast time controls. Another way this feature is manifested is that if it once finds a move in, say, 30/G chess, it will then play that move immediately in the

same position in 30/G OR any faster time control in the future. This is an important time saver and further increases its strength. It also "individualizes" your MCP, so that essentially the more you use it the stronger its play becomes!

Everyone seems to disapprove of MCP5 hammering on Genius' book. But a computer's book should *not* end in a position where it stands substantially worse with subsequent best play. If Genius' programmers left it open to being destroyed at the end of its main book lines (by a human *or* another computer), then I don't have a whole lot of sympathy. So let's give MCP5 some credit where credit is due. I have not found its book to be a problem whatsoever, and I'm generally out of it by move 10. Hope this clears up the misconceptions.

ABOUT THE AUTHOR:

Geoff is an attorney and works for the Oregon State Bar, in Portland. He has no formal computer background, though he now "plays" with a Pentium 120 multi-media system. He says he enjoys both Chess Assistant and MChess Pro 5 immensely. He has been a USCF expert off and on for the past dozen years, though at the moment he says he is rather out of tournament practice. Geoff was recently elected Secretary of the Oregon Chess Federation. "Developments in computer chess always fascinate me" says Geoff, "and I appreciate your efforts to keep everyone informed."

REBEL 7.0 REVIEW

by Steve Pribut

Rebel 7 is the most recent product of Schroder BV. It is estimated to be rated at approximately 2450 ELO (2422 on the January 6, 1996 SSDF list), when running on a Pentium 90 Mghz P90 computer. On that rating it was marginally lower than Chess Genius 3 and MChessPro 5. According to the SSDF list it was the top rated program for a 486 50/66 Mghz. Rebel is known for its human like playing style. Besides being tactically strong it is also positionally capable. Ed's previous programs have also been known to have good position play. Rebel 7 has nearly 550,000 opening moves in its standard opening book. It is also shipped with an opening book of approximately 100,000 moves based on 1,000 Kasparov games. A smaller general opening book of 100,000 moves is also included with the program or use on smaller computers or to be combined with specific specialized openings that are available separately. Gerona None, a Dutch opening specialist, has compiled the openings for Rebel 7.

Ed Stirred, a native of Holland, has been professionally programming chess software for 10 years. His software first appeared in a Mephisto stand alone chess computer in 1985. He has been considered to be among the best computer chess programmers since 1988. Other stand alone chess computers running his software include Mephisto Polgar, Mephisto Milano, Chess Machine Gideon and the Mephisto MM. In 1991 his software became the world champion in the category of microcomputers. In 1992 one of his programs won the overall title of World Computer Chess champion. That was the first year in which a non-mainframe based computer won that event. His first PC software release was the Mephisto

Gideon Pro in 1993. This was followed by Rebel 6 in 1994 and now Rebel 7 in 1995. In 1995 in celebration of his 10 years of programming Mr. Stirred placed Rebel Decade on the internet, as a freely down loadable and usable program. This program is similar to Rebel 6, but plays only at about a 2200 ELO on a P90.

The chess engine of rebel is written in 32 bit Assembler, tuned for the 486 and Pentium. It is a DOS based program, but will run from either Win95 or Windows 3.1. The interface is written in C++ by Robert Kemper. Rebel 7 is an extremely easy program to use. It starts up quickly on my 486-50DX. The board appearance is attractive and clear. All the features are readily accessible from a drop down menu. While playing, a setting allows a listing of all possible next moves that are contained in the opening book in use. An incredible amount of information about the status of the program is also available. This includes information regarding ply (actual and average), selective search, hash table (percentage utilized) and transpositions, time used for thinking, time at which a line was calculated. The selective search indicates how many variations are available to select, how many of these are kept to evaluate and what percentage of these are being evaluated. This gives an idea of how much time is being saved by performing a selective search. A "teaching" function is also available. At the click of a mouse the program will switch from indicating its evaluation to showing a table indicating what pieces are hanging, what free pawns exist, which pawns are weak, and what pieces are pinned. It will also give an evaluation of your pawn structure, free pawns chances, mobility and your king's safety. These evaluations are saved so that if you scroll backwards in a game you can see the changing evaluations. This is helpful for a quick look at what the program has judged are your weak points and for you to see where this evaluation was first made. Of course the program will also give you a hint. When you desire it also shows

what move it expects and the probable response that it plans.

A variety of time modes are included, on occasion I enjoy the blitz mode, as a warm up to using the chess servers. The only problem is I always lose, but I get a chance to see wonderful examples of tactics. Time handicapped modes are included, as are settings of a variety of times. This is also user selectable by average move time, ply, by total game time, etc. Games are replayable automatically at a choice of 3 speeds. An infinite mode is also present, as is an analysis mode which will allow you to see an analysis as you scroll backwards and forwards in a game. While using the analysis mode you may try different lines, without losing the game. The teaching mode also functions within the analysis mode.

An important feature to all of us internet users is the ability to read PGN files. Game collections and your own personal games can quickly be added to a Rebel database and analyzed or replayed. The analysis gives information regarding what was played in the actual game and what Rebel would have chosen with a point value. When Rebel detects a significant difference between its calculated move and the move actually played, it puts two exclamation marks at its evaluation. Some of my blitz errors played on-line would require 3, but I certainly know that when the exclamation marks are there a gross or even a small error has occurred. The analysis also stores the same teaching information just mentioned regarding hanging pawns, weak pawns, pawn structure, etc. The average player will find this extremely helpful when reviewing games. It is far superior to just having a point value assigned, since it drives home some of the essential tenets of chess play.

Rebel can access Nicbase data directly. Conversion utilities for ChessBase databases are included. Fritz books, Genius books, Chessmachine and Chessmaster books are also easily converted to Rebel Books. It is extremely easy to create a Fritz Book in ChessBase and then quickly convert it to a Rebel book. This is a great way to make use of your database. Rebel also permits you to create your own books also.

Considering that a few years ago the major opening libraries of mainframe chess programs contained about 350,000 moves, opening books of 600,000 moves are incredible. In addition to the comprehensive opening book, Kasparov book, and tournament book (with only the best moves for Rebel), there are an additional 2 sets containing a variety of opening books currently available, crafted by Gerona Noomen. These contain deep opening theory and also are selectable by player and theme. The opening

books available include Gambit Play, English, French, Benoni, Caro-Kann, Grunfeld, Sicilian, Ruy Lopez, Scotch, Petroff, etc. Opening lines can go well out past 20 to 25 moves or more. If you are examining a particular opening you can switch to another opening book which specializes in the opening to shorten your analysis. I find it helpful to switch to the Petroff, French or Ruy books, when analyzing games played in these openings or when I want to practice one of these openings. The feature of showing what moves are present in the opening book is quite helpful for practice. At any point you can switch to closing the opening and playing Rebel against its own evaluation. A quick overview of the opening is available as a menu selection. Updates to these books are expected in the near future. The approximate total moves in Volume 1 series of opening books is 6 million moves. This can be linked together into one very slow opening book or selected to be combined with the small opening book included for a specialty oriented, but not exclusive opening book. This is a fantastic asset to practice or to learn.

Overall I found this an extremely fun program to use. The menu features are easy to access and use. The fact that PGN files and ChessBase (also NicBase) files are easily accessed or converted is a definite plus. This makes it extremely easy to review your games or those in your database. Even with an integrated program within your database, Rebel evaluations still have much to offer. These evaluations, along with the game, can be saved to disk in PGN format and then brought back in to your ChessBase database also. It is extraordinarily strong so at full strength I do not stand a chance of winning, but that is a strength for analysis. This program is an excellent value and a challenge for players of intermediate, expert and master level. A review of pluses includes the unobtrusive copy protection, which allows unlimited installs from the master disk.

Schroder BV now has a web page available at: <http://www.xs4all.nl/~rebchess/>

This page reviews the features of all of their currently available products. Plans of future incorporations are also detailed on their web page and updated monthly. Some of the upcoming features for the successor to Rebel 7 include choice of strength by ELO, viewing games by multiple boards, enhanced facility for creating and changing opening books. Also available are the free Rebel Decade program, demos of Rebel 7 and a variety of other material.

Support, when needed, is excellent. Schroder BV is quite visible on the net.

Ed Schroder is a frequent visitor to rec.games.chess.computer and answers questions there often.

ABOUT THE AUTHOR:

Stephen Pribut maintains the rec.games.chess.misc FAQ. He has done database management programming in Clipper and C and is an avid internet chess player. During the day he is an Assistant Clinical Professor of Surgery at George Washington University Medical Center and has a private practice of Podiatric Medicine specializing in sports injuries.

REBEL 7 on P6 @ 200 MHz

by Ed Schroder

(Author of Rebel 7)

A friend of mine had the possibility to test Rebel7 on a Intel prototype P6 200 MHz. It showed up that this machine was 2.5 - 2.7 times faster than a P5 90Mhz. To me not bad because I expected no difference at all comparing the P5 to the P6 on equal speed (Mhz). - Ed Schroder -





Tech Info

- ♟ 386 IBM or Compatible or faster
- ♟ DOS 5.0 or higher
- ♟ Compatible with Windows 95 and OS/2
- ♟ 640 Kbytes RAM
- ♟ VGA graphics or higher
- ♟ 4 Megabytes of hard drive space
- ♟ 3 1/2" floppy drive (required for installation)
- ♟ Microsoft compatible mouse recommended
- ♟ 20 Installations

Features

- ♟ Over 400,000 opening book moves
- ♟ Select from Tournament, Standard or Variety Openings
- ♟ Finds all transpositions
- ♟ Shows book moves for both sides
- ♟ Names the Openings and ECO codes
- ♟ Self-improving opening book
- ♟ Unlimited user programmable opening books
- ♟ Moves found in previous game can be played immediately
- ♟ User books can be printed
- ♟ Pulldown menus
- ♟ Draws / Resigns
- ♟ Hints
- ♟ Animated VGA graphics with dialog boxes
- ♟ Two player mode
- ♟ Choice of board/pieces colors
- ♟ Force move
- ♟ Goto move
- ♟ Screen may show: your name, choice of notation, search progress, positions, evaluations, coordinates, chess clocks, move time, decision time, current and previous analysis
- ♟ Choice of English, Spanish, Italian, French, German, Dutch, and Swedish
- ♟ Unlimited levels - time controls, mate-solving, sudden death, etc.

- ♟ Bonus time clock
- ♟ Full-replay and auto-play
- ♟ Save/retrieve games
- ♟ Auto-analyze
- ♟ Trace forward
- ♟ Play Black or White
- ♟ Log analysis and log time usage
- ♟ Find next best move
- ♟ Position evaluation
- ♟ Take back full game
- ♟ Rates player
- ♟ Prints diagrams and games, set margins, ending move and notation, print to file
- ♟ Database with read/write support for Game Archives in Portable Game Notation (PGN)
- ♟ Menu bar with pulldowns and dialog boxes
- ♟ Easy to use database
- ♟ Instant access to games from bulletin boards and on-line services
- ♟ Continual analysis mode
- ♟ Game Archives (.PGN-files) plus Position Archives in Extended Position Description (.EPD-files)
- ♟ Hash tables to 10 Mbytes in Extended Memory with standard or linear access (to harness the full power of your computer).
- ♟ Three different selectable Styles of Play
- ♟ Intuitive Position Set-Up Mode
- ♟ Learning Mode allows program to learn from its experience
- ♟ Built-in Interface for external Auto-Sensory ChessBoard (Chess 232)
- ♟ Analyze EPD files (for BookUp)
- ♟ Analyze multiple games automatically (in PGN files)
- ♟ Choice of notation
- ♟ Select random or easy play
- ♟ Compatible with BookUp and Chess Assistant
- ♟ PGN interface to ChessBase/NIC base

Features in MChess Pro 5 not found in MChess Pro 4

Self-Improving opening book; Ability to learn from its mistakes; Now with 400,000 opening moves; Operates with EPD files (BookUp); Operates with PGN files (internet); Can analyze multiple games without supervision; Compatible with DOS, OS/2, Windows, and Windows 95; Can classify games by opening name and ECO code; Moves found in previous game may be played immediately; Keep track of you performance

rating and win/loss record; Drop-Down menus; Dialogue boxes for creating archives, storing, and retrieving games.



Tech Info:

- ♁ 386 or faster
- ♁ VGA graphics or higher
- ♁ 4 Meg RAM / 8 recommended
- ♁ Windows 3.1 or higher
- ♁ Compatible with Windows 95
- ♁ 3 1/2" floppy drive and hard drive
- ♁ Has unlimited installs (must reinsert disk approx. once a month)
- ♁ Can read all Genius 3.0 game files and user book files

Features:

- ♁ Plays white from bottom or top
- ♁ Position set-up
- ♁ Gives hints
- ♁ Autoplay
- ♁ Restores previously saved game
- ♁ User book edit
- ♁ Four different piece sets
- ♁ Logs analysis to game/file/printer
- ♁ Next best
- ♁ Takes back all moves and traces forward
- ♁ Go to specific move in game
- ♁ Infinite level
- ♁ Draws / Resigns
- ♁ Easy levels
- ♁ Mate in... levels
- ♁ Bonus Time Clock
- ♁ Fixed depth levels
- ♁ User programmable levels
- ♁ Position set up
- ♁ Randomizer
- ♁ Random opening book choice
- ♁ Thinks on opponent's time on/off
- ♁ Hash tables on/off
- ♁ Pawn structure on/off
- ♁ Time adjust request
- ♁ Main book on/off
- ♁ User book on/off
- ♁ Multiple resizable windows

- ♁ On-line help
- ♁ Autoload book - will load different opening books depending upon the opening that has been played
- ♁ Compatible with TASC SmartBoard and Kasparov Autoboard
- ♁ Choose from among 6 opening book styles: normal, human, gambit, classic, modern, blitz
- ♁ Three selectable playing styles
- ♁ Programmable selective search depth
- ♁ Adjustable piece value
- ♁ Can analyze Chessbase data
- ♁ Can handle EPD and PGN files
- ♁ Displays opening names
- ♁ Adjustable contempt factor
- ♁ White and black clocks adjustable separately
- ♁ Analyses entire game placed in memory
- ♁ Automatic restart of computer vs. computer
- ♁ Will process an EPD file and will add evaluations and analysis line to each position in the EPD file
- ♁ Saves in ChessBase format - including game data, short comments, and text comments
- ♁ Search for game data in ChessBase databases
- ♁ Database transfer - copies/converts PGN/ChessBase databases with optional search mask
- ♁ Search information on/off
- ♁ Force move
- ♁ Lists all book moves that can be played from current position (on/off)
- ♁ Names openings
- ♁ Colors freely adjustable
- ♁ Chess piece high speed slide (for blitz chess) (on/off)
- ♁ Display moves in long or short notation
- ♁ Display piece types or text characters
- ♁ Dialog box with a file selection box is used to request
- ♁ Displays previous search info ('historic analysis')

- ♟ Prevents hash tables from swapping to hard disk
- ♟ Position evaluation
- ♟ Prints moves and current position in text form
- ♟ Prints moves and analysis
- ♟ Print chess diagrams
- ♟ Fischer style clock
- ♟ Database menus allows games from databases to be loaded into Genius

- ♟ Extended hash tables - up to 32 MB
- ♟ Three language selectable (English/German/French)
- ♟ Options: GrandmasterBooks (6,000,000 positions, 25,000,000 Transpositions, with display of ECO codes) Available on 3.5 inch disks or CD ROM.

FEATURES OF GENIUS 4 NOT FOUND IN GENIUS 3

Windows compatibility; Improvements in king attack combinations and perpetual checks; Copy protection allows unlimited installs; Writes ChessBase database format; Saves game with data ,short comments, text comments; Database search; Analyses databases; PGN support; Multiple windows (resizable/moveable); Four different piece sets; Logs analysis to games; Historic analysis; Prints chess diagrams; No Chess 232 support.



Tech Info:

- ♟ 386 IBM processor or higher
- ♟ VGA graphics or higher
- ♟ 2 MB RAM
- ♟ Hard drive with at least 1.5MB free disk space
- ♟ 3.5inch floppy drive
- ♟ DOS 5 or higher
- ♟ Compatible with Windows 95
- ♟ Unlimited installations

Features:

- ♟ Choose 3 book openings libraries: Rebel - 550,000 moves, Small - 100,000 moves, Kasparov - 100,000 moves(taken from more than a thousand of Kasparov's games)
- ♟ Program knows about 300 openings by name
- ♟ Chess playing program and Database in one
- ♟ Time-program will play on the selected average time Chess engine in fast 32 bit machine language code
- ♟ Pull-down menus
- ♟ Draw / Resign
- ♟ Take back full game
- ♟ Force move
- ♟ Graphic display of material (can see if you are a pawn up or a bishop down)

- ♟ Automatically sets max. hashtable
- ♟ Change the chess engine
- ♟ Program thinks on opponents time
- ♟ Optional brute force algorithm
- ♟ Optional combination mode. allowing quicker solution to tactical positions
- ♟ Choice of five different playing styles ranging from defensive to aggressive
- ♟ 3 levels of playing strength including novice
- ♟ Hashtables- maximum of 64 mb
- ♟ Database: create new databases; load, save, and delete games; reorganize database; search on name, any text, date, score position, moves, ECO names, 6 different overviews available; convert games from Gideon; convert databases from Nicbase and Chessbase, PGN support
- ♟ Automatic analysis of entire database
- ♟ Change screen settings
- ♟ Change names
- ♟ Show material
- ♟ Show hint
- ♟ 3 speeds of game replay
- ♟ Teacher-program judges current position
- ♟ Show variation
- ♟ Turn board
- ♟ Trace forward
- ♟ Next best

- ♟ Bonus time clock
- ♟ Change colors
- ♟ Change pieces sets (3 different sets available)
- ♟ The program can be operated in English, German, and Dutch languages
- ♟ Set up positions
- ♟ Player-player mode
- ♟ Automatic play-the program will play against itself
- ♟ Analyze game or an entire (position based) database
- ♟ Goto move number-jump to any move you wish in the game
- ♟ Search for move-allows you to go to a move you still remember
- ♟ Go to end of game-Go to last move played in a game
- ♟ Replay game at one of 3 different speeds, allowing user interruption
- ♟ Write move comments
- ♟ Game to text file-Write the current game to an ASCII file
- ♟ Moves to printer-if activated, every move played in a game is output to a printer
- ♟ Run test matches 2 to 3 times faster
- ♟ Teacher function will provide information on the following subjects: hanging pieces, passed pawns, weak pawns, pinned pieces, pawn structure, your mobility, your king safety
- ♟ Options: Book 1 (5.5 Million), Book 2 (7 Million), Database (30,000 Games)
- ♟ Supports the following wooden chess boards: Mephisto chessboard; Saitek PC Autoboard; Chess 232; TASC smartboard.

Features found in Rebel 7 not found Rebel 6

Stronger and faster; Built in 550,000 Opening Moves; Programmable opening book; Five different playing styles; Unlimited installs; Optimized for use on 486 and Pentium; Imports/Exports PGN files; Internet compatible; 64 MB of hash tables; Successfully tested with Windows 95; "War Room" allows and even deeper look into Rebel 7's chess brain; Built in 1000 game database: load, save, delete games; Reorganize, search by name, text, moves, or position.



Tech Info

- ♟ 386 IBM or Compatible or faster
- ♟ VGA or better video adapter
- ♟ 3 1/2" Floppy drive
- ♟ DOS 3.1 or higher
- ♟ Compatible with Windows 95
- ♟ 640K RAM
- ♟ Unlimited installs
- ♟ Can use Microsoft or compatible mouse or keyboard stroke

Features

- ♟ Preset levels from Blitz to Tournament
- ♟ Infinite user settable time controls
- ♟ Draw / Resign
- ♟ User settable incremental clock (as used in Fischer/Spassky match 1992)

- ♟ Set all options to optimal setting for stronger play via one menu option
- ♟ Opening classification by ECO
- ♟ Numerous game scan options to go instantly to chosen position
- ♟ Force move
- ♟ Trace forward or backward
- ♟ Save and restore games in Hiarcs format
- ♟ EPD and PGN database support
- ♟ Import/Export/Process/Delete EPD/FEN files
- ♟ Import/Export/Delete games in Portable Game Notation (PGN)
- ♟ Three different opening books
- ♟ Analyze game, detailing best lines, evaluations always play the best move or choose randomly between moves of equal value
- ♟ Hints

- ♟ Find key point and show possible improvements
- ♟ User editable opening books
- ♟ Names openings
- ♟ Position set-up and editing
- ♟ Rates your chess ability in ELO points
- ♟ Special strength enhancement or reduction options
- ♟ Add and delete annotations
- ♟ Up to 3 variations displayed in 2-player mode
- ♟ Print Analysis
- ♟ User selectable search techniques: Selective, Very Selective, or Brute Force
- ♟ User selectable play style: Solid, Aggressive, Normal
- ♟ Play as Black or White
- ♟ User extended memory for transposition tables
- ♟ Change color
- ♟ Take back full game
- ♟ Two player monitor with analysis, and next best move
- ♟ Choice of English/German/Spanish and French
- ♟ Transfer positions between Chess Assistant and HiarcS
- ♟ Autoplay

- ♟ Change 50 move rule (if chess rules change)
- ♟ Print move options
- ♟ Compatibility with Chess 232 and the TASC Smartboard
- ♟ Large endgame knowledge including but not limited to mate with bishop and knight
- ♟ exact king and pawn knowledge
- ♟ precisely who promotes pawn first
- ♟ king and queen vs. king and pawn on 7th rank
- ♟ active rook play in rook and pawn endgames
- ♟ wrong color square bishop and rook pawn endings
- ♟ opposite color bishop endings
- ♟ specialized endgame liquidation knowledge
- ♟ Compatibility with BookUp

Macintosh version available. Has all features listed *except* Book Edit features, Annotation Options, 3 Variation Display, Print Options, Color Customization, TASC Compatibility.

Features found in HIARCS 4 not found in HIARCS 3

Up to 3 simultaneously displayed variations in 2 player mode; Textual annotations; TASC SmartBoard compatibility; More dynamic middle game and better knowledge of endgame; Larger (twice as big) opening book with much greater variety; VGA graphics; Improved graphical chess pieces; EPD database support; Delete EPD database entry; improved color customization option.



Tech Info:

- ♟ IBM or Compatible 386 or higher
- ♟ VGA graphics or higher
- ♟ Hard Drive
- ♟ CD ROM Drive
- ♟ 4meg RAM
- ♟ Windows 3.1 or higher
- ♟ Compatible with Windows 95
- ♟ Unlimited installations (CD ROM needed every 6 days)

Features

- ♟ Mouse or keyboard entry
- ♟ Takeback move
- ♟ Replay moves
- ♟ Dropdown menus
- ♟ Force moves
- ♟ Play with black
- ♟ Hints
- ♟ Automatic replay
- ♟ Goto specific move
- ♟ Digital clocks

♟ Normal levels	♟ Enter variations
♟ Infinite level	♟ Replaying variations
♟ Tournament levels	♟ Delete lines
♟ User defined playing levels	♟ Analyze games
♟ Rates Play	♟ Add notations
♟ New book	♟ Print games
♟ Setup positions	♟ Print positions
♟ Info boards, shows: main variation, current move, every legal move considered	♟ Print board
♟ Save settings	♟ Select language
♟ View evaluation of current move	♟ 2D or 3D board
♟ View search depth	♟ Change colors
♟ View moves left in current moves	♟ Message delay
♟ View opening books	♟ Change character height
♟ View main line	♟ Sound on/off
♟ Autoplay	♟ Show/hide coordinates
♟ Computer vs. computer	♟ Compatible with ChessBase
♟ List games in database	♟ Threatened pieces
♟ Load game from list	♟ Postgame analysis
♟ Search for game in list	♟ ECO codes
♟ Search for substrings	♟ Hypertext
♟ Create your own databases	♟ Load next/previous games
♟ Save games	♟ Blitz Clock (allows for separate parameters)
♟ Replace games	♟ Tournament Mode (rates your play in ELO points)
♟ Delete games	♟ Automatic Analysis
♟ Transfer games	♟ Analyze Next Best Move
♟ List openings and their contents	♟ Book Options (Tournament, General, Gambit)
♟ Overview all openings	♟ Show Opening Book
♟ View number of games each opening was played in	♟ Contempt Value
♟ Remembers last opening	♟ Variable Selectivity
♟ Identifies opening	♟ Mate in X
♟ Create new index	♟ Create Your Own Piece Square Tables
♟ Annotate games	♟ A Learning Function

Features in Fritz 4 not found in Fritz 3

English - Language annotations; 50 points stronger than Fritz 3; Full Windows interface; New "coach" facility; Full on-line analysis while you play or study; Graphic onscreen "evaluation profile" to graph game progress; Automatic annotation one or more games; Multiple playing engines - compatible with Fritz 1.2, Fritz 3, Doctor 2.0, and HIARCS (the last two are available as add-ons); 3D virtual chess board option; Direct PGN format compatibility; ChessBase for Windows printing facilities; Rated play; Music and sound effects w/sound card.

C H E S S M A S T E R

4 0 0 0

F O R

W I N

9 5

Tech Info:

- ♟ 486 IBM processor or higher
- ♟ SVGA graphics or higher (256 colors or higher)
- ♟ 8 MB RAM
- ♟ Windows 95
- ♟ CD ROM
- ♟ Not copy protected

Features:

- ♟ Load/Save game
- ♟ Import/Export ASCII move list or board position
- ♟ Import/Export Forsythe board position
- ♟ Print move list
- ♟ Print position
- ♟ Print certificate
- ♟ Create/Schedule tournaments
- ♟ Newcomer levels
- ♟ Natural language advise
- ♟ Rates player
- ♟ Opening mentor
- ♟ Chess tutor
- ♟ Teaching mode
- ♟ Views :2D, 3D, War Room, Custom
- ♟ Custom 3D view depth, size, tilt
- ♟ Piece sets: staunton, fantasy, mechanic, (14 total)
- ♟ Boards: standard, marble, wooden (7 total)
- ♟ User created board and pieces
- ♟ Pieces slide on/off
- ♟ Mouse drag and drop piece movement
- ♟ Illegal move commentary
- ♟ 500 annotated classic games
- ♟ 33 interactive chess problems (solitaire chess)
- ♟ Choose personality playing styles: 20 famous (Kasparov, Karpov, Fischer, etc.)
- ♟ Opening book practice
- ♟ Announce opening book variation names

Natural language advice

- ♟ Auto-annotator
- ♟ Think on opponent's time on/off
- ♟ Game information: player names, game title, event, location, date, result
- ♟ Chess clocks saved with moves
- ♟ Windows: game status, annotations, computer thinking, think lines, positions seen, current score, move history, captured pieces, chat, all legal moves
- ♟ Sample sounds
- ♟ Music
- ♟ Notation in: Coordinate, Algebraic, Long Algebraic, Descriptive or International
- ♟ Show legal moves
- ♟ Chat mode
- ♟ Varying window layouts
- ♟ Choose personality playing styles
- ♟ Modify playing styles (Attack vs. Defend, strength, randomness, positional, many variables)
- ♟ Position setup
- ♟ Takeback
- ♟ Force move
- ♟ Switch sides
- ♟ Adjourn game
- ♟ Practice openings
- ♟ Blindfold chess
- ♟ Human vs Human
- ♟ Coach Mode
- ♟ Connect via Serial modem or network
- ♟ Replay
- ♟ Auto Annotate
- ♟ Analyze move list
- ♟ Can show threatened pieces
- ♟ Varying clock styles
- ♟ Display captured pieces
- ♟ Transpositions
- ♟ Hints

C H E S S I C A

Tech Info:

- ♟ 386 IBM processor or higher
- ♟ VGA graphics or higher
- ♟ 4 MB RAM
- ♟ Windows 3.1 or higher
- ♟ Unlimited installations
- ♟ Microsoft Mouse

Features:

- ♟ Autoplay
- ♟ Player-player mode
- ♟ Save games
- ♟ Force move
 - ♟ Group games as "collections"
- ♟ Duplicate saved games
- ♟ Print game
- ♟ Export game as ASCII or ANSI
- ♟ View available opening moves
- ♟ Take back
- ♟ Fischer style clock
- ♟ Bronstein style clock
- ♟ Position set up

- ♟ View variations
- ♟ Digital or analog clock display
- ♟ Position evaluation
- ♟ Learn mode
- ♟ Beginner mode
- ♟ Specify Hash table size
- ♟ Brute force option
- ♟ Serious mode
- ♟ Change board size
- ♟ Custom levels
- ♟ Predefined window layouts, or create your own
- ♟ Preview windows to view variations in analysis
- ♟ Standard or Tournament book (or none)
- ♟ Play multiple games at once
- ♟ Automatic connection to TASC
- Smartboard
 - ♟ Player info
 - ♟ Switch sides
 - ♟ Goto move by pointing on move list
 - ♟ Database included

V I R T U A L

C H E S S

Tech Info:

- ♟ 80386 processor or higher
- ♟ VGA card and monitor
- ♟ 2 MB RAM
- ♟ DOS 5, Windows 3.1 or Windows '95
- ♟ CD-ROM required

Features:

- ♟ Range in board size
- ♟ 2D or 3D viewing
- ♟ Library of 46,000 games
- ♟ 740 Fischer game library
- ♟ Save/restore Games
- ♟ Analyze saved games
- ♟ Choose Normal / Tournament / Knockout / No opening book
- ♟ Zoom in/out and change angle
- ♟ 4 rendered chess sets
- ♟ IPX Network support

- ♟ Modify thinking parameters
- ♟ Trace Forward
- ♟ Take back
- ♟ Position set up
- ♟ Optional sounds
- ♟ Hints
- ♟ Replay game
- ♟ Print game
- ♟ Use Autoboard
- ♟ Change sides
- ♟ Next Best
- ♟ Infinite settable levels
- ♟ Change colors
- ♟ Hash tables
- ♟ Offer draw
- ♟ Supports 1024x768(256c) graphics
- ♟ Show thinking
- ♟ Show captured pieces
- ♟ Digital or Analog clock

PC RATINGS

by Nick Schoonmaker

Ratings provided here are primarily taken from the latest Ply rating list (2/96) and modified for USCF equivalence. In cases where no Ply rating is available for a particular program but where a British CCNS (Computer Chess News Sheet) rating is available, the modified CCNS rating is given. However, for cases where Ply ratings are available, CCNS ratings are not used because they lump results from all types of 486 processors into the same category, without calculations for the necessary adjustments. Because of this, where the CCNS ratings are provided, no adjustment was made for equivalent 90 MHz Pentium performance. Instead, the ratings reflect 486 performance, but at unspecified processor speed.

PC programs are now rated on Pentium 90 MHz computers, in contrast to previous issues of CCR in which they were rated on 486 66 MHz DX2 or 50 MHz DX computers. For cases in which the Ply results are based on processors slower than a 90 MHz Pentium, the PC speed adjustment chart included elsewhere in this issue of CCR has been used to determine equivalent performance. However, it was decided to not include ratings based on testing with 386 computers. It was felt that the extrapolation from 386 performance to 90 MHz Pentium performance was too large to have much validity, even though an estimate can be made with the PC speed adjustment chart. Also, if the Ply rating is based on more than one processor type (e.g., 486 33 MHz and 486 25 MHz), then the average of the two PC speed adjustments was used; although, this assumes that an equal number of games was played with each type of processor, which is not necessarily true.

In addition to pure software products, the various Chess Machines are also included in the following PC software rating lists. Although each Chess Machine has dedicated hardware (a card that goes into an empty slot in a PC), they are not dedicated models. They are appropriately grouped with PC programs because they require a PC for operation. However, since each Chess Machine has its own processor, its strength is the same regardless of which type of computer in which it is installed.

The Ply Blitz rating list included here is the same one that was published in the last issue of CCR. These ratings have not been updated recently. Because of the age of this list, the ratings are for 486 66 MHz DX2 or 50 MHz DX

computers. They are not adjusted for Pentium 90 MHz performance, as the standard rating list is.

Ply ratings other than those for blitz chess are boosted by 180 points and CCNS ratings are boosted 100 points for USCF equivalence. Ply blitz ratings are boosted only 30 points for USCF equivalence.

PC SPEED ADJUSTMENT CHART

by Larry Kaufman

For computers other than 486/66 or DX 50, as shown on software ratings chart, I recommend making the following adjustments:

Processor Adjustment

Pentium 200 Mhz	add 135
Pentium 166 Mhz	add 120
Pentium 150 Mhz	add 110
Pentium 133 Mhz	add 100
Pentium 120 Mhz	add 90
Pentium 100 Mhz	add 75
Pentium 90 Mhz	add 65
Pentium 66 Mhz	add 50
Pentium 60Mhz	add 40
486 dx4 100 Mhz	add 20
486/66 or dx 50-----	Baseline
486 dx2 50 Mhz	subtract 25
486 dx or sx 33 Mhz	subtract 35
486 dx or sx 25 Mhz	subtract 60
486 sx 20 Mhz	subtract 80
386 dx 40 Mhz	subtract 80
386 dx 33 Mhz	subtract 95
386 dx 25 Mhz	subtract 120
386 sx 25 Mhz	subtract 140
386 sx 20 Mhz	subtract 160
386 sx 16 Mhz	subtract 180
286 fast 16 Mhz	subtract 180
286 fast 12 Mhz	subtract 205
8088 10 Mhz	subtract 320
8088 8 Mhz	subtract 340
8088 4.77 Mhz	subtract 385

Two following lists are provided: 1) PC software programs (standard time controls) and 2) Ply blitz ratings.

RATINGS FOR PC SOFTWARE PROGRAMS

TOURNAMENT TIME CONTROLS - 40/2

<i><u>Program</u></i>	<i><u>Ply Rating</u></i>
M-Chess Pro 5.0	2622
Mephisto Genius 3.0	2613
Chess Genius 4.0 for Windows	2603
REBEL 7.0	2600
REBEL 6.0	2597
Mephisto Genius 2.0	2585
HIARCS 3.0	2577
HIARCS 4.0	2559
M-Chess Pro 4.0	2557
Fritz 3	2547
Chessmaster 4000	2539
Chess Genius 1.0	2536
M-Chess Pro 3.5	2521
Mephisto Gideon Pro	2519
M-Chess Pro 3.12	2512
WChess 1.06	2499
Chess Machine 30-32 MHz Schroder 3.1	2485
Chess Machine 30 MHz King 2.0 aggr/R30 off	2479
HIARCS Master 2.0	2484
M-Chess 1.1-1.71	2474
Kallisto 1.82-1.83	2469
Socrates 3	2424
Fritz 2	2416
Chess Machine Schroder 512K ARM2 16 MHz	2375
HIARCS Master 1.0	2352
Zarkov 3.0	2323
Fritz 1	2322
Chess Machine The King 512K ARM2 16 MHz	2316
Nimzo 2.2.1	2315
Complete Chess System	2265
Note: The following are CCNS ratings based on unspecified 486 processor speed.	
HIARCS Master 2.1	2425
Zarkov 2	2298
Sargon 5	2275
Psion 2	2271
Rexchess 2.3	2256
Kasparov's Gambit	2214
Chessmaster 3000 (for DOS)	2203
Chess Champion 2175	2170
Chess Friend/Pandix	2168

PLY BLITZ RATINGS FOR PC SOFTWARE

(486 50 MHz DX OR 66 MHz DX2)

<u>Computer</u>	<u>Ply Blitz Rating</u>
Mephisto Genius 3.0	2605
Mephisto Genius 2.0	2593
Chess Genius 1.0	2567
Fritz 3	2527
Chess Machine 30 MHz King 2.0	2512
HIARCS 3.0	2505
WChess	2498
REBEL 6.0	2465
M-Chess Pro 3.1-3.12	2460
Fritz 2	2457
M-Chess Pro 4.0	2435
M-Chess Pro 3.5	2422
Chessmaster 4000	2414
M-Chess 1.52-1.71	2407
Chess Machine The King 512K 16 MHz	2341
Chess Machine Schroder 512K 16 MHz	2339
Psion	2337
Kallisto 1.82-1.83	2327
HIARCS 1.0	2326
Zarkov 2.5	2326
Fritz 1	2304

PROBLEM TEST

RESULTS

by Larry Kaufman

The following new programs have been run through the CCR "One Hour" test on my (LCK) Pentium 90 MHz machine, with these results: Rebel 7 scored best with 73 points (=2610), then Genius 4 with 70 points (=2580), and then MChessPro 5 and Hiarcs 4 with 66 points each (=2540). These numbers represent a step forward for Rebel, a step back for Genius, and no real change for MChess Pro from the previous versions. Fritz4, running on my Pentium 66 MHz, scored 62 points (=2500); probably the score would have been 63 or 64 on the Pentium 90.

Using a Pentium 100 MHz machine, Nick reports that Rebel 7 advanced five points over Rebel 6 (from 69 to 74), implying a fifty point gain, just what author Ed Schroder claims. MChess Pro 5 gained 2 points over MChess Pro 4 (from 62 to 64), implying a twenty point gain,

much less than the gain in the Swedish ratings. Genius 4 dropped back five points from Genius 3 (from 77 to 72) which would imply a fifty point drop. At this writing Genius 4 is just five rating points behind Genius three on the Swedish list. If in fact Genius 4 is slightly weaker than Genius 3, the explanation is that Genius 4 was written for Windows rather than DOS, which usually entails a mild slowdown. Finally, a new version of Grandmaster Chess scored a disappointing 45 points (=2330), which would suggest that it is not in the same class with the top programs.

Nick further reports that on his old 386/33 Genius dropped from 66 to 64, MChess Pro rose from 47 to 48, and Rebel climbed from 51 to 57. The average gap between his Pentium 100 scores and his 386/33 scores was 14.2 points, equal to 142 rating points. Using the double speed = 60 rule of thumb, these numbers would imply that his Pentium 100 is about five times faster than the 386/33 on the average chess program. That sounds about right to me.

Computer Chess Reports

Is Brought To You By:

Senior Editors

IM Larry Kaufman and NM Nick
Schoonmaker

Staff Editors

Ricardo Alcos, Mark Schneider,
Francesca "Chess" Levy, Steven
Schwartz, Robert Sostack, Paul
DeStefano, Roger LaFlair

Contributing Editors

Robert Hyatt, Kevin Begley, Timothy
Hanke, Ron Moskovitz, Walter Ravenek,
Don Getkey, Sam Sloan, Peter W.
Gillgasch, Steven Rix, Steven Edwards,
Ed Trice, Brian Sheppard, Tim Kadom,
Matthew Householder, Eric Hallsworth,
Chris Whittington, Bruce C. Wright, Ed
Schroder, Steve Pribut, Geoff Wyatt,
Michael Byrne, Bruce Moreland,
Alexander Fuchs, William Wright, Mark
Rawlings, Richard Lang, Tim Mirabile,
Paul Hodges, Birger Boyens, Goren
Grottling, Andreas Toenne, Al Cargill,
Alastair Scott, Randy Schmidt, Mark
Unjacke, Patrick Leung, Benjamin Tilly,
Simon Read, Carlos Tillotson, Richard
Fowell, Mike Leahy, Dr. Ingo Althoefer,
Paul Hsieh, Brian Sheppard, Prakash Das,
Aaron Dingus, Scott Schneider, Jim
Glanville, David Battle, Truman Collins,
Tom Masters, Peter Noehrenberg, Joel
Rivat, Jouni Uski, Ralph Dubish, Don
Maddox, Sharon Barker, Marc Derksen

Product Coordinators

Phil Klett, Joseph Aiello

Design Team Leaders

Paul DeStefano, Mark Schneider

Subscriptions

Geri Elman

Printing

George Dunlap, Inc.

Coordinating Supervisor

Peter Carlucci

Publisher

Computer Chess Digest Incorporated

All Material © Copyrighted 1996
Chess Computer Digest Inc.

We welcome letters, comments,
criticisms, ideas, articles, tournament
results. Send all mail to: CCR Bits &
Pieces, 21 Walt Whitman Road,
Huntington Station, NY 11746 USA or
contact us by e-mail

LGTY92A@Prodigy.com We can be
faxed at 516-424-3405.

No text or graphics within this
publication may be reproduced in any
fashion without the written consent of
Computer Chess Digest Inc. This applies
to all duplication including excerpts used
in reviews. Computer Chess Reports and
its parent company, Computer Chess
Digest Inc., are in no way connected
with Chess Digest Inc., Chess Life, The
United States Chess Federation or any of
the companies/individuals producing
product reviewed within this publication

ROUTINES PRIOR TO MAIN SEARCH

by Bruce C. Wright

One thing that we used to do with our chess program, Duchess, was to have a special routine that ran before the main search that identified strong and weak points in each side's respective position -- weak squares, passed Pawns, weak King protection, etc, and tried to grow trees of moves to protect our own weak squares or attack the opponent's weak squares. These would be just sequences of moves by our own or our opponent's pieces and Pawns to reach the targeted squares. A table was built for the value of reaching each of these goals for each type of piece and for reaching the middle points along the paths (the values diminishing the further they were from the goal). Then during the search the program would get bonus points for reaching some of the intermediate points in the plan.

This seemed most useful in the end-game when actually reaching the culmination of a plan might be beyond the search depth, and where tactics did not dominate as much as they do in the middle game; for example, Duchess was quite capable of finding long King maneuvers that might take the King far away from simpleminded heuristics such as "centralize the King in the endgame" and that were much too deep to be found by a direct search. It wasn't perfect; it could not take into account the changes in strategy that might be dictated by a radically different structure encountered deep in the search, but it seemed to be better than nothing.

ABOUT THE AUTHOR:

Bruce graduated with a BS in Zoology and Computer Science from Duke University in 1975, and did additional graduate work in computer science. He currently works as a computer programmer, and he was a co-author of Duchess, which competed in the ACM tournaments from 1974 through about 1979, usually placing in the top half and sometimes coming in as high as about 2nd or 3rd (we never actually won). It was written by Tom Truscott, Eric Jensen, and myself, all of whom were associated with Duke at the time (either as students or as employees of the University). He has also written several other independent chess programs but they were never intended to compete in the ACM tournament. For one thing, he says, they did not run on fast enough machines to be competitive. As a chessplayer his rating varied between high class A and low Expert, though he has not played much for a number of years.

INTERNET CHESS CLUB COMPUTER RATINGS

by Larry Kaufman

Many computers regularly play ICC rated chess over the Internet now, and the strong ones regularly obtain Blitz (3' to 14') ratings in the Grandmaster range. Here is a summary of the blitz ratings of various programs running on Pentium computers at 90 - 133 MHz. Most of these are based on large numbers of games, but bear in mind that the ratings depend on various random factors such as the skill of the operator and the speed of the connection. When a program runs under multiple names, I average them. Genius (3 & 4) leads with 2664, then comes Ferret (the 1995 World Amateur Computer Champion) at 2618, followed by Fritz 3 at 2617, Rebel 7 at 2616, Crafty (a version of Cray Blitz program) at 2611, WChess at 2601, Zarkov at 2567, ChessMaster 4000 at 2512, and Hiarc3 at 2437. Remember that blitz ratings for computers generally run about two hundred points above ratings at 40/2 hours, if they are allowed operator time. When that is not the case, as here, the figure to add may be only 100-150 points. On the other hand, ICC blitz ratings tend to be stricter than USCF ratings, perhaps more in line with FIDE ratings. Considering all this, I would guess that subtracting fifty points from the above ratings might give a reasonable USCF rating equivalence.

BOOK OPENINGS TEST

by Larry Kaufman

There are many ways to evaluate chess programs. They can be played against each other, played against human opponents, or tested on problem sets. In this article I will introduce yet another way to evaluate chess programs. The basic idea is to compare the program's choice of move to the choices made by masters over the years.

Here is my procedure: I first selected eight of the most popular openings from master play. Then, using a large database of master games, I followed each opening down the path seen most frequently at each move in the database. The line was terminated when the sample of remaining games dropped below one hundred. Next, each

move in each line which was played at least 75% of the time but was not an obviously forced recapture was presumed to be the best move at that point and was marked as a problem. This produced a set of exactly one hundred problems from opening play in which there exists a best move in the opinion of at least 75% of masters reaching those exact positions in their own games.

The method for testing a program is simple. First, turn off its opening book and put it on analyze mode, or else on infinite level and monitor mode, which is pretty much the same thing. Then, play through the opening line until a problem position is reached, let the program think two minutes and record whether or not the correct move is played, enter the correct move and continue to enter moves until the next problem in the line is encountered, and repeat the procedure. When each opening line is completed, reset for new game and go to the next opening line. The score is simply the number of correct moves out of the one hundred total.

The eight openings I selected were the Ruy Lopez, the Sicilian with 2 Nf3 d6, the Winawer French, the Caro-Kann with 3 Nc3, the Slav defense to the Queen's Gambit, the Nimzoindian defense, the King's Indian defense, and the Gruenfeld defense.

The lines tested were as follows (moves underlined are positions to be tested by the program)

In the Ruy Lopez: 1.e4 e5 2.Nf3 Nc6 3. Bb5 a6 4.Ba4 Nf6 5.O-O Be7 6.Re1 b5 7.Bb3 O-O 8.c3 d6 9.h3 Na5 10.Bc2 c5 11.d4 Qc7 12.Nbd2 cd 13.cd Nc6 14.Nb3 a5 15.Be3 a4 16.Nbd2.

In the Sicilian: 1.e4 c5 2. Nf3 d6 3.d4 cd 4.Nd4 Nf6 5.Nc3 a6 6.Bg5 e6 7.f4 Be7 8.Qf3 Qc7 9.O-O-O Nbd7 10.g4 b5 11.Bf6 Nf6 12.g5 Nd7 13.f5 Nc5 14.f6.

In the Caro Kann: 1.e4 c6 2.d4 d5 3.Nc3 de4 4.Ne4 Bf5 5.Ng3 Bg6 6.h4 h6 7.Nf3 Nd7 8.h5 Bh7 9.Bd3 Bxd3 10.Qxd3 Qc7 11.Bd2 e6 12.O-O Ngf6 13.Ne4 O-O-O 14.g3 Ne4.

In the French: 1.e4 e6 2.d4 d5 3.Nc3 Bb4 4.e5 c5 5.a3 Bc3 6.bc3 Ne7 7.Qg4 Qc7 8.Qg7 Rg8 9.Qh7 cd 10.Ne2 Nbc6 11.f4 Bd7 12.Qd3 dc 13.Nc3 a6.

In the Slav: 1.d4 d5 2.c4 c6 3.Nf3 Nf6 4.Nc3 dc4 5.a4 Bf5 6.e3 e6 7.Bc4 Bb4 8.O-O Nbd7 9.Qe2 O-O 10.e4 Bg6 Bd3.

In the King's Indian: 1.d4 Nf6 2.c4 g6 3.Nc3 Bg7 4.e4 d6 5.Nf3 O-O 6.Be2 e5 7.O-O Nc6 8.d5 Ne7 9.Ne1 Nd7 10.Nd3 f5 11.Bd2 Nf6 12.f3 f4 13.c5 g5 14.Rc1.

In the Nimzo-Indian: 1.d4 Nf6 2.c4 e6 3.Nc3 Bb4 4.Qc2 O-O 5.a3 Bc3 6.Qc3 b6 7.Bg5 Bb7 8.f3 h6 9.Bh4 d5 10.e3 Nbd7.

In the Grunfeld: 1.d4 Nf6 2.c4 g6 3.Nc3 d5 4.cd Nd5 5.e4 Nc3 6.bc3 Bg7 7.Bc4 c5 8.Ne2 Nc6 9.Be3 O-O 10.O-O Bg4 11.f3 Na5 12.Bd3 cd 13.cd Be6 14.Rc1 Ba2 15.Qa4 Be6.

I have tested four programs so far, all running on my Pentium 90 MHz machine, with these results: My old Rexchess 2.30 scored 51 points, MChess Pro 5.0 scored 55 points, Rebel 7 scored 57 points, and Genius 4 emerged on top with 62 points. Of course it must be remembered that this test deals only with how well a program plays the opening without benefit of an opening book. It may be argued that since programs do in fact play with opening books this ability is not crucial in actual practice. On the other hand, the ability to find the best opening moves without a book is an excellent indication of the overall strategic and tactical abilities of the program.

COMPUTERS IN POSTAL CHESS

by Larry Kaufman

Many correspondence chess players feel that they could easily defeat programs in this form of chess that would give them a hard time in tournament play. Therefore it is interesting to read in England's "Selective Search" that one program, Mephisto Vancouver 68020, has been competing in British correspondence play for some time now and has established a rating of 2461, some 223 points over its estimated rating in Britain at normal tournament chess. Moreover this includes two drawn games against Britain's top rated postal player (2620), in one of which the operator forced Mephisto to open with 1 h3 just to take the opponent out of book right away! Although I don't know whether the British Postal and tournament rating scales are comparable (in the US they definitely aren't, as shown by the fact that an obscure master established a postal rating over 2900 not long ago !), I doubt that they are as much as 200 points out of line if the top player is 2620. So why does a program actually do better in correspondence chess than in tournament chess?

The answer, I believe, is simple. A program can use all the available time to analyze, while most human players have jobs, families, and other games to occupy their time and so are effectively giving the program enormous time odds. So even if correspondence players do play two classes better than they would at 40/2, the program with three days per move instead of three minutes can look as deep as if it were running 1,440 times faster, or about 10 1/2 doublings in speed, which means 4-5 ply deeper searching. Since a

doubling of speed is thought to be worth 60 points, a program should play 630 points better in postal play than in tournament play. Therefore if the human players play 400 points better in postal play, the computer will end up rated 230 points better in postal play, approximately the figure observed in this test.

RIGGING OF OPENING BOOKS

by Larry Kaufman

In past years I have occasionally written about the problem of Computer opening books being designed especially to defeat specific competing programs, so as to outrate them on the various Computer rating lists, especially the "Ply" list from Sweden. I know this was done by many if not all of the dedicated manufacturers in the past; in fact I even did a bit of it myself for Novag several years ago on its "Super-Expert" models. Since there were so many different models, the effect of such rigging was always rather small on the ratings, since it was not practical to rig against more than a few opposing machines. Now that the top PC programs can defeat nearly all opposition except each other, the problem has resurfaced since only two or three main rivals need to be booked against.

According to an article in the new issue of "Selective Search", MChess Pro 5.0 has set new records in terms of rigging its book to defeat its opposition, in particular the "Genius" programs. In one game Genius left book on move 17, while MCP5 remained in book until move 39 (!) by which time it was clearly winning. Even with the book off, MCP5 makes its moves instantly until move 39 in this line, which means that the program itself contains a "hidden" book separate from the normal book. In another game, Genius left its book on move 10, while MCP5 remained in book until move 24, at which point it thought and then announced mate in 7! As a result of this "booking", MCP5 achieved crushing scores against its leading competitors and got the top spot in the "Ply" rating list.

My point here is not to disparage MCP5, which is a fine program. The book author undoubtedly felt justified in putting in such killer lines on the grounds that other programmers also do this; he merely did it better and more pervasively than others. One effect of this type of rigging is that newer programs always get higher ratings than the older ones, by more than they deserve, since the new programs can only be rigged against older ones. Years ago I argued in favor of "reversal" testing, in which the

opening lines are selected from a list of standard ones, with each computer playing the line once as white and once as black. While there are arguments against this (is it fair to force a program to play an opening contrary to its style?), it seems that now the merits of this reversal testing outweigh the demerits, and I recommend that future testers consider switching to this methodology.

AUTOTESTING

by Larry Kaufman

There are many interesting experiments that can be run using the autotest capabilities of today's programs. Suppose you would like to know which side has the better practical chances in a given position, perhaps one that arises from your pet opening line. All you need to do is to set up the position on your PC program, set it for the 5" per move level, command it to autoplay from that position, record the result, use the "home" button or whatever your program uses to return to the starting position of that game, raise the level to the next higher one, and repeat the procedure. If you own several chess programs you can repeat the procedure on each one to get a greater sample of games. If not you can also make use of the game in x time controls to increase your sample size.

I decided to test the opening position modified in various ways to try to learn more about the values of the pieces in the opening position. I tested on Rebel 7, MChess Pro 5.0, and Genius 4 at ten different levels on each. In one test I removed the Queen Bishop from one side and the Queen Knight from the other, doing each level twice to give each side the chance to play white. Thus sixty games were played, with the player who gave up the knight (thus retaining the bishop) winning by 35-25. This confirms that even with all the pieces and pawns on the board, the two bishops confer a significant advantage.

My next test was to measure whether a pawn and a slight initiative could compensate for the exchange in the opening, with no open files for the rooks. I removed white's Queen Rook, and Black's Queen Knight and King Bishop Pawn. Despite the first move and the slightly exposed situation of the black king, white lost 13.5 - 16.5, which suggests to me that in the opening position the exchange (rook for knight) is probably worth close to a pawn and a half. I think this is pretty much in line with conventional thinking on the subject.

My third test was to measure compensation for a piece. I removed white's Queen Knight, and black's King Bishop Pawn, then gave white the

moves e4, d4, and Bd3 (Bd3 being the best move in that exact position in my opinion) and still let white move first. In 19th century terminology, white gave knight odds but received Pawn and Four moves. The result was a white victory by 16.5 - 13.5. This indicates that the programs were quite capable of sustaining the initiative and overcoming the material disadvantage, even though all of the programs considered black's position to be better initially. In the old days, many games were played at odds of pawn (always KBP, the most awkward one to play without) and 1, 2, or even 3 moves. This test confirms that it would not make sense to play at pawn and four moves, since if a player needed that handicap he could just as well be given knight odds, which of course is more like a normal chess game.

My next test was to compare the value of a center pawn to a wing pawn. White removed his Queen's Pawn, Black his Queen's Rook's Pawn. Of course this gave white easy development of his Queen and Queen's Bishop, while Black's Queen's Rook was instantly in play on a half-open file. The result was an overwhelming victory for the second player, 8.5 - 21.5. Despite moving second, black appears to have a winning advantage with the center pawn vs. the edge pawn. This confirms what the books say when they tell you to value your center pawns more than the others, particularly the edge pawns which control only one square each unlike all other pawns. Still, I was surprised by the margin of victory, which suggests to me that in the opening, a center pawn must be worth at least double an edge pawn, perhaps even more.

My next set of tests compared the queen, two rooks, and two bishops plus a knight. When white played without Queen, and Black without Rooks, black won by a crushing 7 - 23. Even though white moved first and black could never castle, the Queen blew away the rooks. In my opinion this is primarily due to the absence of any open files for the rooks to use. Although in the endgame two rooks are reckoned to be nearly a pawn stronger than the queen, this experiment shows that on a full board the queen is far stronger than the rook pair. A famous Portisch - Fischer game comes to mind, in which Fischer "sacrificed" two rooks for a queen right out of the opening, and won handily. In fact he was very critical of Portisch for taking the bait.

Next I removed White's Queen, and Black's Queen's Knight plus both his Bishops. White won 12 - 8 (I only used Rebel and MChess Pro for this and the remaining tests). This confirms the rule that three minor pieces are superior to a Queen in most situations. Frankly I was surprised that the score was as close as it was. I suspect

that this and the previous result may be a bit distorted by the fact that programs probably don't modify their strategy to play more carefully when only the opponent has a queen, to avoid forks at the end of long lines.

When White removed his Bishops plus his Queen's Knight and Black removed his rooks, white lost by 8 - 12. This was a bit closer than I expected. Three pieces are normally reckoned as a bit better than two rooks, especially when they include the bishop pair, but with all the pawns on the board I expected the pieces to crush the rooks, which they didn't quite do. We seem to have here a Paper-Scissors-Rock effect, from the children's game in which Paper beats Rock which beats Scissors which beats Paper. In our case, the Queen beat the rooks much more decisively than the three pieces beat the rooks, yet the queen lost to the three pieces. Of course this could all be due to sample size or to some anomaly of the starting position, but I am inclined to think some real phenomenon is present here. I don't have any way yet to be sure of the reason, but probably certain pieces are especially effective against certain other pieces. For example the queen may be more effective against rooks and bishops than against knights, because rook or bishop can only attack the queen if protected, while a knight is not so restricted. Ultimately I hope to learn how to modify the values of the pieces based on which pieces the opponent holds.

Here is a summary of other results I obtained. When white simply removed his Queen's Bishop Pawn, he lost by 5-15. When white removed both knights, and black removed the Queen's Rook plus the QBP, white lost by 9 1/2 to 10 1/2. When white removed both bishops, and black again removed QR plus QBP, white lost by 7 1/2 to 12 1/2. When one side (alternating colors) removed both bishops and the other both knights, the side retaining the bishops won by 13 1/2 to 10 1/2. When one side removed both bishops and the other side the QB plus the KN, the result was a 12-12 tie. This suggests that while the bishop pair is a definite advantage in the opening position (despite the presence of all 16 pawns), the bishop and knight are about equal in the opening when neither side has the bishop pair. When one side removed the Queen's Rook Pawn, that side lost by only 14-10, showing how low is the value of edge pawns in the opening. This is the justification for such gambits as the Benko and the Alekhine-Chatard attack in the French defense. When one side played without the Queen's Rook and the other without the Queen's Knight plus the Queen's Bishop Pawn, the side retaining the rook won by 16-8, again confirming that the exchange is worth at least a pawn and a

half even in the opening. In tests from the opening where one side removed the QBP and the other the QRP, the side retaining the QBP won by a surprisingly narrow 13-11. When one side removed the QNP and the other the QRP, the side retaining the QNP won by a decisive 15 1/2 - 8 1/2. When I tried removing the queen from one side and the Queen's Rook plus both knights from the other, the side retaining the pieces won by an overwhelming 19 1/2 to 4 1/2. When one side removed the Queen's Knight and the other side the two center pawns plus the Queen's Bishop Pawn, the side retaining the knight won by a crushing 17 1/2 to 6 1/2. When I removed the Queen's Knight from one side and all four center and Bishop's Pawns, the side retaining all four pawns won, but only by 12 1/2 to 11 1/2. This suggests that in the opening, a minor piece is worth much closer to four pawns than to the traditional value of three pawns. Finally, when white removed his Queen's Knight but made ten developing moves in his own half of the board before allowing black to make his first move, white still lost by 8-4, perhaps because computers are not quite as creative as humans in whipping up an attack when behind in material.

The following set of values seems to me to best represent the above data, without using fractions other than one-half: With the value of a non-edge pawn set at 1, the edge (or Rook's) pawn is 1/2, the Knight 4, one bishop also 4 but two bishops = 8 1/2, the rook 5 1/2, and the Queen 12. Bear in mind that these values are only intended for use on a full board, and hence are only useful in evaluating exchanges in the opening phase of the game.

I also ran various tests using only King and 8 pawns per side (on the home squares), with various pieces added. Again I gave each piece combination one shot at each color. Here are the results: Queen beat two rooks by 13-11, two knights plus bishop beat two rooks by 15 1/2 - 8 1/2, queen beat two knights and a bishop by 14 - 10, bishop + knight beat two knights by 13 - 11, bishop beat knight by a shocking 17 - 7, two bishops beat bishop + knight by 15 1/2 - 8 1/2, rook + bishop vs. rook + knight was a 12 - 12 tie, queen + bishop beat queen + knight by 14 - 10, two bishops + knight beat two knights + bishop by 13 1/2 - 10 1/2, and two knights minus the "c" pawn beat a rook by 15 - 9. Curiously these results seem to conform rather well with the values derived from the opening position, with the exception that the bishop seems to be clearly superior to the knight in the endgame. With all the pawns on the board the studies by Timoschenko and by Mark Sturman predicted that knights would be worth more than bishops, but in this experiment with all the pawns

at home there are no "rams" yet and so the position is not at all closed, whereas in actual practice endgames with large numbers of pawns are usually blocked positions. In any case it seems that the rook is worth relatively less than generally thought in both the opening and the endgame with all of the pawns, since there are no open files for the rooks to utilize. My conclusion is that the biggest single variable in judging the values of the pieces is the number of pawns; with more pawns, the queen and the minor pieces both gain in value relative to the rook.

KNODS AND MILLIKNODS

by Chris Whittington (Oxford Softworks)

Revised views on mKNODs, knowledge, evaluation functions and programming style.

Tabulated figures

Program	PC	Nodes	ELO	mKnod	Ply 1	Search	Eval	Programmer
Fritz 3/Quest	P80	80000	1370	17	263	1107	0.24	Morsch
WCheSS 1.03	P80	50000	1327	27	260	1067	0.24	Kittinger
Nimzo 2	486/33	20000	1036	52	49	987	0.05	Donninger
Virtua Chess	P80	30000	1400	47	377	1023	0.37	Weill/Baudot
Genius 3.0	P80	20000	1436	72	449	987	0.45	Lang
Kallisto 1.83	486/66	12000	1227	102	284	943	0.30	Weststrate
Hiarca 3.0	P80	6000	1409	235	526	883	0.60	Uniacke
Rebel 7.0	P80	6000	1416	236	533	883	0.60	Schroder
MChess Pro 5	P80	6000	1458	243	575	883	0.65	Hirsch
XXXX	P80	2400	1200	500	396	804	0.49	Zentner
ChessMaster 4000	486/66	2500	1295	518	488	807	0.60	de Konig
Gandalf	P80	2000	1280	640	492	788	0.62	Suurballe
Chess System Tal	P80	2100	1350	643	558	792	0.70	Whittington
Weak chess player	Carbon	1	850	850000	720	130	5.53	
Kasparov	Carbon	1	1600	1600000	1470	130	11.29	

Definitions:

rebased ELO.

I've assumed that the ELO base is 1000 ELO, eg. 1000 ELO is the rating of someone who can't play chess, can't therefore move a piece, and would therefore lose all games to the weakest possible opponent (eg. someone who just knows the rules and no more). This weakest opponent would have an ELO of 1400. Hence ELO ratings above are Swedish ELO - 1000. (Or estimated ELO - 1000)

mKNOD

mKNOD = milli KNOWledge per NODe (the nodes required to attain the ELO rating)

mKNOD = [rebased ELO] / [nodes/sec] x 1000

mKNODS, to some extent, measure the knowledge in the program's evaluation function.

Ply 1 ELO (Evaluation ELO)

This is the ELO a program would obtain if allowed to look ahead ONE move only. This ELO should be a measure of the program's evaluation function knowledge without any look ahead.

From the rule of thumb that a program's ELO increases by 60 for each

doubling of program speed, and conversely, reduces by 60 for each halving of evaluation speed we can slow the program down by a factor of 2 until we reach the magic node count of 40 nodes in 3 minutes.

40 nodes because this is an average number of moves to consider from the root position.

3 minutes because this is the average time allowance per move in tournament games.

$$\text{Ply 1 ELO} = [\text{rebased ELO}] - 60 \times (\log [\text{nodes/sec}] \times 180 / 40) / \log 2$$

Search ELO

This is what is left after subtracting the Evaluation ELO from the rebased ELO.

I am assuming that this ELO addition is due to the search.

Eval/Search ratio

Together with mKNOD, Eval/Search ratio is a measure of the program's style.

Conclusions

Materialists, Pragmatists and Idealists

Materialists: Low mKNODs and low E/S ratio

These programmers rely very heavily on search and very little on evaluation. The eval function is likely to be material based with a little pawn knowledge only. Such programs sometimes play very tricky games and beat GM's, but also often play with such an obvious lack of chess knowledge that they lose to weak players. GM's often say that they cannot understand how such programs play some games so strong and others so weak.

Pragmatists: Middling mKNODs and middling E/S ratio

These programmers work by small tested increments to their programs.

They work, make small change, if many test games say better, they keep the change, otherwise they junk it. If the alleged knowledge addition slows the program too much it goes. This approach is good at making slow, steady progress; good at climbing small hills - but maybe misses finding the high peak. Many times I hear programmers say: 'I put in knowledge but I couldn't cover the many special cases - there were too many special cases.'

I had knowledge, but it slowed the program, so I junked it.

Idealists: High mKNODs and high E/S ratio

These programmers work because they believe in the knowledge approach.

They add large knowledge structures to their programs - and don't give up when it doesn't seem to work. Maybe they have already, or will, make the leap to another peak.

ABOUT THE AUTHOR:

Chris Whittington is married with seven children, lives in large rambling house in Oxfordshire Cotswolds, England, and says he

Computer Chess Reports

likes children, cats, walks, wine, Germans, French food, controversy and the usual vices.

Chris has a Bachelor of Science Chemistry Honours, Bachelor of Arts and a post graduate degree in secondary education. He has a chess rating of BCF 217 (equivalent 2340 UK ELO).

Chris' computer experience is mostly self-taught, but included a research assistant post on an ancient main-frame in 1968-69. He built early 8080 and Z80 computers from components. Chris quit working for a living in 1980 and formed CP Software (publisher and developer of computer games) in 1980. In 1991 he formed Oxford Softworks (publisher and developer of computer games).

In the past two years, Oxford Softworks has grown sufficiently to allow him to work full-time on his chess engine (no longer spending most of his time on GUI's, sales, marketing, packaging, trouble-shooting, organizing). Chris says that, as a result, the Oxford Softworks chess engine has advanced from a 2000 Swedish ELO to probably 2350 Swedish ELO, with more strength increases in the pipeline.

Chris' chess programs published since 1981:

SuperChess for ZX81

SuperChess for Sinclair Spectrum & Timex 2000

SuperChess2 for Sinclair Spectrum

SuperChess for Amstrad CPC

SuperChess3 for Sinclair Spectrum

3D Voice Chess for Amstrad CPC

Clock Chess 88 for Sinclair Spectrum

Clock Chess 89 for Sinclair Spectrum

Clock Chess 88 for Amstrad PCW

Clock Chess 89 for Amstrad PCW

Chess Player 2150 for Atari ST

Chess Player 2150 for Amiga

Chess Player 2150 for PC

Chess Champion 2175 for Atari ST

Chess Champion 2175 for Amiga

Chess Champion 2175 for PC

BattleChess 4000 for PC

Checkmate for PC

Checkmate Mac for Macintosh

Chess Champion 2175 for Macintosh

Complete Chess System for PC

Chess System Tal for PC

LATEST SELECTIVE SEARCH RATINGS

by Eric Hallsworth

Selective Search, Issue 62 Ratings

Issue 62 has just gone off to the printers - the usual 28 page Issue with a selection of games and notes from the World Micro Champs, the

Volume 5, Number 3 + 4

Fritz-Kasparov games and comment, a report on the Kasparov GK-2100 at the Bury St Edmunds Congress, games between one of the Magazine's readers and his Novag Sapphire, plus other news and results etc, and the usual Rating Lists.

Those who don't believe in or like to see our attempts at rating chess computers and programs should stop reading here. However the computed figures are based on each program's results (from games played) against both other Computers and (where results from proper Tournaments are available) against Humans. My own view is that to have these as an attempted measure of progress for the programmers and others who are interested, and as some sort of a guide for prospective purchasers, is *better* than to not have them at all.

The top ratings for Issue 62 are: Dedicated boards wood

	Elo/BCF
Tasc R30-1995	2442/230
Mephisto Genius 68030	2389/223
Tasc R30-1993	2385/223
Mephisto RISC2	2355/219
Mephisto RISC1	2308/213
Kasparov SPARC	2293/211
Mephisto Vancouver 020	2238/204

others of interest perhaps

Kasparov Brute Force	2096/187
Novag Diablo	2074/184
Kasparov President	2048/181
Dedicated boards press sensory	
Mephisto Berlin Pro	2326/215
Mephisto Montreux	2273/209
Kasparov RISC 2500	2272/209
Mephisto Berlin 68000	2195/199
Novag Diamond	2172/196
Novag Scorpio	2074/184
Kasparov GK-2100	2048/181
Novag Zircon2	2047/181
Mephisto Nigel Short	2042/180

Portables (p = peg, c = calculator)

Novag Sapphire-c	2172/196
Kasparov TC-2100-p	2048/181
Novag Jade2-p	2047/181
Kasparov Travel Champ-p	1956/169
Novag Ruby-c	1947/168

PC programs

	Pent/90	486/66
MChess Pro5 (Hirsch)	2534	2473
Genius4 (Lang)	2532	?
Genius3 (Lang)	2529	2454
Hiarcs4 (Uniacke)	2522	?
Rebel7 (Schroder)	2518	2464
Rebel6 (Schroder)	2506	2400
Hiarcs3 (Uniacke)	2494	2408
MChess Pro4 (Hirsch)	2473	2402
Fritz3 (Morsch)	2461	2366
W Chess (Kittinger)	2416	2383
CM 4000 (de Koning)	?	2355

Computer Chess Reports

I am still hoping to be able to get Virtua Chess onto a list soon... it (or its latest version?) obtained the Computer's top result in the Harvard Cup - though the overall computer performances were quite disappointing, it should be said, especially considering the hardware. Do any Internet folk use Virtua, and have results for it? (Not Blitz, however - the min. time control used in our List is Game in 60, or 60/60).

ABOUT THE AUTHOR:

Eric was born in 1942. His education was in English grammar school and his early career was in insurance. He became a Christian in 1975 and went into the Ministry as a Pastor in both Baptist and Pentecostal churches. Eric's involvement with chess computers started in the early 1980's when he purchased a Fidelity Sensory 8 and then 9. His grading in the 1960's had been 1800 Elo, but he had stopped playing competitively in the late 1970's. The arrival of chess computers re-awakened his interest, he says.

Subsequently he started writing occasional articles on computer chess for one or two chess magazines in Britain, mainly seeking, at first, to establish realistic gradings for them, as the advertising was way over-the-top. These proved reasonably popular so he started his own Computer Chess Magazine (then called the News Sheet) in 1985. It has been going ever since, with Issue 62 now available. Circulation is around 575-600 per Issue, including nearly 50 abroad, and the magazine (now called Selective Search) brings him a small income.

As well as his Christian ministry, though now as a local preacher rather than as Pastor, he also work with Countrywide Computers preparing advertising, giving help and advice (mostly in connection with the PC revolution), and selling (or trying to!) chess and bridge computers. Eric is also the current main opening book programmer for HIARCS.

MAC FAQ

by Matthew Householder

FAQ (Frequently Asked Questions) about Macintosh Chess Programs (v1.2)

Resource list and reviews.

Last revision: 01/15/96

Purpose: This FAQ was created to hopefully answer the myriad of questions that have cycled through the rec.games.chess. hierarchy (not to mention the comp.sys.mac.games. hierarchy) regarding playing programs, databases, and utilities. This FAQ is currently, and will probably be eternally, under construction. If there are any errors, extremely biased reviews, or any

comments/suggestions, please feel free to contact me. This document attempts to answer the various questions: What programs are available for the Macintosh (playing, databases, utility)? Will xxx run on my computer? What are the various features of the programs? What is the strength of xxx playing program? Are there any shareware/freeware programs? Where can I ftp the shareware/demos? Are there any email or www addresses that may be useful? etc.

Next Project:

- * Produce a stand-alone graphical document (with screenshots in

- addition to the current list and reviews).

- * Add info on Newton chess.

- * Update expired email addresses and web pages.

- * Fill in those darn question marks!

Table of Contents:

Part 1: Macintosh Chess Playing Programs

Part 2: Macintosh Chess Databases

Part 3: Macintosh Chess Utilities

Part 1: Macintosh Chess Playing Programs

The number of chess playing software for the Macintosh, both commercial (C) and shareware (S), is increasing. Currently there are NO PPC native chess playing programs aside from a port of GNUChess. P.S. If anyone has more "official" ratings for these playing programs, I would appreciate hearing from you!

On to the programs:

ChessMaster 3000:(C-\$35) This is a good value with a relatively strong engine, many features, and a variety of customizable levels. Note: this is an update of CM2100-a weaker and less feature packed program, which may still be available in bargain bins or such. (Has PC equiv.)

Strength: 2000

Features: Import/Export (text board, forsythe board, move history), 17 "personalities" (all customizable and can create more), can play touch move, blindfold, has adjourn, advice (short and detailed), analysis, solve for mate, set-up board, intro to chess tutor, opening practice (166 openings), several different layouts (screen and 4 different boards and sets), can change board color. Pros: Customizable personalities, opening practice, and ability to change board color.

Cons: Buggy at times with takeback feature, cannot change piece color, import doesn't work very well if at all.

System Requirements: System 7, 68020 min.

Rumors/Updates: R- CM4000 will be skipped for CM5000. Will there be more features, stronger engine, PPC native (only PPC?)?

ftp demo at: N/A

email: mscape@aol.com

Sargon V:(C-\$25) This is a very strong (one of the strongest) commercial program for the

Computer Chess Reports

Mac, but it is sadly lacking in many aspects. The program has few features and doesn't even have a simple move list export, not to mention that the board graphics are truly in need of a facelift.

Strength: ~2150

Features: Adjourn, blindfold, set-up board, solve for mate, 8 levels, opening practice (10 openings), 3 different sets.

Pros: Strong engine, although even the 1st level (set on easy with opening book off) may be too strong for most.

Cons: Very few features. No import/export of move list, can't change board or piece color which are lacking contrast.

System Requirements: System 6.0.7, 2M RAM.

Rumors/Updates: None. This is a fairly new program and not much has been heard. ftp demo at: N/A email: support@activision.com

Hiarcs:(C) This program has just been released December first and some beta testers have made some comments to the newsgroup. Some comments that I can recall are graphics that are a bit better than the PC version (dragging pieces and scroll bar), very strong engine (possibly the strongest), and some relatively good features. Not PPC native. Note: I am awaiting a review copy of this program. (Has PC equiv.)

Strength: Very strong engine with increased knowledge over PC HIARCS 3.0. HIARCS MAC on 68040/25 or 33(?) in testing scored 80% against 386/33 version of HIARCSv3.0.

Features: Analyze Game for white, black or both sides; > 100,000 position opening book with great variety and depth, 3 different opening books, PGN Import/Export/Delete, EPD Import/Export, Process EPD, Monitor Analysis, displayed book moves, Find Keypoint, Short Algebraic, Analysis Export, Textual Annotations, Next Best, Opening name classification, Auto play, 3 playing styles, 3 search techniques, Playing levels: Instant, Average response, Adaptive, Preset time controls, any user defined time control for primary, secondary and tertiary time controls, Incremental (Fischer type) clock, Infinite, Rates its and your play!, dragging pieces and much more.

Pros: ???

Cons: ???

System Requirements: ???

Rumors/Updates: U- Just released Dec 1.

ftp demo at: N/A

email: clive@atm-man.demon.co.uk

USCF Chess:(C) I have received some email about this. They are shooting for the strongest Mac chess engine as you will be able to get a USCF rating from it (?!).

Strength: ???

Features: Multiple windows for different features. Windows include 2D board, 3D board, legal move list, captured pieces, digital or graphical clock, move list, comments. 2D & 3D boards can both be on-screen at the same time and dragging piece moves piece on both boards as piece is dragged. Drag pieces, extensive database, hints, solve for mate, can setup board, chess puzzles, can edit opening book, various playing levels, various playing styles, various time settings, dozen piece sets (each set has unique art for pieces, board, background patterns, buttons, etc.), network play, adjourn, blindfold, import/export, can play touch move, take back move, replay, board rotation (can rotate 2D and 3D views independently), various chess notations, can show/hide coordinates on chess boards, warnings.

Pros: ???

Cons: ???

System Requirements (tentative): System 7, 4.5M RAM, 256 colors.

Rumors/Updates: U- Release date is second half of 1996.

ftp demo at: N/A

email: hume@interplay.com

BattleChess:(C) Don't have this program and haven't seen it. If you have any info feel free to email me.

Strength: ???

Features: Animation when pieces captured.

Pros: ???

Cons: ???

System Requirements: ???

Rumors/Updates: ???

ftp demo at: N/A

email: macplay@interplay.com

Checkmate:(C) Don't have this program and haven't seen it. If you have any info feel free to email me. Some reviews: " This is a very nice program for those who are either just starting with chess or are just not real familiar with chess yet."

Strength: ~1750 but it gets better the more it plays.

Features: Very Solid beginner package. Allows for several different strength settings, including everything from "Ape" to "Championship", self-modifiable opening book (attempts to learn from past mistakes), with opening recognition, different time controls, rates your play.

Pros: Very nice program for starters. Easy to use and to figure out.

Cons: Rather nasty copy protection. Hint: don't lose your manual! Thinks 2x repetition is a draw.

System Requirements: System 7.x & I believe 256 colors

Computer Chess Reports

Rumors/Updates: ???

ftp demo at: N/A

email: macplay@interplay.com

GrandMaster Chess:(C) Don't have this program and haven't seen it. If you have any info feel free to email me. Some reviews: "A bit buggy." "Beat Sargon V until Speed Doubler was used."

Strength: ~2200

Features: ???

Pros: ???

Cons: Can't run program without CD being mounted.

System Requirements: ???

Rumors/Updates: ???

ftp demo at: N/A

email: ???

Fritz, W-Chess, M-Pro, Genius, others: Haven't heard anything on any of these, but that doesn't mean that plans for a port to Mac or PPC doesn't exist. Any info would be appreciated on any new program for the Mac. Crafty is coming... Crafty is coming...

Chess++:(S) This was a programming experiment (by Symantec) as the program doesn't recognize castling and en passant. Source code is available for the daring!

Strength: <900

Features: None

Pros: It plays.

Cons: No castling or en passant. Very weak.

System Requirements: ???

Rumors/Updates: None.

ftp at: ftp://caissa.onenet.net/pub/chess/Macintosh/ChessPlus.cpt.hqx

email: python@world.std.com

ChessKing (v00.02):(???) A beta test version of a chess playing program that can also display some chess variants. No brain (engine) yet.

Strength: ???

Features: Can play variants.

Pros: ???

Cons: Many features not implemented.

System Requirements: System 4.2

Rumours/Updates: ???.

ftp at: ftp://mirrors.aol.com/pub/info-mac/game/brd/chess-king-002c.hqx

email: craig.shoemaker@tcs.wap.org

Crafty (v???):(S-Free) ???.

Strength: ~2600 on ICC.

Features: ???

Pros: ???

Cons: ???

System Requirements: ???.

Rumours/Updates: U- Nearing completion (ported).

ftp at: email: GNUChess (v4.0b5):(S-Free) A very strong program but devoid of features

(possibly the strongest Mac program overall), but it's free!

Strength: ~2150

Features: 2 playing levels, various time settings, hint.

Pros: Strong program, can manipulate opening book.

Cons: Few features.

System Requirements: System 6.0.7, 1M RAM.

Rumours/Updates: U- Has been ported to PPC.

ftp

at:

<ftp://caissa.onenet.net/pub/chess/Macintosh/GnuChessMac40b5.hqx>

email: oetting@gldfs.cr.usgs.gov

(PPC) tomg@whacked.com

Kibitz (v3.0):(S-Free) A very weak program (was programmed in a day) but very humorous when it resigns (this isn't specifically meant for a chess playing program and has some nice networking features for playing someone over a network).

Strength: ~1000

Features: Network play, import/export algebraic and descriptive.

Pros: Funny when it resigns, network play.

Cons: Weak engine.

System Requirements: System 7.

Rumours/Updates: None.

ftp

at:

<ftp://caissa.onenet.net/pub/chess/Macintosh/Kibitz3.0.sea.bin>

email: soldan@applelink.apple.com

MacChess (v1.0):(S-Free) A fairly new program with a relatively strong engine and some features, has a lot of promise (if only pieces could be dragged!).

Strength: ~1750

Features: Hint, set-up board, 2 sets, can turn opening book and thinking through(?) off, various time settings.

Pros: New program, has promise, large opening book.

Cons: Few features, can't drag pieces.

System Requirements: System 7, 2M RAM, 68020 min.

Rumours/Updates: U-Version 2 is nearing completion.

ftp

at:

<ftp://ftp.pitt.edu/group/chess/PROG/macchs10.hqx>

email: beusekom@knoware.com

Part 2: Macintosh Chess Databases

Currently there are three, SmartChess, DejaVu, and Bookup, with more on the way (ChessBase, ExaChess).

Bookup:(C-\$99) A *positional* database. This program is ideal for opening and positional

analysis. Although it seems most suitable for small thematic databases with annotations which may be difficult to compose for the average player, a wide variety of "books" are available (not only from Bookup) which can be most helpful for a developing player. Their staff is very helpful and knowledgeable. (Has PC equiv.)

Features: Positional database, Import/Export Text, Import Bookup PC, Export movelist, Export Diagram, Chess Font, Desktop Publishing Capabilities, Setup Position (illegal possible), Diacritic and Annotation, Combine Databases.

Pros: Very useful for opening and positional analysis.

Cons: No demo.

System Requirements: ???

Rumours/Updates: U- New version due after the release of HIARCS.

A demo is expected soon (?).

ftp demo at: N/A

email: bookup@bronze.coil.com

DejaVu:(C-\$239) I do not have this program and have only used the demo, which I was told, by the authors, is not an accurate representation of the full program (?). The demo seemed like it could handle a large number of games but the lack of on-line documentation made use difficult. Note: I am awaiting a review copy of this program. (Has PC equiv.)

Features: Import/Export (ASCII, Bookup, Kasparov GAMBIT, Figurine, PGN), large database (350,000+).

Pros: Large database (350,000 games), quick searches with lots of different criteria..

Cons: CD-ROM only, no viewing board

System Requirements: System 6.0.7, 3.5M RAM, 3M HD space.

Rumours/Updates: U- A new version is coming out with a larger database (500,000 games), and lower price, no info on improved features.

ftp demo at: <ftp://ftp.pitt.edu/group/chess/UTILdjavu-mac.sea>

email: dejavu@chessworks.com

<http://www.chessworks.com>

SmartChess (v4.3):(C-\$99) A very good program with lots of good features. This program is ideal for databases of around 100 games, as the authors believe that "a well defined collection of annotated games far outweighs a collection of raw data of thousands of games." In addition to the program, R&D Publishing (and Replay! Inc) offers many SmartBooks (composed by authors like GM Karpov and GM Henley) as companions for SmartChess. Corr. Master Paul Hodges is always on the lookout to lend a hand. Note: The demo is the same as the full version except for lack of save feature.

Features: Import/Export (SGB data, plain text, PGN, CB data/text, NIC text, 4M text), lots of prefs, classifies games (Informant-style opening keys, direct diagram output, unlimited on-screen annotation, intelligent mouse input, play via modem, internet client capability, intricate tree set-up, searches (opening, property, material, position, moves, pawns, bishops), set-up board, desktop publishing.

Pros: Good searches, lots of import options, internet client, publishing features.

Cons: A little flaky importing large databases.

System Requirements: System 7.1, 2M RAM, 68030min

Rumours/Updates: U- Recently updated (ChessBase import).

ftp demo at: <ftp://ftp.pitt.edu/group/chess/UTIL/stchess.hqx>

email: maeser@inf.ethz.ch

<http://nobi.ethz.ch/febi/febi.html>

<http://www.smartchess.com/chess/>

ChessBase:(C) Has just been released. Anyone have any in-depth information on features (beta testers?)? Will have an ADB dongle (Beware Duo users, no dock=no dongle). (Has PC equiv.)

Features: ???

Pros: ???

Cons: Will have a dongle.

System Requirements: System 7.1, 4M RAM, 68030min, hd

Rumours/Updates: Just released.

ftp demo at: N/A

email: ???

Chess Mentor:(C) This program isn't out yet, but from what I've seen it may be a very useful tool for the developing player. It is not a database nor does it play against you but "it teaches you in a pleasurable and effective manner" by giving you hints for playing through set games and/or positions. (Has PC equiv.)

Features: ???

Pros: ???

Cons: ???

System Requirements: ???

Rumours/Updates: U- Scheduled release is for Q2 1996.

ftp demo at: N/A

email: info@chess.com

<http://www.chess.com>

ChessAssistant (rdubisch@insidechess.com), NICbase (70244.1532@compuserve.com), TASCbase, Chess Genius (genius-info@centron.com), others: Haven't heard anything about any of these, and hope that there are plans.

ExaChess:(S-Free, Pro-\$100) This is currently the best, as well as only, shareware chess database. Upon release there will be two versions

Lite (shareware) and Pro (commercial) with varying features and capabilities.

Features: Import/Export (NICbase, ChessBase, PGN, ASCII, Position),

positional searches, playing engine, will allow additional scriptable engines, strong search engine with many filters, changeable piece and board colors, extensive on-line help, many customizable formats (screen, database, board), figurine notation, annotation, database compression, internet client

interface, automatic ECO classification, export RTF.

Pros: Strong search engine, able to manipulate colors and pieces, variety of import formats, much on-line help.

Cons: ???

System Requirements: ???

Rumours/Updates: U- Currently in beta testing and scheduled for release in first quarter 1996.

ftp at: N/A

email: r.exner@trl.oz.au

Slappy the Database:(S) Heard rumours (c. Dec 1994) that this should be in beta testing around now but nothing since.

Features: ???

Pros: ???

Cons: ???

System Requirements: ???

Rumours/Updates: U- Slappy's development has been halted indefinitely.

ftp at: N/A

email: sje@mv.mv.com

Part 3: Macintosh Chess Utilities

There are only shareware utilities currently for the Mac (and that's probably the way it should be) and all of them seem to do their job well.

Chess Clock (v.04):(S-\$5) This is a hypercard stack chess clock. Features: Can change the time.

Pros: Does what it is supposed to.

Cons: None.

System Requirements: Hypercard.

Rumours/Updates: None.

ftp at: <ftp://mirrors.aol.com/pub/info-mac/game/brd/chess-clock.hqx>

email: ???

ChessEdit (v0.95):(S-Free) This is a helper utility designed to arrange a chessboard and then transfer the results to a word processor or page layout program. Features: Bitmapped chess font (chessterton) included, can use any font.

Pros: Does what it is supposed to.

Cons: None.

System Requirements: ???

Rumours/Updates: None.

ftp at: <ftp://mirrors.aol.com/pub/info-mac/game/brd/chess-edit-095.hqx>

email: bobs@saintjoe.edu

ChessEvent:(S-Free, Swiss-\$70) This is a tournament pairing program.

Features: 4 different tournament types (championship, Swiss, tourney, and Brussels), many pairing modification features.

Pros: Does what it is supposed to.

Cons: None.

System Requirements: ???

Rumours/Updates: None.

ftp at: ftp://caissa.onenet.net/pub/chess/Macintosh/ChessEvent.cpt.hqx

email: kesteloot.e@applelink.apple.com

Chess Set! (v1.1):(S-Free) This is a hypercard stack chess board. Features: Network play, allows board set up.

Pros: Does what it is supposed to.

Cons: None.

System Requirements: ???

Rumours/Updates: None.

ftp at: ftp://mirrors.aol.com/pub/info-mac/game/brd/chess-set-11-hc.hqx

email: mblaine@aol.com

E-ICS (v0.91):(S) Graphical FICS interface via modem. Hasn't been updated since 1993.

Features: Modem use up to 9600bps.

Pros: Does what it is supposed to.

Cons: A bit flaky at times, needs modifications for increased modem speeds.

System Requirements: ???

Rumours/Updates: None.

ftp at: ftp://caissa.onenet.net/pub/chess/Macintosh/E-ICSv0.93.sea.hqx

email: emusser@math.macalstr.edu

enPrise:(S-\$10) This program reads EPD files.

Features: Randomizes EPD problems.

Pros: Does what it is supposed to.

Cons: It is crippleware. Restricted to 10 problems until registered.

System Requirements: ???

Rumours/Updates: None.

ftp at: ftp://caissa.onenet.net/pub/chess/Macintosh/enPrise-1.0.1.sit.bin

email: jeff.pepper@gsfc.nasa.gov

Grand Chess & Company:(S-Free) A graphical text with info on 10 chess variants.

Features: None.

Pros: Does what it is supposed to.

Cons: None.

System Requirements: ???

Rumours/Updates: None.

ftp at: ftp://mirrors.aol.com/pub/info-mac/game/brd/grand-chess-and-company.hqx

email: freeling@euronet.nl

Knight (v0.7):(S-Free) A little chessic game where the object is to move the knight around the board so that it touches each square only once.

Features: Hint feature.

Computer Chess Reports

Pros: Does what it is supposed to.

Cons: None.

System Requirements: Mac Plus, System 7.

Rumours/Updates: None.

ftp at: ftp://caissa.onenet.net/pub/chess/Macintosh/knight0.7.cpt.hqx

email: mkelley@c.uoregon.edu (last known email)

KnightEdit (v2.0.3?):(S) A chessboard that reads and writes long algebraic and has some annotation features. No updates since 1991.

Features: Annotation.

Pros: Does what it is supposed to.

Cons: None.

System Requirements: ???

Rumours/Updates: U- New version due out soon.

ftp at: ftp://caissa.onenet.net/pub/chess/Macintosh/knight-edit-152.hqx

email: jessejr@aol.com

MacICS-TCP (vFICS):(S) Graphical FICS interface via TCP. Recently modified.

Features: Utilizes TCP.

Pros: Does what it is supposed to.

Cons: A bit flaky at times, needs scrollbar feature.

System Requirements: ???

Rumours/Updates: None.

ftp at: ftp://caissa.onenet.net/pub/chess/Macintosh/MacICS-TCPvFICS.sit.hqx

email: macics@dartmouth.edu (last known email)(vFICS) long@itlabs.umn.edu

Mac FICS to PGN (v1.2b):(S-Free) Changes old FICS mail format to PGN. Note: FICS has modified their output to proper PGN.

Features: Changes old FICS mail format to PGN.

Pros: Does what it is supposed to.

Cons: None.

System Requirements: ???

Rumours/Updates: None.

ftp at: ftp://caissa.onenet.net/pub/chess/Macintosh/MACFICS2PGN.sit.hqx

email: super295@pop.uky.edu

MacPGN (v1.0):(S-\$20) Reads PGN, EPD, and FEN files.

Features: Reads PGN, EPD, and FEN files.

Pros: Can open files of 4000 games.

Cons: Has great difficulty with EPD and FEN files.

System Requirements: System 6.0.7.

Rumours/Updates: None.

ftp at: ftp://ftp.pitt.edu/group/chess/UTIL/macpgn10.hqx

email: ake.sjogren@mailbox.swipnet.se

Master Chess Album (v1.0):(S-\$15) A hypercard stack chess board. Hasn't been updated since 1992.

Features: Allows you save and make new "cards" and allows board set up as pieces do NOT have to adhere to any square.

Pros: Does what it is supposed to.

Cons: ???

System Requirements: ???

Rumours/Updates: None.

ftp at: ftp://mirrors.aol.com/pub/info-mac/game/brd/chess-album-10-hc.hqx
email: zimm@alumni.caltech.edu

PGN viewer (v1.3):(S-\$15) Reads PGN files. Recently updated, more reliable.

Features: Reads PGN files.

Pros: Does what it is supposed to.

Cons: Less flaky now, needs viewable movelist, limited to 1000 games per file.

System Requirements: System 7.

Rumours/Updates: None.

tp at: ftp://mirrors.aol.com/pub/info-mac/game/brd/pgn-viewer-13.hqx
email: dca1@cornell.edu

Tempest Chess:(S-Free) A chess interface for FirstClass BBS clients.

Features: Allows you to play chess on a properly equipped FirstClass BBS.

Pros: Does what it is supposed to.

Cons: ???

System Requirements: FirstClass client 4.2

Rumours/Updates: None.

ftp at: ftp://mirrors.aol.com/pub/info-mac/game/brd/tempest-chess-first-class.hqx
email: johnb@tempest.net.hk

Thanks to all of the following who have helped with the FAQ:

muniacke@bnr.co.uk

hume@deltanet.com

mlong@itlabs.umn.edu

tobill@lerc.nasa.gov

colinr@extro.ucc.su.oz.au

rharris@rt66.com

And programmers, keep up the good work! We do appreciate it! :-)

(If I missed anyone, I am truly sorry. Tell me to put your name here!)

About the Author:

Matthew L Housholder is the author of the Macintosh Chess FAQ/resource list and reviews. He is a 1994 Graduate of Bowling Green State University (Ohio, USA) with a BS in psychology, currently deciding his future in whatever realm. He is passionate about chess (a GrandPatzer, he says), and Macintosh computers although he wonders what ever happened to the Commodore 64 and basic.

WHY STUDY CHESS ANY MORE?

by Tim Kadom

Would you offer to sprint against a formula1 race car? Would you test your strength against a forklift? Perhaps when the first cars came out, you would have been able to outsprint them. Perhaps the strongest men were able to lift more than the first forklifts... but technology is constantly improving, and man does have limitations.

The question really is, where are the limitations for technology, in particular what will limit chess programs? Currently this is probably mostly process space, and processor speed. We know that these limits have been expanding at astonishing rates since the introduction of the first microcomputers. 10 years ago computers didn't beat grand masters. Now they do.

Before long they will beat the best of the grandmasters regularly, and when that day comes, I don't know where you get the idea that humans would somehow romantically rise to the challenge and grow bigger brains. As a species we have not improved all that dramatically in the past 2000 years. Certainly not as dramatically as computers have (in a physical computational sense). What then is the interest in competing against machines? Perhaps machines competing against machines will hold some interest. If and when machines surpass our top GM's there will be no looking back for technology. Chess will still remain an interesting challenge for Humans. The fact that computers may be able to play it better or even to perfection will not diminish the struggle and combat between the human players. I see no reason for lumping computers in with the human players to play for the world championship. They are not in the same league. Two different categories altogether. You don't see featherweights contending for the heavyweight title for the same reason - it isn't fair. Nothing would ever stop a human player from challenging the top computer, but other than serving as an indicator of comparative strength such a match means nothing. chess was designed by humans for humans. The fact that computers can play chess only has meaning for the programmers of the world. It may diminish the struggle somewhat to know that a computer could play the game better, but a computer isn't human, and the struggle is ultimately between humans.

Why do we still have the Olympics? who cares how far a man or a woman can throw a javelin? It may have meant something when javelins were thrown in war, but what does it mean now? besides the competitive element there really isn't much to the Olympics. It is all about who is best, and in chess it will always remain that way as well. I am sure anyone could design a machine that would launch a javelin further than any man could throw it, but no one would really care would they?

ABOUT THE AUTHOR:

Tim Kadom is 28 year old and a Software Engineer at Magna Software Corp. He has been enjoying chess since his mother taught him how to play at Age 8. Tim currently owns a Saitek chess computer which regularly teaches him the error of his ways and helps him analyze games gone awry. He can sometimes be found on FICS under the handle "Canuk".

HASH TABLE TEST

by Robert Hyatt

A couple of days ago, Jonathan Schaeffer recommended that I try the following "trick": if there's not a "hash move" at a particular ply, then generate the list of legal moves, pass through them creating a hash key for each, then probing the "other" hash table (for the opposite side), and if I find a move that leads to a position that would produce a cutoff quickly, try that move here first.

I wrote this code and tried it on Crafty and Cray Blitz. The results were that it *did not* slow things down much because of the speed at which both programs generate legal moves. However, it produced *very* little performance improvement. In most positions it was 1 or 2 percent slower due to the extra work, while in others it was 1 or 2 percent faster due to slightly smaller tree sizes. I tried it on the complete set of win at chess and Bratko/Kopec positions, and the net result was <nil> improvement, and overall a 1-2% slowdown. Note that the Kopec test was run at 5 mins per position so it wasn't a search that was "too shallow" and that also the hash table sizes were not "immense".

I can't begin to explain why I get this result when Jonathan (and someone else too) reported 25% improvements, particularly in a checker program.

One possible explanation is that I've always had a fairly clever hash table replacement algorithm that goes to great lengths to keep useful information.

In any case, after about 350 test positions, the result was almost break-even.

Bruce Moreland (Ferret on ICC/FICS) also tried this, and while he saw the tree sizes shrink very slightly as I did, he took a much bigger hit in performance because of the way he generates moves. His result, then, was that the idea failed miserably, because even though the tree shrank minimally, the cost far outweighed the gain.

Maybe we need to discuss/consider/tune this some more, but at present, it looks like whatever we are doing is working well. INCIDENTALLY,, I even replaced my hash table algorithm (in Crafty) with a "clone" of what Bruce does, and re-ran the tests. Same results, so it's not just *my* hashing that's doing well and making this not work.

PIECE EVALUATION

by Peter Gillgasch

As I started the work on the program that later became DarkThought I had basically no evaluation for the pieces. After toying with horrible slow code that did endpoint evaluations for the pieces I got the idea (as many did before, but I swear I didn't know that and hence I was quite proud of it) to analyze the root position and to modify the piece/square table relative to pawn structure and king locations. The piece/square table scores were also used for move ordering to cut down the tree size (this helped a lot since it is basically using the evaluation to order the moves at close to no cost).

Of course the program played *much* better than before but it had serious trouble when the pawn structure was highly flexible and if there was a way to lock its bishops with own pawns it was guaranteed to like exactly this line Later the three of us modified the oracle code (to use Berliner's term) and we where quite successful with it - DarkThought started to beat commercial PC programs. But it was quite hard to make further progress, so a lot of knowledge was moved to the endpoint evaluation up to the point that there was basically no oracle code left. This improved playing strength but it was always my impression that we suffered in the "tactical" aspect a bit since the search was no longer fast as hell and I was never convinced that going this way was the best decision. I am currently finishing a complete redesign of DarkThought that takes the need of a fast endpoint officer evaluation into account (using bitboards with *very* small lookup tables) without the need to resort to major kludges in the evaluation code. I learned a lot during the development of DarkThought v1 and v2 is about 4 times faster.

But it is obvious that a lot of long term features can be determined by looking at the root position and I am convinced that a "mixed"

approach of endpoint evaluation and root node evaluation is the way to go for a couple of reasons: - no serious glitches thanks to correct endpoint evaluation

- no hefty speed / depth penalty
- no need to modify optimized time critical code all the time

So, what does r.g.c.c. think of this? I think I recall that Bob doesn't like root node prescanning since the search may run into a completely unexpected direction if you search deeply but if the Deep Blue guys are putting a writable piece square table on their chip it is obvious that the opinions on that are different in the > 1MNPS camp as well. An interesting side note. DarkThought has no real problems against most programs with a lot of endpoint evaluation knowledge and no problems against most of the prescan-based evaluators. But I cannot think of any "endpoint" evaluator that really scares me, only some prescan engines come to mind. My conclusion is that good prescanning + speed is lethal, while speed is not possible when a program is based on endpoint evaluation only.

ABOUT THE AUTHOR:

Peter W. Gillgasch is a student of Computer Science at the University of Karlsruhe/Germany. He wrote the search engine of the "DarkThought" chess program which finished 14th at the 13th WCCC / Hong Kong and 7th at the WMCC / Paderborn.

BEATING CHESS COMPUTERS

by Halibut

What it gets down to is why play chess?

There are a few reasons. One is simply to beat someone. To crush someone. To be like Bobby Fischer, to want to drain their ego until there are no drops left. The thrill of victory. The agony of the feet.

A computer, however, has no ego. It has no consciousness. It is a piece of silicon and iron. It does not know whether it won or lost. It feels no joy when it checkmates you. It does not kick itself when it loses. It is simply a tool, much like a hammer, or a wrench. It is much more sophisticated than a hammer or wrench, but perhaps not by some objective standard of the next 1000 years. But it is not human.

When you play a computer, and feel some satisfaction from winning, why is that so? It can only be because you are there: Because you have overcome something in yourself. Because you, playing your best, have done something right (or "righter") than a machine has. You are

representing the human race. You have shown that there is some innate quality of man that has been preserved. etc.

However, if to achieve that, you do so by ignoring objective reality (the reality of the chessboard. The truth of a position) and instead play to take advantage of the computer's weaknesses, what is the joy there? Forgetting for a moment the deliberate distortion of your style, which you will develop, what is the point in playing a computer in such a fashion? How do you enjoy making moves which even you know are "wrong" in a chessic sense simply because you know the computer will not take advantage of them? You may as well just pull the plug on the computer at strategic moments, and write down the results in a little book as a victory. What is the point?

CHESS COMPUTERS & HUMAN STYLE

by Robert Hyatt

Most computer chess machines can already beat 99% of the humans based on ratings "I personally find a difference between playing a computer and playing a human being at chess. Although the game is the same, there is an interactive and creative element that feels missing from playing a computer opponent. Also, playing against a can opener and winning doesn't seem as satisfying as defeating flesh and blood."

John Amenta I've heard this argument several times. I still remember the 1981 Mississippi Closed State Championship event. The short story was that Joe Sentef (a USCF master) had won the event two years running, and was set to "retire" the trophy. When we asked to participate (we had done so for several years, but *not* using a Cray) we were "welcomed" as yet another "fish" to contribute an entry fee. The rules used allowed humans to state a preference for "not playing the machine" which was (at that time) an absolute request. Joe eschewed this option, thinking it unbecoming a master and two time winner to avoid playing the machine just because, as rumor had it, it was running on a machine that "might" make it a formidable opponent.

As the tournament went on, Cray Blitz went undefeated and played Joe in the next to last round and won. The next-highest rated human had said "no computers" and, as a result, didn't play us. He was the highest finisher even though Joe had beaten him many times before (they

drew in the tournament, by the way) because Joe elected to play the machine and he did not. We "blew" the final tournament standings wide open as a result, and elected to not participate any more. Joe's main complaint about the machine was the "lack of personality" and the "lack of intimidation" that the machine showed. Joe played a wild tactical line (as he always did) and was slamming pieces down, banging the clock, moving quickly at times, all things that intimidate the player being attacked. Of course, the machine simply took those proffered pieces that were safe, disdained those that were not, and *ignored* the slamming (I must admit, I was intimidated by the violence of some of the moves, I was afraid that a couple of the pieces might be bonded to the board after a couple of particularly vicious "slams.")

He (and later Walter Browne) commented that the lack of a human to intimidate, (by scowling, etc.) changed the character of the game to something that was "less" than it should be. I've never tried to argue that point, as there is certainly more satisfaction in squeezing something that "feels" it, as opposed to the machine that you *know* feels *nothing*.

WHY COMPUTERS ARE NOT PERFECT

by Robert Hyatt

The biggest problem (to me, IN MY HUMBLE OPINION, , etc.) seems to be getting information/algorithms from the human GM into the silicon GM wannabe. Humans are capable of wonderful generalization. You explain a pin, and you can then understand bishops pinning knights, rooks and queens on the king, rooks pinning knights bishops and queens on the king, etc. For a computer, you have to get so specific it makes it difficult.

Ditto for evaluation ideas. We just haven't (yet) been able to take suggestions from a GM and incorporate them into chess algorithms. Yes, we have done *some* of this, but not nearly enough.

Performance is always important, but it will never be enough. Some knowledge is necessary, and *this* is the hard part.

A PROFESSIONAL PROGRAMMER

by Brian Sheppard

The productivity of a typical professional programmer is about 12,000 lines of code per year. I know from experience that code seldom goes into a chess program without going through N revisions beforehand. So I will guess 25K lines of code per year, for a 25-year total of 625,000.

I started writing my first chess program in 1986. It has taken me 9 years and 3 complete move generators just to make a chess engine with championship-caliber speed. And speed is just the start of a really good program; there is a ton of work to do just to understand the knowledge-intensive aspects of searching: extensions, selectivity, quiescence, transpositions, ... I could extend the list indefinitely.

The degree of complexity in a chess engine is truly daunting. Just keeping the key ideas in your head is hard. If you aren't immersed in the techniques, it can sometimes seem very simple, especially if you are technically minded.

I often see posts in this venue of the form, "Hey, Bob, I read about that problem you are having with Crafty. Why don't you just ..." The suggestion is invariably sensible, but Bob has already tried it and found that there are unpleasant side-effects, which Bob patiently explains for the net. Complexity rears its head again, and another elegant idea is blown away.

If you want to understand the "luck vs skill" debate, you need to understand how complex the problem is. No particular thing about chess is individually all that hard, but every time you solve a problem, there are multiple ramifications that themselves must be solved, and so on. It is humanly and computationally impossible to keep up with the problem.

The opening library is a great example of the difficulties. You consider a position, size up the moves, and decide that there are 2 good alternatives. You have solved a problem, to be sure, but now you have 2 problems! What can you do to keep up? Nothing. It is inherent in the game.

So you inevitably have to prioritize what you work on. You must sort the opening positions into some order of greatest likelihood, and begin work on the most likely positions. Work as fast as you can, and hope that you get to the key positions before your next opponent does! Is it skill if you solve a key opening position that your opponent does not? Most definitely. Were you

lucky that you even considered that position when your opponent did not? Oh yes.

It is characteristic that the chess programmers in this debate attribute most of Fritz's success to luck, where the non-programmers wonder how that can possibly be. We see luck because we know our limitations. We know we cannot solve the problem. We know that we depend on good fortune. We do not pretend otherwise.

Fritz and its team of programmers and chess experts deserve their day in the sun, just as Hsu et.al. deserved theirs for their fine wins in prior years. In time, Fritz will have a bad day and DT will again return to the limelight. After all, in the end skill always prevails!

ABOUT THE AUTHOR:

Brian Sheppard received his BA from Harvard in 1984 and is currently a software engineer.

CRAFTY & ENDGAME DATABASES

by Robert Hyatt

I have admitted this many times already. That's the purpose of the endgame databases-- it is *far easier* to simply compute the true value of all the possible positions in a particular ending, and then use them later. Perhaps for some endings, there is a simple algorithm that approximates this database (KBN vs k is one example) where most programs can play it out (not quite perfectly, but can win before the 50-move rule kicks in). However, for other endings, I don't understand all the rules. Therefore I am not going to be able to program an algorithm to do something that I can't do myself. However I do know enough about search algorithms and the like that I can solve a good number of "interesting" and "useful" endgames (endings that are actually seen OTB) by "plying my trade" and searching them and storing the results. As a coincidence, that is how I learned to mate with bishop and knight vs king, learn which corners are "right" and which are "wrong" and then learn how to force the king to the right corner without letting him slip past and run to the wrong one. Once I learned this, I haven't had to go back and "re-learn" it again. I do a small modicum of analysis, but already have my goal clearly in mind.

Note that I *did not* say "eliminate the book"... just that I hope to modify Crafty to the point that it is capable of handling *any* opening system. It plays wonderfully in e4 openings, primarily

because that was *my* personal favorite when I played chess actively. It is actually playing d4 openings pretty well, excepting some of the more "closed" systems.

For the record, if you analyze any of my prior posts, you will note that *no* program I've ever written has used endgame databases yet. Why? because it represents an "easy way out." What's the point in a program that plays KQ vs kr like a super-gm, but plays the stonewall like a 2000 player? As these endings become a problem OTB, they will naturally be addressed in one of many ways: algorithm, search, or database. At present I'm more interested in the general solution of these problems. A lot of work could produce something that would play KQ vs kr perfectly, but I've only seen two or three of these in the (now) 15,000 games Crafty has played on ICS/ICC/FICS. The "simple" endings (KR vs k, KQ vs k, etc.) it can do easily, with almost no searching (ie less than 1 second per move and it will never falter).

I have no idea of exactly what the proportion is between what can be solved in the general sense, and what will take specific things like databases to fix. At present, the former is still so large and full of opportunities, that the latter is not interesting to me. One day this may well change, but for the present, there are still lots of untried search extensions, untried evaluation algorithms, and untried performance enhancements. Also note that the sum total of positions in these endgame databases represent a fraction of the total chess problem space that is so small, that even the percent of the mass of your body that one atom represents is a *very* large number in comparison. The old software engineering theme of fixing the big problems first applies here too.

BEATING CHESS COMPUTERS

by Ed Trice

There are roughly 10 to the 80th power of atoms in the universe, yet our best count shows that there may be 10 to the 120th power of unique, legal chess positions.

So, we may never see annotation like -- 1. e4? h6!! white is now in zugzwang. -- Therefore, purely objective analysis leading to mate from any given position is not what I consider "chess truth." If, however, we could turn every atom on the moon into a Pentium 90 parallel processor, and write code to effectively utilize such a device, we could get into a position where we would have a "mate in 40" situation. Interesting?

The ultimate question "Can chess be solved by machine" I think can be answered with a question. If chess were a test, would it be multiple choice or "essay"? If it is multiple choice, machines will, alas, win ad infinitum at some point in time. If it is "essay", our best GMs would have the "final say" on occasion.

About the Author:

Ed Trice is the author of "The Sniper and The Sniper II" selective searching chess programs (last USCF Sniper rating was 2207 in 1990 running on a slow Macintosh SE!) The Sniper played NM Alex Dunne, as reviewed in Chess Life, December, 1990.

DEPTH SEARCH & STRENGTH

by Robert Hyatt

Over the past several years, two notable experiments were done to try and calculate this.

First, Ken Thompson played different versions of Belle against each other, varying the search depth. The conclusion: deeper depth improves the program.

Second, Hans Berliner ran the same test, but, perhaps with a little more information, had 2 versions of hitech, one called "hitech" that had the full evaluation of hitech, the other call "lotech" that had a primitive evaluation. He then played hitech vs hitech varying the depth, and lotech vs lotech varying the depth. Same conclusion as above. Then he tried hitech vs lotech, and the interesting thing was that lotech's impression of hitech was that hitech was *much* higher rated than it really was.

My conclusion: depth makes a difference, but trying to extrapolate FIDE ratings based on depth is probably impossible. First, for shallow search depths, depth makes more difference (say between a 4 ply and a 5 ply search) than it does at deeper depths (say 11 ply vs 12 ply). Second, a poor program might show more improvement with speed than a really good one, since the really good one already has an evaluation that guides it into good positions without it having to see *everything* via search. In short: probably hopeless to predict anything other than a steady increase in skill due both to faster hardware and more sophisticated algorithms. Trying to fit a curve to the data is like trying to push a noodle around. About the only concrete observation I can offer is that clearly the slope of the performance curve is still positive, things are improving every year. As long as this holds, then Kasparov, et. al. are in real danger, although it might not be as soon as

we hope (and then again it *might* be next year, time will tell.)

A PREDICTION

by Steven Edwards

Back in 1985, I estimated the arrival of a program with 2400 strength prior to the end of 1990, and I was right. I also thought that a program world champion would arrive by the end of 1995, but I apparently was a bit optimistic.

I now take the opportunity to give my next estimate of a program world champion as happening by the end of the year 2000. However, I think that there is an even bet as to whether or not conclusive matches (first to win 6 games) or tournaments (12 rounds) will be financed to the extent of attracting appropriate human opposition. I also predict that big bucks brute force alone will not be sufficient, at least with hardware advances over the next ten years. Instead, I predict that within five years a program running on an easily accessible general purpose machine, perhaps something in the PPC620 class, will demonstrate world championship strength. This will be done not just by clever programming, but by implementation of search algorithms capable of self-programming by using existing machine learning techniques. I would not be surprised if the resulting algorithm is too complex for human comprehension. This would almost be expected as no one has yet adequately documented (i.e., translated into a program) exactly how strong human players perform move selection.

ABOUT THE AUTHOR:

Steven has a BS, MS Mathematics; ABD Ph.D. Computer Science. Programming since 1973, has six home computers in active service Author of the chessplaying program Spector Developer of the PGN, SAN, FEN, and EPD standards

he is the author of the free endgame database initiative (tablebases) Developer of the free computer chess test suite project Author of the SAN Kit and the EPD Kit Actively working on new, free chess software

SEARCH DEPTH & RATINGS

by Robert Hyatt

There has *never* been a linear relationship between search depth and rating, except between different versions of the *same* program, but handicapped by time. The ICCA Journal, and a

couple of the "Advances in Computer Chess" conference books have articles by Thompson and

Hans Berliner describing this in detail. For *all* chess programs, the difference between a 4 ply and a 6 ply search is substantial, but the difference between 12 plies and 14 plies is not. Further proof can be found by investigating what the Deep Thought group (and the Cray Blitz team for that matter) have been doing. We have been trading plies of search for better knowledge and the ability to search deeper along selected variations rather than following everything out to some fixed depth. If you believe the linear relationship, you have to believe that Deep Blue will be "untouchable". I don't. Good. Damn good. But *not* untouchable. Deep Thought is better than any other program in the world, yet it got "touched" in Hong Kong, once hard, once a little softer.

THE FATAL COMPUTER FLAW

by Robert Hyatt

The main problem with these ratings is this: You play it over and over, and find a "chink" in its armor, and start exploiting this every game. Pretty soon you decide that it isn't a 2400 program, but, against you, it's not even a 1900 player. The first game a machine plays against a human will see the machine perform at its very best. Each additional game will simply expose more weaknesses. A human player "evolves" as you play him over and over, and will stop doing whatever it is that loses game after game. The machine never will.

LAWS OF CHESS & COMPUTER

by Steve Rix

Article 15: The Conduct Of The Players

15.1 Prohibitions:

(a) During play, the players are forbidden to make use of hand-written, printed or otherwise recorded matter, or to analyze the game on another chessboard. They are also forbidden to have recourse to the advice of a third party, whether solicited or not. That's the main rule in the section. It is VERY clearly designed for games between humans ("the players..."). Agreed?

The FIDE Laws say nothing about computers. Indeed, computers have a number of problems during practical play, such as their difficulty in writing down the moves of the game "on the

scoresheet prescribed for the competition" (Article 11.1), playing out moves on the chessboard, pressing the clock, sealing moves (Article 13.1) etc. Further, a computer often records its own analyses during a game so that it can refer back to it later (Article 15(b) of the FIDE Laws prohibits this explicitly). So when a computer plays a game in a tournament, exactly what rules ARE being used? (I assume I'm allowed to shout for emphasis too!) Are these Laws modified from the FIDE Laws of Chess, for example with one or two conditions being relaxed? The simplest seems to be a game between a "normal" human and an operator, who IS *forced* to receive advice from a nominated third party (the computer); the operator can then play out moves on the chessboard, press the clock, etc. so as to obey the FIDE Laws of Chess.

This is just a guess, however. Let's see a list of human-computer FIDE Law modifications, if anyone has them. As I said above, the simplest arrangement for a human-computer match is using an operator who obeys all of the FIDE Laws of Chess ... except

Article 15.1(a), above. What is the new Law he plays to instead, given that he obviously receives advice from a third party? Does this new Law alter the first sentence of the equivalent FIDE Law too? The point is that, when an operator is used, the FIDE Laws of chess do not say anything meaningful about what methods the computer can use to come up with a move. You can hardly forbid it from accessing ALL forms of "otherwise recorded matter", because a computer stores all its instructions and essential reference material ("bishops and knights are worth about 3 pawns"...) in some "otherwise recorded" manner on its hard disk (or on a CD-ROM, or on a floppy, or whatever). Should all this have to be loaded into RAM before play starts? Well, there are problems on most PCs due to RAM limitations, so the computer often stores calculations temporarily on the HD; ultimately, this RAM-based approach makes everything just a question of how much of the stuff can be squeezed in, which is not satisfactory.

The simplest approach, as I say, is to let the computer just be a black box, generating moves for its operator to play. If we try to be too technical, then we run into problems for BOTH sides. What has "DURING play" got to do with the price of fish? A computer HAS to make use of reference materials "DURING play" in order to operate. Simple. Either it violates the FIDE Laws of Chess all the time, or else it IS allowed to access material stored within its "black box", in which case where's the difference between referring to piece values, tables of opening theory and databases? Besides, if we get literal, humans

violate this Law all the time. "During play, the players are forbidden to make use of hand-written, printed or otherwise recorded matter"... Well, I do, all the time. Before the game I have accessed "reference materials" and stored them in my memory; I then hope to "make use of" this knowledge during the game, by acting on its advice. Aren't I naughty? Time to get back to what was said originally: we're different.

ABOUT THE AUTHOR:

Steven Rix was born near London and brought up near Manchester.

Steven received a M.Eng degree at Cambridge University, then started a PhD in Edinburgh in 1992. Still working at it. He has a 2225 FIDE on the January and July 1995 lists. He says it should have risen to 2235 or so but they messed up his rating and took 20 points away instead. 2105 on the Scottish list, which might be more realistic.

MOVE GENERATION EXPERIMENTS

by Peter W. Gillgasch

This round of the move generation experiment deals with the overhead introduced by generating capture moves "one by one" instead of generating captures "en bloc" and sort 'em later to get them into the correct mvv/lva sequence (Bob, I am putting the king first since it is the least valuable piece. It cannot be captured - kind of using a static exchange evaluator for king captures. Seems reasonable to me). The "sort" algorithm is a simple maximum selection sort (scanning the list in a couple of passes) since the input is so small.

Same test set as before (Bratko-Kopec), same machine (PPC 601-80), but this time with 100,000 iterations since everything is so quick. Note that my last numbers were not very exact to this (except of the DoMove() ms data)

- I apologize for that. I have added yet another column stating the kilo captures per second rate.

	One by one capture generation			All and sort capture		
	Total se	Each ms	kcps	Total se	Each ms	kcps
01	1.2333	0.012333	0.000	0.7000	0.007000	0.000
02	1.7167	0.017167	116.505	0.9333	0.009333	214.286
03	2.6000	0.026000	76.923	1.2500	0.012500	60.000
04	1.9333	0.019333	0.000	1.1500	0.011500	0.000
05	3.3000	0.033000	151.515	1.3833	0.013833	361.446
06	1.2667	0.012667	157.895	0.7833	0.007833	255.319
07	2.7000	0.027000	111.111	1.2667	0.012667	236.842
08	1.0333	0.010333	0.000	0.6833	0.006833	0.000
09	2.7500	0.027500	109.091	1.3333	0.013333	225.000
10	2.4833	0.024833	80.537	1.0000	0.010000	200.000
11	2.2500	0.022500	44.444	1.2000	0.012000	83.333

12	1.9833	0.019833	50.420	0.8667	0.008667	115.385
13	2.3333	0.023333	85.714	1.0667	0.010667	187.500
14	2.2833	0.022833	87.591	1.2167	0.012167	164.384
15	2.6333	0.026333	113.924	1.1333	0.011333	264.706
16	2.6167	0.026167	114.650	1.2667	0.012667	236.842
17	2.6500	0.026500	150.943	1.3833	0.013833	289.157
18	2.5333	0.025333	118.421	1.2500	0.012500	240.000
19	1.9333	0.019333	103.448	0.9500	0.009500	210.526
20	1.9167	0.019167	104.348	1.1333	0.011333	176.471
21	2.9167	0.029167	171.429	1.3833	0.013833	361.446
22	2.8167	0.028167	106.509	1.2500	0.012500	240.000
23	1.8000	0.018000	0.000	0.9333	0.009333	0.000
24	2.5833	0.025833	154.839	1.4833	0.014833	269.663

Some observations: In this synthetical test "all and sort" is about twice as fast as "one by one". Both routines generate illegal moves very rarely, so they can be both tested in real tree searches. I made some preliminary tests with "all and sort" searches in tactical positions. Much to my surprise the results are unclear. Sometimes the "all and sort" code is slightly faster, sometimes the "one by one" code. The only reason why "one by one" can hold itself against "all and sort" is that most of the time not more than one capture is needed and the capture scan is immediately stopped as soon as we reach a futile victim class. This benchmark suggests that both algorithms have something to offer. If I find the time I'll think about what to learn from this

I BEAT THE COMPUTER WITH 1.G4

by Sam Sloan

One of the features of the U.S. Open Chess Championship being held in Concord, California is that International Master Larry Kaufman has been testing various computers for official rating purposes. As these computers have not been allowed to compete in the regular tournament, Kaufman has offered to pay money to anybody who can beat them, at the rate of \$50 for each win and \$25 for each draw. However, the player must be rated at least 2000 to be allowed to compete and is only allowed to play two games.

I accepted this opportunity to pick up some money and played two games against one of the computers being tested. Strangely, the computer did not have anything in its book against my standard opening: 1. e4 g5. I gained what I believed to be an advantage, but then I blundered and lost. In the second game, I played 1. g4 on the first move and managed to win, thereby picking up \$50. (Fortunately, Kaufman always pays immediately, and in cash.)

According to Kaufman, the computer I played, which was the Saitek President, will receive a rating of 2330 as a result of the games in this competition. Although this game was not exactly part of a tournament, it was a side event in connection with the U.S. Open. The computer's games are being rated by the USCF. The event was directed by Alan Benjamin. Larry Kaufman represented Saitek.

Grandmaster Arthur Bisguier played two games against the computer, won both games, and thereby won \$100. Here are my two games.

[Event "U. S. Open - Side Event"]

[Site "Concord CAL USA"]

[Date "1995.08.08"]

[White "Saitek President"]

[Black "Sloan, Sam"]

[Result "1-0"]

1.e4 g5 2.d4 h6 3.Bc4 e6 4.Nf3 d5 5.exd5
exd5 6.Be2 Be6 7.O-O Nd7 8.Re1 c6 9.c4 Bd6
10.b3 Qc7 11.c5 Be7 12.b4 Bf6 13.Bb2 Ne7
14.a4 Nf5 15.Bd3 O-O-O 16.Qc2 g4 17.Bxf5
gxf3 18.g3 Rde8 19.Bxe6 fxe6 20.Nd2 h5
21.Nxf3 h4 22.b5 hxg3 23.hxg3 Rh5 24.Rab1
Rf5? 25.Rxe6 Rxe6 26.Qxf5 Re2 27.Qg6 Qa5
28.Qd3 Re8 29.bxc6 bxc6 30.Bc3 Qxa4 31.Ra1
Qc4 32.Qxc4 dxc4 33.Rxa7 Re2 34.Ba5 c3
35.Bxc3 Nxc5 36.dxc5 Bxc3 37.Kf1 Rc2 38.Ng5
Bd4 39.Ne4 Kd8 40.f4 Kc8 41.g4 Bxc5 42.Nxc5
Rxc5 43.Ke2 Rc3 44.g5 Kd8 45.g6 Ke8 46.g7
Rg3 47.f5 Rg5 48.f6 c5 49.f7 + Kd8 50.f8Q + 1-0

[Event "U. S. Open - Side Event"]

[Site "Concord CAL USA"]

[Date "1995.08.08"]

[White "Sloan, Sam"]

[Black "Saitek President"]

[Result "1-0"]

1.g4 d5 2.Bg2 Bxg4 3.c4 Nf6 4.Qb3 b6
5.cxd5 Qd6 6.Nc3 c6 7.e4 cxd5 8.exd5 Nbd7
9.d4 Rc8 10.Nge2 Nh5 11.O-O Qg6 12.Ng3
Nh6 13.Be3 Nh5 14.Nb5 Nxg3 15.fxg3 Bf5
16.Rac1 Rxc1 17.Rxc1 Nb8 18.Nxa7 f6 19.Qxb6
Na6 20.Qxa6 Qg4 21.Nc6 g6 22.Qa8 + Kf7
23.Nd8 + Kg8 24.Ne6 Bxe6 25.dxe6 Kg7 26.Qe4
Qxe4 27.Bxe4 f5 28.d5 Rg8 29.Bf3 Kf6
30.Bd4 + Kg5 31.Kf2 h5 32.h4 + Kh6 33.Rc8
Bg7 34.Rxg8 Bxd4 + 35.Ke2 Be5 36.a4 Bxg3
37.a5 Kh7 38.Re8 g5 39.a6 g4 40.a7 gxf3 +
41.Kxf3 Bxh4 42.a8Q Bf6 43.Rf8 f4 44.Rf7 +
Kg6 45.Qa4 Kf5 46.Qxf4 + Kg6 47.Qe4 + Kg5
48.Rh7 Black resigns 1-0

THE AGE-OLD COMPUTER DEBATE

by Robert Hyatt

This is a continuation of the age-old debate about playing computers. Good players play chess against the machine, perhaps taking advantage of the machine's benevolence by playing the same opening over and over to learn more about it. Other players try to exploit particular weaknesses off the machine, and improve their play as they do it. The final group find an opening it plays poorly and then play it over and over, learning nothing, and, perhaps, even diminishing their skill in the process.

They make great partners, used right, but lousy trainers used wrongly. It all depends on what you want out of the computer.

EVALUATION FUNCTIONS

by Robert Hyatt

I also think that we will see some sort of "evolution" continue in these evaluation functions. These things are called "static evaluation functions" because they do "static" analysis on (supposedly) quiescent positions. Something sorely lacking is a "dynamic component" An example I have played with in crafty. (I'm going to treat one side only to keep this simple.) Assume an evaluation that produces a result as follows: $eval = w[1] * term[1] + w[2] * term[2] + \dots + w[n] * term[n]$;

IE, a simple polynomial evaluation where $term[n]$ is some computed term such as (say) passed pawns, or piece placement, or development, or $w[i]$ are a set of "weights" that determine how important $term[i]$ is. If your king is "safe" (no disturbed pawns, etc.) then, maybe all these $w[i]$ could be set to 1.0 (for example.) If your king is exposed, then we could increase $w[n]$, where n is the term for attracting pieces toward the king, and at the same time, decrease the $w[i]$ that have nothing to do with attacking.

In short, a dynamic evaluation that still uses static ideas, but varies the importance of these ideas based on the game. I think of Crafty here, its king sitting at g8, no pawns around it, lots of enemy pieces around, and yet the positional part of the evaluation is still giving a bonus for the

opponent having a couple of weak pawns and poorly placed knight, when its own king is nearly dead.

This sort of thing is doable in Crafty right now, since crafty really does produce a "vector" of scores, just that they are summed as they are computed. They could be stored in an array as above, then some third-order evaluation could look at this second-order type of evaluation data, and appropriately modify the weights before the final reduction to a scalar is done. Would be

nice to have the evaluation sort of "tune" itself to what's going on in the game.

Another possible idea: if this "vector" has one large value and a bunch of smaller values, this "large value" might be the winning edge you need to plan around, like a passed pawn. If the smaller values sum together and can become larger than the passed pawn evaluation, things get clouded. On the other hand, if you have several large and small values, it's difficult to decide which is the feature to play with. These weights might even be carried in from the opening chosen, so that weak pawns are more important when playing an opening where the c2/c7 pawn is a weak target. Lots of promise here when time permits...

COMPUTERS & OPERATORS

by Robert Hyatt

The rule about time has always been that if a program, of its own accord, asks "how much time do I have left" that it is acceptable to respond with the correct chess clock time. Just like a blind player can ask how much time he has left if the hands on the clock are not exposed so he can touch them. Some say this leads to potential cheating, and I have to agree. However, there's probably a way to cheat without getting caught anyway, so it is probably not worth the worry (such as entering the opponent's move, with one space after it meaning "be careful, this is complicated, search a little longer than usual") I got over the paranoia years ago, and simply don't worry about it. Cray Blitz (and now Crafty) play "on their own" and do reasonably well at time management. Personally, I feel a sense of accomplishment when Crafty uses its time "wisely" and reacts to many different circumstances correctly. If I were manually "tweaking" it during a game, I wouldn't feel quite so good about it. I can't speak for everyone, but the feeling of accomplishment comes from "within" and not from "without." I have been aware of at least one operator regularly

"cheating" at computer chess tournaments for several years. He regularly helps the program by pressing a key to say "move now" as an example. Seems that there's always going to be such a case. If they feel good about it, let 'em. Take the high moral ground, you'll feel better about the outcome should it be "good." I still feel that if a program elects to "not move" due to bug, algorithm or whatever, it should lose. Should it make an illegal move, ditto, should it refuse to accept an opponent's (legal) move, ditto. Operator errors should be corrected, with whatever fudging is needed to make things right.

Example: you "ponder" for 30 minutes and find a crushing move. Your opponent makes a different move on the board, you enter it, losing the information you found for the crushing move. Then your opponent says "oops" it really played this move, my mistake. The move it made was the move you were thinking about for 30 minutes. The game should be backed up, and you should get 30 minutes to "ponder" before entering the correct move. Your opponent should stop his program completely for the 30 minute recovery period. If you write an accurate log of the game, this is easy to re-construct. However, any other case should get the axe immediately. Remember, the game is between two machines, not between two machines and their operators. Operator error can be corrected, machine errors should simply end the game, unless it's a hardware error of course.

IF COMPUTERS WERE HUMAN

by Don Getkey

Here is a (I thought interesting) relative "sizing up" of where computers are compared to mankind lately. Or at least all the known 2500+ FIDE/PCA GM players of the world. The best program money can buy (Genius 3.0) running on a Pentium 90, would rank tied for 146th in the World! This is some 89 places behind the defrocked immortal, former World Champion, now 57th place, GM Fischer. Rebel 6 the second strongest program available soon to be replaced by "Rebel 7" is a distant 211th place among the humans. The third best program Hiarcs 3, rides as tail gunner way back in 219th place.

In many ways this is impressive, and in other ways it really puts chess playing skill into perspective. It has taken programmers about 10 years to come up with programs available to the public that have broken through the 2500 FIDE barrier, and to reach as high as 146th in the World!. So far, out of a couple hundred serious

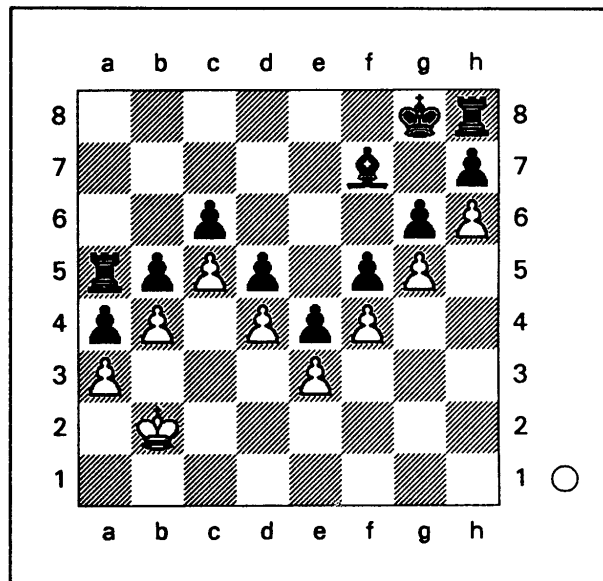
programs designed over the years only 3, and soon to be 4&5, have made it! Yet few would call any of the GMs ranked at 146th place like "GM Lalic" or "GM Balashov" contenders for the title? So just how far away are the computers from true dominance? Ask the 150 or so humans that stand in their way. After that, ask the top 20 players in the World, and then ask the top 5, and then ask the World Champion. The higher one goes the steeper one must climb. Commercially available programs from this vantage point may never break into the top 20 in my life time? So what about "Deep Blue"? Considering Deep Blue is vulnerable to carefully selected book preparation as demonstrated by Fritz 3s win over it in the WCCC, (a program that has yet to break into the 2500s), I'm unimpressed. For all of it's massive parallel programming and multi-linked CPUs and "Super-Computer" designed hardware/software, it is still rather easily upended by a less than GM level program!? When was the last time Kasparov lost to a sub-2500 player at slow tournament speeds? No, it is clear, Deep Blue is but a mere pretender to the throne for now, and for some time to come. Kasparov has little to fear when he meets Deep Blue in February. Realistically, Deep Blue is no stronger than 2600. Which brings me back to the steep curve idea. The angle of steepness must begin to rise rapidly right at about 2550-2650. When you consider the small difference in strength between the Pentium based commercial programs, and their far more powerful superfast cousins, the Super Computer and Work Station based project programs; there is no doubt that those humans who are 2650 and above (some 20 or so players) are operating on an entirely different level than programmers/software/hardware/ are currently able to reach or emulate. Add to that, another level beyond the top 20, Gary Kasparov, and you begin to see just how high the highest really is.

1. Kasparov,G	(RUS)	2795	175
2. Anand,V	(IND)	2772	174
3. Karpov,A	(RUS)	2767	156
4. Ivanchuk,V	(UKR)	2758	139
5. Kamsky,G	(USA)	2756	169
6. Kramnik,V	(RUS)	2749	155
57. Fischer,R J	(USA)	2594	
1.Genius3		2546	
2.Rebel6		2521	
3.Hiarcs3		2518	
4.MChess Pro4		2487	
5.Fritz3		2463	
6.W Chess		2395	
*146.Genius3		2546	
147.Lalic,B	(CRO)	2546	
148.Balashov,Y	(RUS)	2546	
149.Magem J	(ESP)	2546	
*211. Rebel6		2521	

212. Stohl,I	(SLO)	2521
*219. Hiarcs3		2518
219. Lin,W	(CHN)	2518

COMPUTER JUDGMENT

by Walter Ravenek



Question: Does anyone know of a chess program that would have the judgment to refuse the rook capture and thus secure the draw?

My chess program Arthur has code to handle this sort of position. As Chris Whittington remarked, it is not very hard to program: there must be a continuous chain of pawns and the stronger side must not be able to capture one of the pawns. However, is it worth the effort? I found it a nice challenge, but

it has little practical value, so I decided to deactivate the code to save me some evaluation time.

ABOUT THE AUTHOR:

Walter Ravenek lives in Amsterdam and works as a university teacher in computer chemistry. He has been more or less retired from active play, ELO 2000. He says his passion is writing a computer chess program called Arthur, which scored 4/6 in last year's AEGON tournament, and became 4th in last year's Dutch Computer Chess Championships with 8/11 (same as Quest/Fritz).

LESSONS ON USING YOUR COMPUTER

by Ron Moskowitz

1) Do not use takeback. Play every game out until you resign or win. Taking back moves lets you get into the "oh, I'll just see what happens" mind-set. You take your moves less seriously because "I can always just take them back." A mental trick to help you with this one is to decide, before you move, what your computer's reply will be. See how often you are right. But don't ever take back moves until the game is over. (I might try playing "real games" and "trial games" the difference being that with "real games" you don't play out other lines--ever! After you lose a trial game you can go back to what strikes you as a critical juncture and try it again. But you can not change your mind as to which you are playing halfway through, or when it looks like you are about to lose. But even in trial games don't change your mind because you didn't like your computer's response: play everything out until it is lost.)

I cannot overemphasize this. Playing with "takebacks" leads to taking the games less seriously, which led me to having a harder time concentrating against the computers.

2) Learn strategy. When your game is "wait for opponent to goof" computers are difficult and frustrating to play, because computers, given sufficient time, don't make stupid mistakes (unless they are set on such a weak level that playing them is trivially simple). You have to play forcing moves.

3) Discipline yourself. I know, this is sort of the problem, but sometimes you just have to do it. Make arbitrary rules for your behavior, like, "Before I move I will examine three moves that all look good and figure out what I will do on my next move." (This is a good thing to do anyway!) But arbitrary checkoffs like this can help you trick yourself into not moving prematurely.

4) Lastly, I hate to plug a product, but the customizability of the chess-master 4000 really helped me out. It let me set up a personality to play that was just a little bit stronger than I was, or the same skill but more offensive or defensive. This helped me avoid getting frustrated, having to make a jump between a "too easy" level one that seemed impossibly difficult. This was really helpful.

ABOUT THE AUTHOR:

Ron Moskowitz is a recent graduate of Williams College who currently resides in Berkeley, California. He is currently working on a

novel that he says has nothing at all to do with chess.

BAR THE COMPUTERS!

by Bluejack

Machines are tools. We have invented machines to make our lives easier by doing things we find tedious, or even to do things that we can't. Without doubt machines will soon "play" better chess than humans. The title "World Champion" should not apply to our tools, it should apply to ourselves. The World Champion should be the best HUMAN chess mind. In the Olympics, runners strive to run faster than any other human: not faster than any car -- that is just not possible. The difference, obviously, is that chess is a mental activity, and this necessitates our setting the terms of debate now, before our tools are finally able to do things we ourselves cannot. Chess computers should be strictly barred from competition in human tournaments, except for ongoing "demonstration" events such as the Harvard Cup. Chess competition should be among humans.

ABOUT THE AUTHOR:

Bluejack, a name he uses on the internet to protect his anonymity, lives in Philadelphia. He dabbles in chess, go, and writing; and works at a prominent bookstore where he hangs around the chess books far too much in the fruitless hope, he said, that their proximity will improve his game.

WHY BOTHER WITH CHESS SOFTWARE?

by Timothy Hanke

I often wonder why chessplayers bother with chess databases, electronic books, and so forth. Don't most of us already own plenty of chess books that we haven't read yet?

Although I've used electronic chess products occasionally, I must confess the advantages seem unclear to me. They are expensive and do not seem more useful than the books I already own. What's wrong with solving chess problems or tactical diagrams out of traditional books? Is there any better way to learn endgames than reading slowly through a good book, and working out things as you go? As for openings, I've always found that the best way to learn is by reading a good book that has thoughtful GM annotations;

then, of course, you need to get practical game experience.

I suppose you can access more information quicker from an electronic database, but I don't think the software would help my brain to absorb new chess information any faster. When I am studying chess, the important work of learning takes place in my head. Whether the new information comes from a disk drive or a page, I expect I'd learn at just about the same pace.

At the highest levels of international chess, I can see that big chess databases that held all your opponents' games might be very useful. Also, chess databases might be a good way for GMs and IMs to check up on the latest opening theory. But for most players, such databases seem to me to be worse than useless: not only do they cost us amateurs a lot of money to buy and maintain, and time to learn and use, but they do not help us to play better chess. I suspect a lot of amateurs are beguiling themselves with these products.

Obviously the big companies that make electronic chess databases depend on mass sales to make profits, but "the masses" are the very people for whom these products seem inappropriate. My guess is that only the elite few can really benefit from them.

Most likely I am preaching to the wrong flock here. Since you all obviously have computers, you are the very people who are most likely to disagree with me. :-) However, I thought I'd just see what people had to say. Maybe I'll learn something!

ABOUT THE AUTHOR:

Timothy Hanke lives and works in Cambridge, MA. He received the B.A. in Government from Harvard College and is now Publications Coordinator in the Harvard University Library. Named Chess Journalist of the Year in 1987 by the Chess Journalists of America, he has edited the award-winning publications Chess Horizons and American Chess Journal, as well as the forthcoming book Kasparov versus Anand: The Inside Story of the 1995 World Chess Championship (by GM and current U.S. Champion Patrick Wolff).

COMPUTER THAT THINKS LIKE A HUMAN??

by Kevin Begley

Perhaps I am wrong, but it sure seems that the best programmers of the day are lost in the details of AI. Many are more concerned with earning titles than they are with producing a machine that mimics the human approach to problem solving. While it would be a milestone for a computer to become the world chess champion, it would only prove that chess is too simple a game to measure how vastly superior humans are to their electronic creations.

Computers today use only a sophisticated guess-and-check algorithm -- hardly intelligent. This type of algorithm may do well in this game, but increase the possibilities (as in games like GO) and they can't compete with beginners. Change a simple rule in the game, and see what devastating effect it will have on these machines. For example, go back to the old rule where pawns can move only one space at a time. Suddenly, evaluation functions need adjustment, gigabytes of CD-ROM endgames need re-checking, and opening books are thrown out the window. What's left? Nothing but a stupid, brute-force machine, the heart of today's AI.

And, still, some have the audacity to call this intelligence. It is not the product which signifies, but the means at which the solution is arrived. Is a calculator intelligent simply because it arrives at a solution which a human uses intelligence to arrive at? Absolutely not! Chess computers today are only fancy calculators, which have to search for a solution, rather than calculate it directly.

Show me instead a computer which is able to analyze many, many games, and develop theories. And, let this computer formulate a plan from these theories, And from this plan chose a handful of candidate move worthy of consideration. This is intelligence. Then, go a step further -- make a machine which can formulate ideas of how to play under different conditions (such as a sudden change in the rules of the game!). I'm not saying this is easy, but I thought it was the direction AI was supposed to be moving in...

...I thought this was what Shannon had intended.

ABOUT THE AUTHOR:

Kevin holds a bachelor's degree in computer science and in electrical engineering from University of California at Davis, I am certainly

not an expert in the field of AI, and would therefore request that you do not mention my degrees. As for my chess playing, I'm afraid I'm no expert there either. I am proud to say that, having started serious chess only 1 year ago, I have already achieved a 1456 rating. What's more, I am confident that I am under-rated. I tied for fourth in the C-section (out of 53 players) in Reno's Western States Open, so I have good reason to believe that I am at least a very strong C-player. But, again, I don't see how being a strong chess player would give me any more credibility on the issue of AI, so I would again request that you do not print this.

I have been working on my own computer chess program for some time, I just say, however, I have been unable to make any real advances on my own, so far. I keep working away on it -- looking at new angles and keeping it as a sort of hobby. I am familiar with the progress others are making, but again, it's only a hobby.

TASCBASE 2.0

by Marc Derksen (TASC B.V.)

In March of this year the new version - TascBase 2.0- will be introduced. The estimated price for the for TascBase 2.0 will be round US \$ 140, but the definitive price has not yet been set.

History of the TascBase chess database program Tasc introduced TascBase 1.0 in October 1994. Soon it was followed by version 1.1 which includes The King by Johan de Koning, one of the leading programs in the world, as a chess engine for analyzing in various ways and playing opponent. To give you some background information on TascBase we start with a brief historical introduction. Two of us (Hans and Nico Kuijf) are the authors of the well-known chess database NicBase. Early 1993 the NicBase project was stopped. Late 1993 Wil Sparreboom, president of TASC agreed with Hans and Nico Kuijf to make an entirely new chess database program, based on the Chess Machine interface techniques and the database experience of the Kuijf brothers. Since version 1.1 we have improved the program and after a year of hard labour we are now ready to let you enjoy the new version TascBase 2.0.

FEATURES

TascBase is superior to the competitors by its outstanding features in many areas.

USER-INTERFACE

The user environment is completely graphical. Dialog boxes, buttons, menu's, all as you are used to in contemporary software.

MAIN TASCBASE SCREEN

Working is pleasant in an environment created with an eye for detail. A clear layout of the screen and presentation of data makes retrieving the information you are looking for much simpler.

TascBase can be customized extensively to the needs of the individual user. Settings range from on-screen colors to the layout of the gamelist. With all its advanced options the TascBase environment retains a robust feel. No flickering, nor slowly responding buttons. TascBase operates directly and in the expected way.

PAM

Entering chess games is time consuming. In TascBase however, you are assisted by PAM (propose-a-move). This intelligent program module does part of the thinking. You click a square and PAM proposes what piece probably went there, or where the piece you have clicked probably went. Should it be wrong occasionally: no harm done. A click on the right mouse-button will execute the next possible move. With PAM the time needed for entering a game is reduced to the minimum.

HELP

You can't remember the use of a particular data-entry field, or other screen element? Place the mouse cursor over it and the help line at the bottom of the screen will show you more. This way you will master performing most common actions without a manual very quickly.

DATABASE STRUCTURE

The database structure is very clear. The connection between two consecutive key positions is always a single move. Finding your way to the key position desired equals replaying the game. The database is shown in one of two ways. The classical list view shows all games in the current key, as well as any child-keys. A new feature is the database overview, which shows the key structure as a tree of variations.

CHESS PROGRAM

Unique in TascBase is the integrated chess program. A strong analyzing player is at your disposal constantly. This player is the renown chess program "The King" written by Dutch programmer Johan de Koning. The chess program immediately starts calculating on each new position appearing on the main screen. Thus you can verify quickly and without asking whether there is "something" in the position. A useful feature for anyone analyzing chess games: TascBase will automatically replay and evaluate one or even several games. A graph will show the critical moments afterwards. For relaxation or training TascBase will provide a willing opponent for playing a game. Settings for time control and playing style are obviously available, but

remarkable is the use of the database as an opening book for The King.

IM- AND EXPORT FACILITIES

TascBase users are not confined to the use of chess data in TascBase format. From different sources games may be obtained in a variety of formats. TascBase will read games in ChessBase-, Nicbase-, ChessMachine-, PGN- and other text formats. Should you want to share data with others not using TascBase the normal choice would be to export in PGN or other text formats. The customizations for text-export are unequalled. A period after the move number, or a space, both or none? You name it. All moves directly after one another for use in a word processor, or neatly aligned each on its own line? Variations numbered and indented? Each style can be created to your best liking.

INTEGRATED UTILITIES

All you need for maintaining your data collection is built into TascBase. Every utility is accessible from within the program.

You would like to analyze the repertoire and results of particular player? You are interested in the results scored with a particular variation? Sometimes really stunning conclusions are only a few mouse clicks away.

Finding a particular position in the game-collection can be extremely useful, but how often are you looking for an exact position? TascBase will easily find (pawn-) formations, material distribution or specific combinations.

An ongoing nuisance are the so called "doubles" in a database. TascBase has its built-in function for finding and (automatically) removing of double games.

GAME VIEW

Another problem is posed by the different spellings used by different sources especially for player- and tournament- names. The "rectify" command analyses all spellings appearing in a game collection and enables you to correct them all in one time.

TascBase will search a number of files, for example all in a specified directory, with one command only. This way you can retrieve all games by particular player from a collection of data-files at once.

GAME VIEW

Spectacular is the concise presentation of a game in game view. Text moves and variations are all visible at the same time, but easily distinguishable by the use of contrast colors. You want to see a certain position or variation on the board? One click on the move and there it is.

SMARTBOARD

TascBase is especially suited for the use of the Tasc SmartBoard. Playing and analyzing on a real chessboard in beautiful walnut, while the

computer "thinks" along. Obviously games played on the SmartBoard can be stored and edited like any other game within TascBase.

What do you need to use TascBase?

An IBM compatible PC with:
80386-processor or better
4Mb or more internal memory
VGA-display
Mouse
3.5" floppy drive
MS DOS 3.3 or later

NEW FEATURES IN TASCBASE 2.0

The most important features in TascBase 2.0 are : Very strong chess playing module (The King 2.5) The most recent version of the chess program The King is integrated in TascBase 2.0. This version is the 1995 Dutch Champion, but there is more! You can specify or change The King's properties. To name a few: wood value, weakness of doubled pawns, aggressiveness, etc. The programmer Johan de Koning has included some interesting alternative settings so that you can play against a completely different opponent, one that is very solid or one that is very aggressive. Supports Ken Thompson endgame CD-ROMS (1, 2 and 3)

We have included an interface to the well-known endgame CD-ROMS of Ken Thompson. These CD-ROMS contain explicit win lengths for most of the 5 piece endings. TascBase will request a specific CD-ROM whenever it is needed and produce a list of the best possibilities.

Index for searching and player index
Searching games by player name can use indexes. These indexes increase the already very good search speed, especially when searching on a CD-ROM. One of the indexes is used to create a list of players.

CHess MENTOR By Aficionado

by Sharon Barker (Aficionado)

Chess Mentor, a tutorial software program from Aficionado of Berkeley, California, uniquely automates the sharing of knowledge from the chess master to the student. It combines playing the game, getting a private lesson, reading a book, solving positions, performing in-depth analysis, taking computer tracked testing, and experiencing an exposition of pure chess beauty. This article describes the product and its benefits to players at every level.

Chess Mentor is like having a master at your side, congratulating you when you make good

moves, letting you know when (and why) you have erred, supplying general annotations, providing needed review exercises and cross references, encouraging and entertaining you with chess anecdotes and maxims as well as giving hints when you want them.

The information communicated by Chess Mentor is designed by top level chess teachers and authors, such as IMs Jeremy Silman, John Grefe, Mark Leski, and Eric Tangborn. Several more leading GMs and IMs will be creating chess Modules for Chess Mentor in the near future.

None of this information could be generated by an artificial intelligence chess engine. Although a chess engine can play very strong chess (even defeating the World Champion in games) it doesn't really know much. A chess engine plays well by having access to a voluminous opening book, and then, once out of book, relentlessly and flawlessly calculating many moves ahead in every single position. It errs and falls in defeat only when the opponent carries out plans which are beyond its calculating horizon. Chess engines -- although wonderful (albeit merciless) sparring partners -- are unfortunately powerless to instruct us in chess principles or concepts. Real instruction can only take place from one human to another. Chess Mentor facilitates this human-to-human instruction by bringing the master to life, right at your side.

The Chess Mentor screen is clear and communicative. The chess board is on the left. Across the top are 14 Hint Buttons, each one providing a clue to help you discover for yourself the solution to the current Challenge. To the right of the board are four expandable text boxes. The first of these provides running commentary, including background information and annotation of both correct and incorrect moves. The other three (whose contents are initially concealed) provide specific Text Hints that the author has created.

Chess Mentor tracks all of your actions, subtracting points from your score on each Challenge for wrong moves attempted, hints accessed, and time used. Permanently maintaining this information, Chess Mentor catalogs those Challenges with lower scores, and strategically re-presents them to you for review.

Chess Mentor comes with four chess Modules, all by IM Jeremy Silman. Several more Modules are currently available, and more are under development. Approximately ten new Modules will be produced each year, and will usually be priced at \$20 each.

Chess Mentor is \$120 + \$5 S&H, and is produced by Aficionado, Inc., 2532 Durant Ave., Suite 104, Berkeley, CA 94704. 800-465-9301, or 510-644-9301, fax: 510-644-9302, email

info@chess.com, World Wide Web: <http://www.chess.com> System requirements are: Windows 3.1 or higher, 8 Meg of RAM, and 8 Meg of disk. Chess Mentor is Win95 compatible. A Macintosh version is planned for the 3rd quarter of this year.

Roger "Pete" Roberts, co-founder and Chairman, has been involved in virtually every technical function in computer hardware and software for over 30 years. Ralph Nagel, co-founder and President, was Vice President of Heuristic Software, a chess software development company, and produced more than a dozen tabletop and hand-held products for the Kasparov line of dedicated chess computers. Art Wang, Managing Director, has over 25 years of international finance and management experience, and earned his chess master title at 17 when he was California Junior Champion.

CHESBASE FOR WINDOWS 1.1 AND CHESBASE FOR MACINTOSH

by Don Maddox (ChessBase)

Most functions are considerably faster than in earlier versions. Added board sizes take full advantage of high-resolution graphics cards and monitors. New "search booster" files increase retrieval speed by a factor of 100. Search for material, positions or maneuvers at a blazing 15,000 games per second!

New theme keys for systematic chess training. Create keys and define their contents using the ChessBase search functions (e.g., Main key: Marshall Gambit games (C89); subkey: typical kingside formations (wPh2, g3, f4, bQh3); subkey: Black wins with piece sacrifice on f4. Your theme keys can then be reused to classify other databases.

Graphic game commentary: Annotations and analysis can be visualized using colored squares and arrows. This information is stored with the games and reappears when the game is replayed.

NEW SEARCH FUNCTIONS

Search for current board position

New "or-board" for fuzzy searches (e.g., "rook penetrates somewhere on the 7th rank, bishop on diagonal a2-g8, queen approaches opponent 92s kingside). New statistics function Statistical tracking of piece movement in specific openings opens a new dimension in chess study

Fritz generates analysis trees when the analysis module is installed. Scroll through the history of the principal variation for complete information. The analysis module actually generates a full variation tree showing best line, next best line and full sublines. Drag and drop analysis into existing game notation. Press a key to identify threats in any position.

Tournament tables, PGN format. Generate full tournament crosstables at the click of the mouse. Read and generate PGN format. Textfiles containing PGN games are addressed just like a regular CBF file.

Other new features

- ECO-style repertoire Trees
- ECO Search Kill Doubles
- Create Fritz opening books
- Resizable Board Windows
- Find Novelty function
- Unlimited text commentary
- Unlimited Clipboard Sort routines
- Multiple database searches 20
- Multi-tasking
- Training mode
- Merge games function
- New hardware protection

Both CBWin 1.1 and CBMac use a robust, easily transferable hardware copy protection in the form of a "dongle." This makes moving ChessBase from one computer to another a trivial matter - just install the program on the new machine, attach the dongle to the new printer port and start the program.

WHAT IS CHESSBASE?

ChessBase is the chess games database and training software used by 90% of the world's top chessplayers. It is designed to save you time when you study chess by eliminating virtually all of the overhead connected with chess research and board management.

No more time consuming flipping through the pages of a library full of books to find the game or position you want to study - just tell the computer what you want and click a mouse to retrieve the exact study material you need from hundreds of thousands of games in a matter of seconds. No more laborious playing through a game on a conventional chessboard and fumbling to reset the board position at every note and subtitle - the computer manages all of that for you.

All you have to do is sit back and study the chess itself with the industry's most stunning array of chess study tools.

WHY CHESSBASE?

There are a variety of answers to this question. If you're a Macintosh user, ChessBase is simply the only game in town. Fortunately for you, it's also the best game

in town. If you're a PC-based user, you have a number of alternatives - notably Chess Assistant, NicBase and TascBase. But ChessBase is far and away your best choice for a number of reasons.

First, CBWin is the only games database currently available that takes advantage of the Windows multi-tasking environment. You can open or search multiple databases at the same time, play through multiple games onscreen simultaneously, merge games, and copy from one database to another simply by dragging and dropping.

Second, there is a reason why ChessBase is the database of choice for the world's top players, and that reason is even more compelling for the average chessplayer than for the World Champion - ChessBase is by far the most efficient and effective training system available to anyone anywhere.

And there are a number of things you can do in ChessBase that you can't do anywhere else - for example, you can merge selected games into an ECO-style opening tree, search more than one database at the same time, view multiple boards and games on the screen at the same time, copy games and analysis from one database to another or transfer analysis from one game to another at the flick of a wrist, and you can create Fritz opening books to train against.

Now CBWin and CBMac have added new training features, including graphic commentary in the form of colored arrows and squares that support the development and presentation of instructional materials.

ChessBase also includes full desktop publishing capabilities and a unique hypertext environment for combining text and game database information in a single integrated presentation.

INTEGRATION WITH FRITZ

ChessBase and Fritz, our chessplaying program and the current World Computer Chess Champion, are more than sidekicks - they represent a fully integrated chess training environment.

Fritz4, for example, is fully capable of reading the largest available ChessBase database and of running inside CBWin to analyze with you as you study. This remarkable feature is the direct result of ChessBase's availability on the Windows platform.

Fritz3 and Fritz4 can both generate reams of interesting analysis inside ChessBase, examining multiple variations while you work away at other tasks in the foreground. Unlike other analysis modules, Fritz looks at a variety of main and sublines, allowing you to save critical analysis for future reference.

But the icing on the proverbial cake is CBWin 92s ability to merge the games data you select into opening books that customize Fritz as a training partner. No matter how obscure the opening you want to study - anything from the Fried Liver Attack to the ubiquitous Spike - you can gather games and analysis into a single tree and generate your own 91intelligent 92 sparring partner at the click of a mouse.

CHESSBASE SEARCH FACILITIES

ChessBase allows a number of different ways to access opening information: the opening keys, "find novelty," the ECO code in the Search Mask and the games classification itself are the most important of these methods. But CBWin and CBMac offer a very simple, but important new search mechanism. In any given board position, a single keystroke generates a list of all games in the database in which the position occurred. The "Find novelty/Compare" function generates a similar list in which games are sorted in descending similarity to the current game. The primary difference between the two commands is that Find novelty gives you a subset or superset of games related to the current one; "Search position" gives you only the games in which the current position occurred.

If you 92re studying an opening, you probably want to look at similar positions to the one at hand to get a feel for the way strong players have treated similar positions. If, however, you 92re looking for help in understanding or annotating a specific game, Search position provides you with all exact matches.

ChessBase 1.1 and CBMac also incorporate a "search booster," an optional program-generated file that boosts search speed for positions, material or maneuvers by a factor of 100. All speed-critical operations from the Search

Mask benefit from the booster file, and even a simple search for players speeds up. If you are looking for a position deep in the opening, the speed of the search will approach 15,000 games per second, scanning a 300,000-game database (e.g., BigBase + TopBase) in about 20 seconds. From a CD the search speed will be slightly (but not critically) slower.

Now ChessBase also incorporates new "theme keys" that work just like openings keys. The trick is that the Search Mask is used to create the search criteria for the game classification, so that any combination of search criteria in the mask can be used to classify games.

The most important application for this new function is the generation of middlegame keys by searching position fragments or maneuvers. Essentially, this function replaces the DOS Motiv utility in the Windows environment.

"Or-boards" and "Not-boards" greatly enhance the already powerful search facilities in ChessBase. You can specify position fragments in which pieces do not occupy fixed squares, but can be in a number of alternative places. An example would be "Queen on d3 and bishop on c2 or b1, and black king on g8 or h8." The search board combined with these "and/or-boards" are a powerful tool for understanding openings and middlegames.

3-D PIECE SQUARE TABLES

One of the most important questions for any chessplayer in a given position is, "Where should I move my pieces?" Or more precisely, "Where do they belong in this specific opening? Should the bishop be moved to b5, or to c4? What 92s the best square for the knight?"

CBWin 1.1 and CBMac have an interesting new function that helps answer these questions. For any given set of games, it will generate a statistical evaluation of all the squares to which each piece moved and display the results as columns on a three-dimensional chessboard.

Here is a typical use for this new function: Let 92s assume you 92re interested in the Marshall Attack, but you don 92t have a thorough knowledge of the variations involved. The piece square tables can tell you a lot about the system. Just go into the openings key for the Marshall Attack (C89). If you 92re using a very large database and openings key, you may want to narrow your query to the main variation with 9. Exd5 Nxd5. Now call up the more familiar Statistical function and select "Piece probability." The program will prompt you to specify the relevant phase of the game (e.g., between Moves 10 and 30 for openings, or between Moves 40 and 100 for endgames).

A 3-D board appears and after a few seconds the program is prepared to display the relevant piece-square statistics - just click any piece displayed to the right of the board to review that piece 92s movement during the game. Note that the program differentiates between the king 92s knight and the queen 92s knight or the king 92s rook and the queen 92s rook.

Click on the black queen. As a Marshall connoisseur you will not be surprised to learn that the queen usually goes to h4, then to h3 or h5. But what does Black 92s rook do? It occupies the e-file and then often moves to e6, from where it can move to g8 or h6 to support the queen.

Even a glance at the pawn positions gives you some interesting insights.

The large columns on b5, c6 and a6 are a direct result of the opening, but the visible accumulation on f5, f4, g5 and even h5 gives you an idea of the black plans involved.

You can extend your investigation using other ChessBase functions. How does a black pawn arrive on g3 (as displayed in the statistics)? This question can be answered by copying the Marshall games to the clipboard, clicking "Position" in the Search Mask and placing a black pawn on g3. You will retrieve a list of games in which the typical opening of the f-file with the attacking maneuver f5-f4-fxg3 occurred.

TOURNAMENT TABLES

With the exception of specific theme disks, ChessBase always publishes complete tournaments with the Elo rating of each player at the time the games were played. This allows ChessBase 1.1 to automatically generate a crosstable for any tournament. It even reads the ratings and calculates the Category, the norm requirements and the Elo performances of the individual players.

This function also works on complex events such as multiple round tournaments and matches. These crosstables are extremely useful when you are browsing a database, providing a clear overview of the results and the players.

CHESS ASSISTANT

by Ralph Dubisch (I.C.E.)

In the world of chess databases there are only a few serious choices. Chess Assistant is from Russia, designed by a team of superb programmers from Moscow State University, originally for GM Anatoly Karpov in the early '80s to train for his World Championship matches (hence the "KarpovSoft" trademark). It has been expanded and improved, redesigned for the PC, and now ranks as one of the world's top database programs. In terms of sales in the West it still lags behind ChessBase and NICBase, but in terms of function and price many think it is on top. It is, of course, the most popular program in Russia.

Unlike ChessBase, which appears to have been built around a compressed game collection, with programmers trying to add functions to use the data in the format it was already in, Chess Assistant appears to have started with functions in mind so the data could be arranged accordingly. Thus a ChessBase data file has each game's header attached, and to find all of the games of a single player, the search engine must look through every game in a single giant file. Chess Assistant splits the header information from the actual game scores and uses pointers to keep track of which games attach to each player. Thus a search for a given player (or group of players, or opening name, or ECO code(s), or

tournament, or result, or year, or...) can be made on a much smaller file in a much more efficient manner. Chess Assistant is designed as a search-based program, and its searches are undeniably much faster than those of ChessBase.

It also searches for positions and partial positions, material ranges, and through a marvelous graphical positional representation of the entire base (or subset thereof) called the chess tree. This tree shows the current position, the number of paths in the database (or subset) that reach this position, and all of the moves made from this position. In addition it shows the statistical results of each of these moves, the percentage of games in which each move was played, and orders the moves either by their frequency or success rate. The tree can be navigated forward or backward, and the current subset of games represented by the position can be saved on exit. In fact, Chess Assistant makes a "dataset," or a subset of the entire base, which is the result of any search. This dataset can be saved, re-searched, joined to another dataset, intersected with another dataset, subtracted from another dataset, printed, or even exported into a whole new database. Using searches a Chess Assistant user can find all of the games of Korchnoi one day, then another day find all of the Rook and three pawns vs Rook and four pawn endings. At yet another time a subset of games in the Ruy Lopez can be intersected with the other datasets to show all of the games of Korchnoi that reach R+4 vs R+3 from the Ruy Lopez. In fact, all three of these searches can be made on a huge 600,000 game database in a matter of seconds! Chess Assistant is a DOS program. It runs smoothly under Windows '95, and some Chess Assistant owners have discovered it runs (in the background, too) in a DOS window under OS/2. Although it does copy-protect its disks, it does not have restrictions such as limited installations or a mechanical dongle that must be attached to a printer port for the program to work. A feature of Chess Assistant 1.40 is its ability to interface with several of the top playing programs. M-Chess Pro 5.0, Chess Genius 3.0, and HIARCS 3.0 Master are among the programs that allow a hot-key jump from a position in Chess Assistant, load and analyze the position, then return analysis to be added to the game as a comment. The only required accessory is games. Chess Assistant retails for \$195 (with a database called "Elite": 5300 selected games between 2600-rated players). International Chess Enterprises (ICE) has offered a bundle of the Chess Assistant program and a 600,000 game database on CD-ROM (called the "Quantity" bundle) for \$249, and the CD alone sells for \$99 (the big database is on

the CD in CA, CB, and NIC format). There is also a "Quality" CD with only 400,000 games for \$275 separately, bundled with Chess Assistant and a monthly data service through the end of 1996 for \$499. Paradoxically, it is the added effort of weeding out duplicates and non-master games that makes the price of the 400,000 game database higher than that of the 600,000 game base. The Quality CD is nearly duplicate free, and generally offers games at a higher level. ICE also offers "e-books," \$15 collections of up to 2000 (generally annotated) games of a specific player or opening, that can be used with Chess Assistant or accessed with a reduced-feature version called CA-Light, supplied with each e-book at no extra charge. External utilities are things like conversion utilities from ChessBase, NICBase, and PGN formats, a program called Basetest that checks for illegal games, and Findcopy, a powerful but somewhat tedious program that looks for duplicate games. All of these are included with the Chess Assistant program at no extra charge. It also comes with True Type figurine and diagram fonts for Windows, and with its rich-text (RTF) printing capabilities it is easy to obtain magazine-quality output by just printing to RTF and importing in MS Word or PageMaker. Inside Chess and several other magazines use Chess Assistant as an integral part of their production. A Windows-specific version of the program is expected in Summer '96.

ABOUT THE AUTHOR:

Ralph Dubisch is the Information Systems Manager at International Chess Enterprises. He is a FIDE Master (somewhat rusty), and serves as director on several boards and chess-political organizations. He administered FIDE World Rapid Chess, the world-wide rating system for 30-minute chess, from 1990 to 1993. Known as the resident computer guru for much of the Seattle chess community, he first discovered Chess Assistant from a beta version sent to him in 1992; previously a ChessBase user, he was entranced by the speed of searches and the responsiveness of the Russian programming team, who immediately implemented several of his suggestions. He shared his enthusiasm with his company president, IGM Yasser Seirawan, and has been the corporate Chess Assistant evangelist since.

CHESSE COMPUTER AS COMPLEX DATABASE

by Robert Hyatt

If you followed the Chinook "story" you know that part of their success came from the "melding" of a good tree search with a good opening book and with the prodigious endgame database Jonathan's group constructed.

Perhaps, just perhaps, the best computer chess player in the world might be something entirely different than those programs playing today. It "might" be a complex database search engine that is capable of taking existing endgame theory, opening theory, middle-game theory, synthesizing it together using some as yet unknown methodology, to produce nearly perfect chess. To me, this *still* represents computer chess, as the machine is doing that which we humans have so much difficulty with, sorting, storing and searching huge volumes of data.

I personally don't have a clue (at present) about how such a program would be written, but it seems that as database theory continues to

develop, such an approach ought to be doable. Of course, we then re-enter the bitter discussion about the machine having access to data that the human doesn't. In retrospect, perhaps giving a human access to "something" like a primitive ChessBase interface isn't unreasonable. However, it has to be restricted to something like the functionality of a microfiche viewer, no clever search commands, no clever "find out the most popular move", etc. IE, the human can "peruse" the data but not have the machine do the work for him. That, I suspect, would be both fair and useless. Again, it's not the "data" that is important in my estimation, but the "faculties" that the computer has to access and use this data, which are far superior to what humans can do.

THE CURRENT CROP

A very popular feature in the past issues of CCR has been "The Current Crop" article. The purpose of this article is to give an overview of every stand-alone chess computer available on the market from the major manufacturers including: Novag, Saitek, Excalibur and TASC. In

the case of planned (not yet available) chess computers, we have given the approximate month of release after the name of the computer. This list is divided into two sections: Portable Chess Computers and Table-Top Chess Computers. Please note that such manufacturer's estimates of availability are often incorrect.

PORTABLE CHESS **COMPUTERS**

Excalibur Micro Chess (due in July '96) - keypad entry - 32 levels - gives hints - saves game in progress - 2 ply take back - 3"x 5" - very compact but needs a separate board (included) - 3 AAA batteries - perhaps 1100 at 40/2 - 1 year warranty

Saitek Travel Companion - under \$40 - 64 levels - peg sensory - saves game in progress - 6 1/2"x 3 1/2" - for beginners only - takes back 2 ply - 2 AAA batteries - compact clamshell design - perhaps 1200 at 40/2 - 1 year warranty

Saitek Pocket Plus Trainer - under \$50 - 16 levels - peg sensory - saves game in progress - evaluates position - 6"x 4" - for advanced beginners - takes back 2 ply - very compact - small peg pieces - 3 AAA batteries - comes with training manual - perhaps 1400 at 40/2 - 1 year warranty

Novag Topaz II - under \$50 - 63 levels - keypad entry - 32 ply take back - disc pieces - auto shut off - for beginners - 5"x 6" - saves game - 4 AAA batteries - perhaps 1300 at 40/2 - 90 day warranty

Saitek Express (due in June '96) - under \$50 - 384 level/setting combinations - peg sensory - 5 special coach modes - takes-back 4 ply - chess clocks - 7"x 5" - for beginners - 3 AA batteries - compact clamshell design - perhaps 1300 at 40/2 - 1 year warranty

Excalibur Chess Express - under \$60 - 72 levels - peg sensory - saves game in progress - takes back 4 ply - 7"x 4" - 4 AAA batteries - snap off cover - for beginners - peg holes to store pieces alongside board - perhaps 1400 at 40/2 - 1 year warranty

Saitek Traveler - under \$70 - 16 levels - peg sensory - saves game in progress - fun levels with human errors - 7"x 4" - takes back 6 ply - small

peg pieces - solves mate in 4 - 3 AAA batteries - perhaps 1500 at 40/2 - 1 year warranty

Excalibur Cutlass - under \$60 - 72 levels - peg sensory - saves game in progress - 7"x 5" - for beginners - takes back 2 ply - 4 AAA batteries - perhaps 1200 at 40/2 - 1 year warranty

Excalibur Travel Master 2 in 1 (due in June '96) - under \$60 - peg sensory - plays 72 levels of chess and 16 levels of checkers gives hint - saves game in progress - snap off cover - 7"x 4" - 4 AAA batteries - for beginners - peg holes to store pieces alongside board - perhaps 1300 at 40/2 - 1 year warranty

Novag Opal II (due in May '96) - under \$70 - 64 levels - pressure sensory flat surface - 7 1/2"x 5" - 16K program - solves up to mate-in-6 - gives hint - thinks on opponent's time - takes back 25 ply - 4 AAA batteries - for advanced beginners - 8500 opening book moves - perhaps 1400 at 40/2 - 90 day warranty

Saitek Compact Chess - under \$80 - 64 levels - peg sensory - saves game in progress - 9"x 6 1/2" - for intermediate players - takes back 6 ply - 4 AA batteries - larger clamshell design with 5" chessboard and larger peg pieces - styles of play - perhaps 1600 at 40/2 - 1 year warranty

Excalibur Comet - under \$100 - 100 levels - peg sensory - has display with chess clocks, line of play, position evaluation - takes back 16 ply - gives hint - thinks on opponent's time - removable cover - solves mate-in-8 - for advanced intermediate players - 4 AAA batteries - 8 styles of play - 7"x 5" - perhaps 1900 at 40/2 - 1 year warranty

Excalibur Avenger - (due in July '96) - under \$100 - 100 levels - peg sensory - saves game in progress - 7"x 5" - rates your play - for intermediate players - gives hint - thinks on opponent's time - takes back 16 ply - has display showing chess clocks, line of play, position evaluation - selectable playing styles - clamshell design - 4 AAA batteries - for intermediate players - perhaps 2000 at 40/2 - 1 year warranty

Saitek Champion Advanced Trainer - under \$120 - 64 levels - peg sensory - saves game in progress - 6 1/2"x 5" - for intermediate to advanced players - gives hint - thinks on opponent's time - compact clamshell design - peg holes on side of board for storage - 16K program - takes back 34 ply - solves up to mate in 8 - 3

AA batteries - perhaps 2000 at 40/2 - 1 year warranty

Novag Jade II - under \$140 - 48 levels - peg sensory - saves games - 4"x 6" - gives hint - intermediate to advanced players - has two displays showing chess clocks, line of play, position evaluation - thinks on opponent's time - take back 148 ply - solves mate-in-8 - 4 AAA batteries or AC - very compact - perhaps 2150 at 40/2 - 90 day warranty

Saitek Travel Champion 2100 - under \$200 - 64 levels - peg sensory - gives hint - thinks on opponent's time - saves game in progress - 9"x 6 1/2" - for advanced players - 36,000 position opening book - takes back 32 ply - has display with chess clocks, position evaluation and line of play - selectable book opening styles - 8 selectable styles of play - hash tables - larger clamshell design with 5" chessboard and larger peg pieces - 4 AA batteries - the strongest peg sensory computer - perhaps 2200 at 40/2 - 1 year warranty

Novag Sapphire - under \$250 - 56 levels - keypad entry - saves game in progress and 63 additional games - gives hint - has display showing chess clocks, line of play, position evaluation - takes back full game - 36,000 position opening book - 6"x 4" - comes with leatherette carry case and folding chess board with disc pieces - thinks on opponent's time - solves mate-in-14 - hash tables - for advanced players - the strongest portable computer - 4 AAA batteries or AC - perhaps high 2200 at 40/2 - 90 day warranty

TABLE-TOP CHESS COMPUTERS

Saitek Chess Partner 2 - under \$50 - 64 levels - pressure sensory board - saves game in progress - auto power off - take back 4 ply - 2 AA batteries - 11"x 8" - for beginners only - perhaps 1200 at 40/2 - 1 year warranty

Excalibur Sabre II - under \$60 - 72 levels - pressure sensory - takes back 2 ply - saves game in progress - 3 AAA batteries - 10"x 8" - for beginners only - perhaps 1100 at 40/2 - 1 year warranty

Novag Tourmaline - under \$60 - 63 levels - keypad entry - saves game in progress - gives

hint - 32 ply take back - auto power off - solves mate-in-7 - 4 AAA batteries - 8"x 7" - for beginners - perhaps 1200 at 40/2 - 90 day warranty

Saitek Coach Partner - (Due in July '96) - under \$60 - 384 levels - pressure sensory - 5 special coach modes - selectable playing styles - take back 4 ply - automatic chess clock - 2 AA batteries - 12"x 9" - saves game in progress - for beginners - perhaps 1200 at 40/2 - 1 year warranty

Excalibur Merlin 2 in 1 - under \$60 - 72 levels of chess and 16 levels of checkers - gives hint - pressure sensory - saves game in progress - takes back 4 ply - rates your play - 3 AAA batteries or AC - 10"x 10" - for beginners - perhaps 1100 at 40/2 - 1 year warranty

Excalibur Explorer - under \$70 - 72 levels - pressure sensory - saves game in progress - gives hint - rates your play - takes back 4 ply - 12"x 10" - 4 AA batteries or AC - for advanced beginners - perhaps 1400 at 40/2 - 1 year warranty

Saitek Sensor Chess Turbo - under \$70 - 32 levels - pressure sensory - saves game in progress - takes back 6 ply - fun levels with human type errors - 2 AA batteries - 8"x 11" - for beginners - perhaps 1300 at 40/2 - 1 year warranty

Excalibur Alpha 2 in 1 - under \$70 - 72 levels of chess and 16 levels of checkers - gives hint - pressure sensory - saves game in progress - takes back 4 ply - rates your play - 3 AAA batteries - 10"x 8" - for beginners - perhaps 1100 at 40/2 - 1 year warranty

Excalibur Stiletto III - under \$70 - 72 levels - pressure sensory - saves game in progress - gives hint - rates your play - takes back 4 ply - 9"x 8" - 3 AAA batteries - for advanced beginners - perhaps 1400 at 40/2 - 1 year warranty

Excalibur King Master 2 in 1 - under \$80 - 72 levels of chess and 16 levels of checkers - pressure sensory - saves game in progress - takes back 4 ply - gives hint - rates your play - 4 AA batteries or AC - 10"x 12" - for advanced beginners - perhaps 1400 at 40/2 - 1 year warranty

Saitek Concord - under \$80 - 64 levels - pressure sensory - saves game in progress - takes

back 2 ply - auto power off - 2 AA batteries - 2 AA batteries - for advanced beginners - 8"x 11" - for advanced beginners - perhaps 1400 at 40/2 - 1 year warranty

Explorer Deluxe - under \$80 - 72 levels - pressure sensory - saves game in progress - gives hint - rates your play - simulated wood housing - takes back 4 ply - 12"x 10" - 4 AA batteries or AC - for advanced beginners - perhaps 1400 at 40/2 - 1 year warranty

Novag Aquamarine Premier - under \$90 - pressure sensory - 63 levels - gives hint - saves game in progress - takes back 32 ply - 9"x 11" - 6 AA batteries or AC - for advanced beginners - perhaps 1400 at 40/2 - 90 day warranty

Saitek Talking Coach - (Due in August '96) - under \$100 - pressure sensory - 256 levels - human-like voice - coach levels - warns player when piece is threatened - gives hint - takes back 6 ply - saves game in progress - 12"x 9" - 4 AA batteries or AC - for advanced beginners - perhaps 1400 at 40/2 - 1 year warranty

Novag Agate - (due in May '96) - under \$100 - pressure sensory - 64 levels - 8K program - takes back 25 ply - solves mate-in-6 - saves game in progress - gives hint - LCD display shows moves - 6 AA batteries or AC - 11"x 11" - for intermediate players - perhaps 1600 at 40/2 - 90 day warranty

Saitek MK 14 Trainer - under \$120 - 16 levels - pressure sensory - saves game in progress - fun levels with human errors - comes with training manual - gives hint - takes back 4 ply - training system for beginners - 4 AA batteries - 8"x 11" - perhaps 1500 at 40/2 - 1 year warranty

Saitek Olympiad - under \$120 - 107 levels - pressure sensory - has display which shows position evaluation - solves mate-in-4 - takes back 6 ply - gives hint - comes with 3-D and disc pieces - 4 AA batteries or AC - 8"x 11" - for intermediates - perhaps 1600 at 40/2 - 1 year warranty

Saitek System Trainer - (Due in August '96) - 384 levels - pressure sensory - warns when piece is threatened - multiple teaching systems - saves game in progress - gives hint - takes back 6 ply - classic game study - self rating system - includes training book - 12"x 9" - 4 AA batteries - for advanced beginners - perhaps 1400 at 40/2 - 1 year warranty

Saitek Advanced Talking Chess - (Due in July '96) - 500 levels - pressure sensory - human-like voice - 4 coaching levels - gives hint - take back 64 ply - saves game in progress - warns player when piece is threatened - easy mode - 12"x 9" - 4 AA batteries or AC - for intermediates - perhaps 1700 at 40/2 - 1 year warranty

Saitek Turbo Advanced Trainer - Under \$140 - 64 levels - pressure sensory - 8 master games with built-in position studies - takes back 34 ply - gives hint - stores game in progress - comes with training manual - advanced coaching includes tactical and capture alert - 4 C batteries or AC - 8"x 11" - for intermediates - perhaps 1900 at 40/2 - 1 year warranty

Novag Zircon II - under \$150 - 56 levels - pressure sensory - has dual display showing chess clocks, recommended line of play, and position evaluation - gives hint - thinks on opponent's time - takes back 138 ply - solves mate-in-8 - saves game in progress - 32K program - 13,000 ply opening book - 6 AA batteries or AC - 11"x 11" - for advanced intermediates - perhaps 2150 at 40/2 - 90 day warranty

Saitek/Fidelity Little Chesster - Under \$150 - pressure sensory - has human-like voice (325 phrase vocabulary) which warns of errors and wisecracks - 25 levels - voice can be turned off - takes back 30 ply - gives hint - great for children - has beginner levels - tells where pieces can be moved - saves games - solves mate-in-6 10"x 10" - 4 AA batteries or AC - for beginners to intermediates - perhaps 1900 at 40/2 - 90 day warranty

Excalibur Legend III - (Due in July '96) - under \$150 - pressure sensory - 100 levels - saves game in progress - 12"x 10" - rates your play - gives hint - thinks on opponent's time - for intermediate players - takes back 16 ply - has display showing chess clocks, line of play, position evaluation - selectable playing styles - 4 AA batteries or AC - perhaps 2000 at 40/2 - 1 year warranty

Excalibur Ivan the Terrible - (Due in November '96) - pressure sensory - 110 levels - has human-like voice with 500 word vocabulary - voice can be turned off - LCD display shows chess clocks, recommended line of play and position evaluation - rates your play - gives hint - thinks on opponent's time - saves game in

progress - takes back 32 ply - has beginner levels - 10"x 12" - 4 AA batteries or AC - for beginners to advanced intermediates - perhaps 2100 at 40/2 - 1 year warranty

Saitek Executive - under \$150 - 64 levels - pressure sensory - 16K program - has display which shows chess clocks, line of play, position evaluation - tournament and beginner levels - choose selective or brute force search - takes back 30 ply - gives hint - thinks on opponent's time - multiple style opening and user selectable styles of play - stores game in progress - 4 AA batteries or AC - 8"x 11" - for advanced intermediates - perhaps 2100 at 40/2 - 1 year warranty

Novag Emerald Classic - (due in June '96) - under \$200 - pressure sensory - 56 levels - 32K program - wood-look cabinet - solves mate-in-8 - 13,000 pre-stored opening moves - LCD display shows chess clocks, recommended line of play, position evaluation - takes back 138 ply - gives hint - thinks on the opponent's time - 14"x 10" - 6 AA batteries or AC - for advanced intermediates - perhaps 2150 at 40/2 - 90 day warranty

Saitek Virtuoso - under \$175 - 64 levels - pressure sensory - wood pieces and wood bordered board - 16K program - no display - tournament and beginner levels - choose selective or brute force search - takes back 30 ply - gives hint - thinks on opponent's time - multiple style opening and user selectable styles of play - stores game in progress - 4 AA batteries or AC - 12"x 12" - for advanced intermediates - perhaps 2100 at 40/2 - 1 year warranty

Saitek GK 2100 - under \$250 - 64 levels - pressure sensory - 32K program - has display which shows chess clocks, line of play, position evaluation - tournament and beginner levels - choose selective or brute force search - takes back 50 ply - gives hint - thinks on opponent's time - multiple style opening and user selectable styles of play - stores game in progress - 6 C batteries or AC - 11"x 16" - 36,000 opening positions - hash tables - for advanced players - perhaps 2200 at 40/2 - 1 year warranty

Novag Diamond - under \$300 - 56 levels with 24 reprogrammable levels - pressure sensory - has display showing chess clocks, recommended line of play and position evaluation - takes back entire game and traces forward - gives hint - thinks on opponent's time - saves 64 games in memory including the current game - programmable opening book (with Distributor) -

36,000 position opening book - 4 levels of randomness - active/passive opening book selection - learns from its mistakes - finds mates-in-14 - hash tables - 12"x 14" - AC only - for advanced players - perhaps 2300 at 40/2 - 90 day warranty

Saitek President - under \$400 - auto-sensory - wood pieces with wood board - 32K program - has display which shows chess clocks, line of play, position evaluation - tournament and beginner levels - choose selective or brute force search - takes back 50 ply - gives hint - thinks on opponent's time - multiple style opening and user selectable styles of play - stores game in progress - 6 C batteries or AC - 14"x 14" - 36,000 opening positions - hash tables - for advanced players - perhaps 2200 at 40/2 - 1 year warranty

Excalibur Mirage - (Due in November '96) - pressure sensory - 110 levels - moves its own pieces automatically - LCD display with chess clocks, recommended line of play, and position evaluation - gives hint - thinks on opponent's time - auto-play in which computer makes all the moves by itself - takes back 32 ply - rates your play - 16"x 14" - 5 D batteries or AC - saves game in progress - for advanced intermediate players - perhaps 2100 at 40/2 - 1 year warranty

Saitek/Mephisto Montreaux - under \$700 - pressure sensory - 64 levels - saves game in progress - auto play - has display which shows chess clocks, recommended line of play and position evaluation - gives hint - thinks on opponent's time - takes back entire game - hash tables - 11"x 16" - for advanced players - 6 C batteries or AC - perhaps 2350 at 40/2 - 90 day warranty

Saitek Renaissance - under \$700 - auto sensory - full sized tournament wood pieces and wood board - upgradeable - 32 levels - 2" squares - lights on all four corners of each square - unique LCD pull-out chessboard - has display which shows chess clocks, line of play and position evaluation - 50 game memory - take back and replay full game - gives hint - thinks on opponent's time - 4 C batteries or AC - 20"x 20" x2" - for intermediate players - perhaps 1850 at 40/2 - 1 year warranty

Saitek Renaissance with Brute Force Module - under \$1000 - full sized tournament wood pieces and wood board - upgradeable - 64 levels - 2" squares - lights on all four corners of each square - unique LCD pull-out chessboard - has display which shows chess clocks, line of

play and position evaluation - 50 game memory - solves mate in 20 - gives hint - thinks on opponent's time - take back and replay full game - 4 C batteries or AC - 20"x 20" x2" - for advanced players - perhaps 2250 at 40/2 - 1 year warranty

TASC R-30 Version 2.5 - under \$2500 - wood auto-sensory - 100,000 position opening book library - unlimited number of levels - piece recognition - beautiful wood board with light on each square - large LCD display (5"x 1 1/2") shows chess clocks, recommended line of play and position evaluation - take back and replay entire game - RISC processor running at 30 MHz - 24 MIPS speed - control module can be placed anywhere - gives hint - thinks on opponent's time - upgradeable - solves mate in 18 - AC only - 17"x 17"x 2" - for advanced players - perhaps 2550 at 40/2 - 1 year warranty

BITS & PIECES

Letters from Readers -
Answers by IM Larry Kaufman

DAVID BESSEY, STRATHMORE, CA.

No doubt the big story in computer chess today is the tremendous gain in strength of PC chess programs and their large and widening gap of play over the stand alones...When am I going to see a Pentium or Intel Inside sticker on a dedicated machine?

[Probably never, because the Intel chips are generally more expensive than comparable RISC chips. The Intel chips are used in PCs because they can run existing software, but there is little reason to choose them for a dedicated machine running software written specifically for it. - ed.]

...IBM, having built Deep Blue, might be interested in mass producing an avant-garde chess computer for the public. *[There is speculation that they might do exactly that some day. A machine with even one of the specially made "Chess chips" should be much stronger than any PC program, and perhaps could be made to sell for no more than the top end dedicated machines of today. -ed.]* ...How many plies of search would a program gain if it just did checks and captures and dropped all the heuristics, except of course piece score? *[A program that only considered checks and captures after the first move would play only around 1300-1400 level. Perhaps you mean a program that analyzed all tactical moves but disregarded all positional scoring, after first ordering the currently available moves positionally, which takes just a split*

Computer Chess Reports

second. Such a program would probably look about a ply deeper than a normal one, but would play considerably worse. A program that leans in that direction is Fritz, which outsearches all its rivals by nearly a ply on average, at the expense of sophisticated evaluation. Most programs consider all or at least most captures and some checks beyond the stated depth. Some, like MChess, look at more checks at the expense of depth. - ed.]...I think it would be very apropos to list the MIPS or hardware speed of computers as well as their ratings in the charts. *[We do list MHz for the dedicated machines. To convert that to MIPS is a bit tricky, but of course for machines with the same processor type the MIPS are proportional to the MHz. We have published articles in the past attempting to estimate the MIPS/MHz conversion for each processor type, but these estimates are rather subjective since the MIPS numbers depend on the program being run. One guideline I use is that the Acorn RISC chips used in the high end dedicated machines have about the same MIPS as a 486 dx2 chip at twice the MHz. - ed.]*

JOHN WENTWORTH, ROCHESTER, NH

I was wondering if you have ever tried putting one chess program against another on one PC? I do this by using ALT-TAB to switch to one program and the other. This seems to me an accurate way to test which program is better than the other because they are running on the exact same machine. How much decrease in playing strength would you say occurs by doing this? *Reply: Yes, I and others used to use ALT-TAB on occasion to play games between pc programs. Now that method is obsolete since autotesting is now possible on an automatic basis between two machines. But for those who enjoy watching the games and who have only one computer, this is a useful tip. Since the programs will not be thinking on each other's time, their strength should drop perhaps 30 points. Takeback on M-Chess 5.0 can be accomplished by pressing the "F9" key. This should be made more apparent in the menu.*

OLIVER YOUNG, CANADA

I want to know which programs work best under which hardware/operating systems. When can we expect 64-bit processing programs? Which benchmark measurements best predict chess program performance? Am I correct to guess that floating point calculations are not part of what chess programs execute? What effect does the P6 Intel chip have on programs, assuming we ignore all of the current

Volume 5, Number 3+4

disadvantages of the P6 over the Pentium chip? Do you feel that the current environment discourages the commercial viability of dominating specialized chess playing hardware for years to come? Why?

Reply: I can tell you that the gain from 486 to Pentium varies widely among programs; I recall that MChess Pro gained the most, and Fritz the least of the top programs. I don't have data on the Pentium Pro yet, except to tell you that the ones used in the Harvard cup outperformed some Pentium systems adjusted for MHz but underperformed others. You are correct that floating point operations are not used to any significant degree by any chess programs so far as I know, so the best benchmarks for chess would be integer performance (the SpecInt test comes to mind). Hard Disk speed and Video speed usually make only a very small difference in the speed of a chess program. Some programs access the Hard Disk for the opening book, but that usually takes just a split second. 64-bit processing programs will probably be written when suitable computers become widespread. Yes, it's much harder to market expensive dedicated chess computers now since so many potential buyers already own a powerful PC. Of course, if dedicated chess chips (like those in IBM's Deep Blue for example) were to be put into a machine they could offer a large performance gain over any PC and this would justify a fancy price tag. As it is, it's hard to convince someone to spend a lot of money for a dedicated machine when they could have a computer that does other things and plays as well or better for a similar price, especially since boards are now available to allow the user to play normally on a chess board instead of on a screen. I know that I cannot play nearly as well off a screen as I can on a real chessboard, and I know that many others feel the same. So there's still a reasonable market for machines up to a thousand dollars or so, but hardly any market for a machine with the power and price tag of a Pentium PC.

LEONID SOKOLOV, CASTLETON, VERMONT

I am writing concerning the clock rates of two Mach 3 computers, one of which was 11 min. behind after 2 hours...I discovered that they have different rate with batteries than when used with transformers! Both are nearly correct on batteries, but both are 11 min. behind in 2 hours with transformers...In one I tried to add a capacitor at one spot which corrected the situation. After I removed it the corrected situation did not change! With the second unit I could not do anything similar.

Reply: Interesting and strange. Some of the earlier Mach 3 machines had this problem, and later it was corrected.

CHARLES GOLD, GAINESVILLE, FLORIDA

I tested Genius 68030 on the Problem Test for Endgame (CCR, vol.5, no.2, page 42) and got a result of 31. It only failed 23, 24, 26, and 29. At 3 min. (instead of 10') it also failed 25 and 27. I also tested Vancouver 68020 - it failed 13, 23-27, and 29, and at 3 min. it also failed 9, 18, and 28.

DAVID PHILLIPS, BOULDER, CO

I really enjoy looking through CCR. The quality and quantity of your work is really apparent. Thanks!

I've been looking for chess software that is a teacher as well as an overwhelming opponent...I'd like strategic implications - goals -- pointed out, e.g. weakness in the present position and ways to exploit them or key squares that should be occupied. Teaching like I would receive from a live teacher is what I'm looking for.

Reply: "Chess Mentor" is an excellent tutorial program. It does the type of thing you ask for, but only on preselected problems and positions from master games. Some programs try to do what you ask on positions from your own games, but this is very difficult and the advice is usually either elementary or inappropriate. Although chess programs can defeat masters, they do not yet have the understanding of chess that a master does, nor the ability to impart their knowledge to the user in a meaningful way. With preselected positions, human masters can write the commentary, but computers can't yet replace human instructors when it comes to discussing your own games.

ED TRICE, NORTH SHORE

I'd like some info on the Mac version of Hiarc...How many positions per second (on average) can various programs evaluate? I know this fluctuates from "0" in book play to lower numbers during intense quiescence to high numbers in early middlegame play, etc. I know TASC, my former playing partner, used to average about 3000 per second. I found this to be on the low end.

Reply: Hiarc International is the Apple Mac version of Hiarc 4.0. It is new and uses the same manual as 4.0. I would imagine it to be the strongest Mac version so far, But I don't own a Mac and haven't seen much data on Mac chess engines. As for nodes per second, it all depends

on how you count nodes. TASC must count very conservatively. Most current PC programs running on fast Pentiums look at from 20,000 to 50,000 nodes per second, but these numbers don't mean much. A program that evaluates captures statically will report a much lower number than one that plays them out, but there is little real difference.

ROBERT MADDOX, OMAHA, NE

I purchased an Excalibur Krypton Challenge sometime back from ICD. Since this unit has not been reviewed in CCR, I would like to share my impressions of this machine.

I do not believe that the KC plays expert level chess. I base this on a series of matches in which my KC was convincingly trounced by Travel Champion, Novag Emerald and Radio Shack 2150L. It even lost a game to my ancient Fidelity Sensory 9, though it did win the match. I recognize that I might be mistaken, as the sample size is small, but my opinion is also influenced by my own games against the machine. The KC simply does not play as well as Travel Champion or the Emerald. In my opinion, KC is perhaps a bit stronger than the Radio Shack unit, but not by much. I did complete the 1 hour test and KC scored 19 points for an inflated rating of 2070.

In addition, the "Current Crop" description of KC says "solves mate in eight". Don't believe it. KC has mate solve levels only up to mate in 6. As for blitz, forget it. KC moves much too fast and falls for simple 3 ply traps. Don't get me wrong. The KC is not junk. It is a nice machine with interesting features - but it is not, in my opinion, competitive with similarly priced Novag and Saitek models.

Reply: Its predecessor, the Legend, got a C.R.A. Action rating of 2065, which implies at least near-Expert play at 40/2. Moreover, the Legend got a spectacular WBCA rating well into the 2300s at blitz, which hardly relates to your description of KC as weak in blitz. I don't know whether the KC is actually stronger than the Legend, as it is supposed to be, but it should be more or less competitive with the Travel Champion and stronger than the Radio Shack 2150L. The 2070 rating from the CCR test makes me think that KC is at least comparable to Legend, so perhaps the problem is related to the level settings moving too fast, as you suggest. Perhaps you can set the machine for longer time limits than the stated ones without exceeding time limits - this might improve the results. It seems to me that we might have done that in the WBCA test of Legend, but I can't remember for certain.

**ALAN TOMALTY, "KOMPUTER KORNER" COLUMNIST
FOR EN PASSANT, OFFICIAL MAGAZINE OF THE CHESS
FEDERATION OF CANADA.**

After extensive usage of Chess Genius 2 & 3, I have some suggestions to Richard Lang the programmer. The following are suggestions to make a great program an outstanding program.

1) Make the transposition between books truly automatic with the program able to transpose back and forth ad infinitum.

2) Increase the no. of editable ply to 100 for the opening books.

3) Allow pawn promotions for the opening books.

4) Allow ability to convert to other program formats such as Fritz, Hiarc, Mchess Pro etc.

5) Max. no. of move alternatives within the books should be increased to 24.

6) Max. contempt factor should be doubled to accommodate piece sacs.

7) A 2nd smaller diagram should be allowed so as to easily refer to original position.

8) Genius should have a learning feature.

9) The book that is loaded should be named and shown at all times.

10) Genius should recognize transpositions of the opening that are off by 1 tempo, EX: reverse openings.

Angelo Ciavarella, Blacksburg, Va

I tested the Mach III of the Maresch 10 min. endgame test and got a score of 19, not 20. The rating would then be 2220 instead of 2250....Could you please explain what the + and - figures indicate on the SSDF rating list on Pages 70 & 71 of CCR vol. 5 no. 2?

Reply: They indicate the statistical margin of error (two standard deviations). In other words there is a 95% probability that the "true" rating will lie between these limits. The larger the sample, the smaller the range.

Gary Crum, Louisville, Ohio

...If you succeed in getting 9.99 points ahead of Novag Diamond, its play on low levels is really weird. It gives up pieces left and right. Hoping for stalemate? Or is it unaware that 9.99 evaluation isn't the highest possible?...Its knowledge of all endgames is abysmal. I've never had a computer so willing to draw by 3-fold repetition...On the Louguet test, it came out at 2331 USCF.

Reply: Novag Diamond compensates for its weakness in the endgame by very strong tactical play in the middlegame. Perhaps the programmer did not care how the machine plays once it was

down 9.99 since it would presumably resign at that point.

KEN SCHWARTZ, PORT ANGELES, WA

Please provide a glossary of technical terms used in CCR. Here are some that trouble me.

Reply: "C" is a popular programming language, the most widely used for chess programs. "Alpha-beta" is a type of search used by all commercial chess programs, by means of which lines are cut-off once they can no longer influence the selection of a move. Heuristics are rules given to a computer to guide its selection of a move (example: push passed pawns). They are usually but not always correct. Transposition table (or hash tables) enable the computer to avoid re-evaluating positions reached in its search that arise by a different move order. Iterative deepening is the process where a computer first searches to a depth of 1 ply, then 2 ply, then 3 etc. Null moves are "pass" moves used by many programs to detect threats. If I can get away with passing in an given position, I am presumably not under any threat. Quiescence search usually means playing out capture (and sometimes checking) lines until a quiet position is reached with no reasonable captures possible. Only then does it make sense to evaluate the position. Everlasting knights are knights occupying powerful outpost squares that can never be chased away by pawns, knights, or bishop. Assembly language is the language computers understand. Programs written in other languages such as "C" must be converted to assembly language by a program called a "Compiler". A static exchange evaluator tries to limit the need to play out captures in the Quiescence search by calculating whether they are likely to lose material. Forward pruning is an attempt to discard lines of play that seem to have no point. For example, if the program has lost a rook in some line but only threatens a knight, the line is probably junk. History and refutation tables and killer moves are used to try to identify moves likely to refute enemy moves, so that they may be tried first. If they do refute enemy moves, other moves need not be tried, saving time. PVS is Principal Variation Search, and is one way of speeding up the standard Alpha-beta search. Singular Extensions is an idea of the Deep Thought team, now largely abandoned, in which moves that appeared to be clearly best in a line would be looked at a ply deeper than normal moves. Incremental updating means recomputing only the features of a position that change with a move, rather than re-evaluating everything from scratch after each move. Shannon-A programs are full-width (brute force); Shannon-B programs

are selective. A ply is a move of one side only, so that a line which is five moves long (for each side) is ten ply deep. Conspiracy Search is an alternative to Alpha-beta, not used in any commercial program to my knowledge. The chess engine refers to the part of a chess program that actually selects a move, as opposed to the part that displays the board or communicates with the user. Terminal nodes are positions reached at the end of a line, at which point the positions are evaluated.

MICHAEL KOWARKO JR., CHEEKTOWAGA, NY

...I wanted to ask a question about the recent Deep Blue/Kasparov match. How could such a powerful computer lose so badly? How many ply deep does it search? And finally is there any rate of calculation that can beat Kasparov?

...Would increasing my RAM on my Pentium 120 MHz from 8 Meg [to 16] increase the chess programs performance and if so how much?

Reply: The machine lost due to a poor opening book and to mediocre evaluation. Due to extensions it's hard to say just how many ply deep it was looking, but my guess for a middle game average would be about 14. Of course there is some rate of calculation that could defeat the Champ, but that rate might be more than can physically (or economically) be achieved. However in my opinion a good book and better evaluation would do the trick even at the current rate of calculation. The program must try harder to reach open positions. Doubling your RAM might add a few rating points to some of the programs, but not more than six or seven. Additional doublings would bring even less benefit.

THE LATEST SWEDISH RATING LIST

March, 1996

48075 games played by 150 computers

(Add 180 rating points to numbers below for USCF equivalent)

	Rating	+	-	Games Won	Oppo
1 MChess Pro 5.0 (P/90)MHz	2440	31	-30	556 67%	2317
2 Genius 3.0 (P/90)MHz	2429	32	-31	521 65%	2317
3 Genius 4.0 (P/90)MHz	2418	31	-30	556 66%	2299
4 Rebel 7.0 (P/90)MHz	2417	30	-29	587 62%	2333
5 Rebel 6.0 (P/90)MHz	2415	36	-35	400 61%	2340
6 Hiarc3 3.0 (P/90)MHz	2392	36	-35	404 59%	2329
7 Hiarc3 4.0 (P/90)MHz	2389	36	-35	389 58%	2332
8 Genius 4.0 486/50-66 MHz	2384	53	-50	196 63%	2288
9 MChess Pro 4.0 (P/90)MHz	2376	33	-32	463 54%	2345
10 Fritz 3.0 (P/90)MHz	2366	32	-32	481 57%	2316
11 Genius 3.0 486/50-66 MHz	2363	26	-25	790 64%	2260
12 R30 v. 2.5	2362	54	-49	202 69%	2222
12 MChess Pro 5.0 486/50-66	2362	37	-36	370 60%	2292
14 Rebel 7.0 486/50-66 MHz	2354	37	-36	376 58%	2296
15 Genius 2.0 486/50-66 MHz	2340	25	-25	788 59%	2274
16 MChess Pro 4.0 486/50-66	2322	26	-26	706 56%	2282
17 WChess 1.06 (P/90)MHz	2320	32	-33	460 47%	2339
18 WChess 1.03 486/50-66	2309	28	-28	617 49%	2318
19 Rebel 6.0 486/50-66 MHz	2307	25	-25	774 57%	2260
20 CMach 30-32 MHz Schr 3.1	2305	32	-30	546 68%	2174
20 Hiarc3 3.0 486/50-66 MHz	2305	27	-27	686 53%	2283
22 Meph Genius 68030 33 Mhz	2301	50	-49	202 54%	2269
23 CMach 30 MHz King 2.0	2299	22	-21	1106 66%	2179
24 CM 4000 486/50-66 MHz	2294	34	-33	462 66%	2174
25 Genius 1.0 486/50-66 MHz	2291	24	-24	836 56%	2249
26 CMach 30 MHz Schr 3.0	2276	62	-55	168 73%	2103
27 MChess Pro 3.5 486/50-66	2275	25	-24	816 54%	2244
28 Gideon Pro 486/50-66 Mhz	2274	35	-34	421 62%	2186
29 MChess Pro 3.12 486/50-66	2266	36	-34	438 69%	2124
30 Fritz 3.0 486/50-66 MHz	2261	24	-24	846 54%	2232
31 Meph Lyon 68030 36 Mhz	2255	32	-30	602 75%	2067
32 Genius 1.0 486/33 MHz	2247	32	-32	463 50%	2247
33 Meph Portorose 68030 36	2237	40	-36	407 77%	2028
34 Vancouver 68030 36 MHz	2234	37	-34	451 73%	2058
35 MChess Pro 3.12 486/33	2230	50	-48	208 60%	2155
36 Kallisto 1.82486/50-66	2224	24	-24	825 46%	2250
37 Berlin Pro 68 020 24 MHz	2217	27	-26	717 61%	2137
38 Kasparov SPARC 20 MHz	2213	27	-27	672 54%	2185
39 RISC 1MB ARM 2 14 MHz	2204	22	-22	1021 59%	2139
40 Hiarc3 Master 2.0 486/33	2203	46	-46	229 51%	2194
41 CMach Schr 512k ARM2 16	2195	27	-26	703 62%	2111
42 MChess 1.1-1.71 486/33	2194	44	-40	326 74%	2015
43 Saitek RISC 2500 ARM2 14	2193	23	-22	975 57%	2141
44 Montreux ARM 14 MHz 512	2188	43	-38	381 79%	1957
45 CMach/King 512K ARM2 16	2177	32	-32	473 55%	2139

46	Vancouver	68020	12	MHz	2163	24	-23	952	68%	2031
47	Mephisto Lyon	68020	12		2150	20	-19	1310	61%	2068
48	Socrates 3.0	486/33	MHz		2143	49	-50	203	47%	2164
49	Fritz 2.0	486/33	MHz		2135	30	-31	527	45%	2170
50	Portorose	68020	12	MHz	2127	26	-24	896	73%	1950
51	M Chess 1.1	386/25-33			2126	36	-35	408	65%	2018
52	Fidelity Elite	68030	32	MHz	2121	40	-37	372	73%	1952
53	Berlin	68 000	12	MHz	2120	25	-24	812	58%	2060
54	Meph Lyon	68000	12	MHz	2105	22	-21	1068	58%	2047
55	Vancouver	68000	12	Mhz	2104	23	-22	971	57%	2055
56	MM 4 T.Kit	6502	16	MHz	2092	46	-42	292	73%	1917
57	Novag Sapphire H8	10	MHz		2087	24	-24	833	50%	2089
58	F. Mach IV	68020	20	Mhz	2074	19	-19	1339	51%	2064
59	Meph. Almeria	68020	12		2073	42	-40	305	62%	1986
60	Hiarcs Master 1.0	486/33			2072	48	-48	214	48%	2088
61	Gandalf 2.1 (P/90)	MHz			2061	69	-85	105	23%	2271
62	Portorose	68000	12	MHz	2042	26	-25	767	63%	1948
62	Polgar	6502	10	MHz	2042	43	-41	283	59%	1979
62	Fritz 1.0	486/33	MHz		2042	48	-47	215	55%	2009
65	Fidelity Elite	68000	x 2		2036	49	-48	209	57%	1986
66	Nimzo 2.2.1	486/33	MHz		2035	46	-47	229	42%	2090
67	Zarkov 3.0	486/25-33	MHz		2031	46	-48	232	39%	2110
68	Rex Chess 2.3	386/25-33			2029	65	-62	126	59%	1964
68	Meph Roma	68020	14	MHz	2029	27	-26	712	65%	1919
70	Meph Dallas	68020	14	Mhz	2022	35	-32	492	72%	1860
71	Kasp Brute Force	10	MHz		2020	23	-23	906	44%	2060
71	Meph Almeria	68000	12		2020	32	-30	534	67%	1898
71	Zarkov 2.5	386/25-33	MHz		2020	56	-53	168	61%	1941
74	Fritz 1.0	386/25-33	MHz		2007	66	-67	113	46%	2039
75	Novag Diablo	68000	16		2006	21	-21	1103	41%	2073
76	Fid Mach III	68000	16	MHz	1993	14	-14	2404	52%	1980
77	Comp Chess System	486/33			1985	47	-47	221	47%	2007
78	Meph MM 5	6502	5	MHz	1979	19	-19	1277	49%	1987
79	Kasp Pres/GK-2100	10	MHz		1976	29	-30	558	47%	1998
80	Meph Polgar	6502	5	MHz	1971	17	-17	1693	42%	2030
81	Meph Dallas	68000	12	Mhz	1970	21	-21	1138	62%	1885
81	Meph Roma	68000	12	MHz	1970	18	-18	1519	56%	1927
83	Meph Milano	6502	5	MHz	1965	24	-25	820	42%	2026
84	Nov S.Expert C	6502	6	Mhz	1961	18	-18	1531	46%	1989
85	Zarkov 2.6	386/25-33	MHz		1960	64	-62	125	56%	1917
86	Academy	6502	5	MHz	1937	18	-18	1495	44%	1979
87	CM 3000	386/25-33	MHz		1933	68	-74	103	36%	2031
88	Rex Chess 2.3	386/16-20			1930	53	-53	174	49%	1936
89	Leonardo Maestro B	6502			1927	73	-67	105	62%	1842
90	Amsterdam	68000	12	MHz	1926	22	-22	1020	58%	1872
91	Nov S Expert B	6502	6	MHz	1920	29	-29	562	48%	1934
92	Meph Mega IV	6502	4.9		1917	18	-18	1544	44%	1956
93	Maestro D	6502	10	MHz	1915	26	-26	736	51%	1909
94	Fid Excel Mach IIc	12	MHz		1914	23	-23	955	50%	1911
95	Nov Expert T.Kit	6502	16		1910	67	-63	120	61%	1829
96	Meph MM 4	6502	5	MHz	1903	19	-19	1288	51%	1900
97	Travel Master H8	10	MHz		1898	65	-79	123	22%	2113
98	Kasp GK2000 H8	10	MHz		1897	29	-29	593	42%	1952

99 Meph Modena 6502 4 Mhz	1896	28	-29	615	41%	1959
100 Psion Atari 68000 8 MHz	1882	18	-18	1487	44%	1928
101 CXG Sphinx Galaxy 4 MHz	1881	17	-18	1670	38%	1971
102 Novag Ruby H8 10 MHz	1879	30	-30	545	42%	1934
103 Fid M Ila 68000 12 MHz	1877	46	-47	226	47%	1898
104 Sait Turboking II 5 MHz	1868	23	-23	963	37%	1964
104 Conchess Victoria 5.5 Mhz	1868	26	-27	701	40%	1941
106 Fid Club 68000 12 MHz	1857	23	-23	931	51%	1848
107 Meph Mega IV Brute Force	1852	36	-37	370	41%	1915
108 Nov Sup Exp A 5 Mhz	1836	19	-20	1318	39%	1917
109 Fidelity Par Ex 6502 5 Mhz	1835	22	-22	1021	49%	1845
110 Fid Avant Garde 5 MHz	1834	20	-20	1196	46%	1866
111 Meph Rebell 5 Mhz	1825	19	-19	1373	39%	1906
112 Sait Strat/Analys B 6 Mhz	1820	20	-21	1213	38%	1908
113 Meph Sup Mondial 4 MHz	1818	19	-20	1335	37%	1908
114 Nov Forte B 6502 5 MHz	1816	24	-24	837	44%	1859
115 Sait Leon Maes A 6 Mhz	1810	30	-30	547	45%	1845
116 Nov Forte A 6502 5 Mhz	1809	22	-22	964	48%	1821
117 Conchess Plymate 5.5 Mhz	1808	15	-16	2040	40%	1881
118 Sait Simult/Corona 5 MHz	1806	23	-24	969	33%	1932
119 Fidelity Excel 4 MHz	1800	18	-18	1565	43%	1852
120 Nov Expert 6502 4 Mhz	1788	24	-24	843	42%	1846
121 Fidelity Elegance 3.6 Mhz	1780	40	-40	303	54%	1751
122 Conchess Plymate 4 MHz	1779	39	-38	333	55%	1747
123 Mephisto MM 2 3.7 MHz	1772	49	-48	208	52%	1755
124 Sait Turbostar 432 4 MHz	1764	22	-22	1005	45%	1801
125 Fidelity Excel 3 MHz	1756	22	-23	960	42%	1814
126 Saitek Kasparov Blitz	1734	45	-47	239	37%	1825
126 Novag Super Nova	1734	37	-38	350	40%	1802
128 Nov Super Constel 4 MHz	1731	18	-18	1626	35%	1840
129 Conchess Glasgow 4 MHz	1719	39	-39	327	50%	1721
130 Chessplay 2150 Atari/Ami	1714	58	-63	146	33%	1837
131 The Final Chesscard 5 Mhz	1700	57	-64	156	27%	1871
132 Novag Super VIP	1687	53	-58	174	32%	1816
132 CM 2100 Amiga 68000	1687	65	-76	120	25%	1874
134 Mephisto Europa	1682	50	-52	190	42%	1740
135 Sait Superstar 36K 2 Mhz	1678	23	-24	954	31%	1818
136 Fid Elite A/S 3.2 Mhz	1677	23	-24	1023	29%	1836
137 Ch Champ 2175 Atari/Am	1672	56	-62	157	30%	1821
138 Conchess Glasgow 2 Mhz	1667	24	-25	855	34%	1781
139 Novag Quattro 4 Mhz	1662	30	-31	560	33%	1790
140 Fidelity Prestige 4 MHz	1660	64	-66	118	44%	1702
141 CM2000 Atari 68 8 MHz	1654	41	-45	312	25%	1841
142 Novag Constel 3.6 MHz	1647	31	-32	504	41%	1714
143 Novag Constellation Primo	1637	57	-59	149	44%	1682
144 Novag Constellation 2 Mhz	1596	32	-33	479	35%	1705
145 CXG Super Enterprise	1562	36	-39	386	28%	1726

INDIVIDUAL CONTESTS

by SSDF

1 MChess Pro 5.0

(P/90)MHz, 2440 vs...

Genius 3 P90	13-7
Genius 4 P90	10-10
Rebel 7.0 P90	8.5-11.5
Rebel 6.0 P90	16-4
Hiarcs 3 P90	16.5-3.5
Genius 4 486/66	4.5-4.5
MCPPro 4.0 P90	9-11
Fritz 3.0 P90	12.5-7.5
Genius 3 486/66	11.5-8.5
R30 v. 2.5	8-12
MCPPro5 486/66	10-10
Rebel7 486/66	11.5-8.5
Genius 2 486/66	15-5
MCPPr40 486/66	12-8
WChess P90	6-14
WChess 486/66	14.5-5.5
Rebel6 486/66	16-4
Hiarcs3 486/66	16-4
Genius 68 030	7.5-2.5
CM30 King 2.0	17-6
ChGen1 486/66	22-8
MCPPro35 486/66	15.5-4.5
Fritz3 486/66	12-8
Lyon 68030	7-3
Kallis 486/66	33-7
SPARC 20 MHz	14.5-5.5
Meph. RISC	9-1
Chess M. King	4-0
Sapphire	19.5-0.5

2 Genius 4.0

(P/90)MHz, 2418 vs...

MCPPro 5.0 P90	10-10
Genius 3 P90	12-8
Rebel 7.0 P90	11.5-8.5
Rebel 6.0 P90	7.5-12.5
Hiarcs 4 P90	12.5-7.5
Geniu4 486/66	12.5-7.5
MCPPro 4.0 P90	12.5-7.5
Fritz 3.0 P90	5.5-1.5
Geniu3 486/66	10.5-9.5
R30 v. 2.5	12-8
MCPPro5 486/66	10-10
Rebel7 486/66	10.5-9.5
Geniu2 486/66	6-5
MCPPr40 486/66	13.5-6.5
WChess P90	13-7
WChess 486/66	10.5-9.5
Rebel6 486/66	5.5-4.5
Hiarcs3 486/66	12.5-7.5
CM30 King 2.0	7-3
ChGen1 486/66	13.5-6.5
MCPPr35 486/66	14.5-7.5
Fritz3 486/66	24.5-4.5
Lyon 68030	14-6
Kallis 486/66	10-2
SPARC 20 MHz	14.5-5.5
Meph. RISC	3.5-0.5
Vancou. 68020	5-2
Lyon 68020	33-7
Sapphire	19.5-0.5
Mach IV 68020	22-2

3 Rebel 7.0

(P/90)MHz, 2417 vs...

MCPPro 5.0 P90	11.5-8.5
Genius 3 P90	9.5-10.5
Genius 4 P90	8.5-11.5
Rebel 6.0 P90	15.5-15.5
Hiarcs 3 P90	10.5-9.5
Hiarcs 4 P90	9.5-10.5
Geniu4 486/66	1.5-2.5
MCPPro 4.0 P90	17.5-12.5
Fritz 3.0 P90	12-8
Geniu3 486/66	21.5-18.5
R30 v. 2.5	4-4
MCPPro5 486/66	14-6
Rebel7 486/66	14.5-7.5
Geniu2 486/66	11-9
MCPr40 486/66	30.5-9.5
WChess P90	10.5-9.5
WChess 486/66	15.5-4.5
Rebel6 486/66	16-7
Hiarcs 3 486/66	9.5-10.5
Genius 68 030	18.5-11.5
CM30 King 2.0	3-1
ChGen1 486/66	27.5-14.5
MCPr35 486/66	14.5-5.5
Fritz3 486/66	13.5-8.5
Lyon 68030	1-1
Kallis 486/66	25.5-5.5
Chess M. King	4.5-1.5
Vancou. 68020	3-1
Sapphire	8-0

4 Hiarcs 4.0

(P/90)MHz, 2389 vs...

Genius 4 P90	7.5-12.5
Rebel 7.0 P90	10.5-9.5
Hiarcs 3 P90	12-8
Geniu4 486/66	10.5-9.5
MCPPro 4.0 P90	5.5-3.5
Geniu3 486/66	11-9
R30 v. 2.5	11-9
MCPPro5 486/66	12.5-7.5
Rebel7 486/66	12.5-7.5
Geniu2 486/66	11-9
MCPr40 486/66	10-10
WChess P90	10.5-9.5
WChess 486/66	11-9
Rebel6 486/66	14.5-5.5
Hiarcs 3 486/66	14-6
ChGen1 486/66	22-18
MCPr35 486/66	14.5-5.5
Fritz3 486/66	14-6
Kallis 486/66	11-9

5 R30 v. 2.5, 2362

VS...

MCPPro 5.0 P90	12-8
Genius 3 P90	1.5-1.5
Genius 4 P90	8-12
Rebel 7.0 P90	4-4
Hiarcs 4 P90	9-11
Berlin Pro	26.5-13.5
RISC 2500	14.5-5.5
Sapphire	19.5-2.5
Mach IV 68020	17-3
Meph. MM 5	9-0
President	18.5-1.5

A Blast from the Past

An Editorial from the very first issue of Computer Chess Reports (1983). Senior Editor, Enrique Irazoqui.

Interestingly, it still applies...

Editorial

Independent, accurate and comprehensive information on commercially available chess computers is what this publication is all about.

How many times have you heard or read hyperbolic statements and inflated ratings about a given machine that later on failed to live up to your expectations? The answer is: too many.

Because it was to the advertiser's commercial advantage, real proof of their claims has been generally avoided.

The publication of articles intended to guide the consumer have normally failed to do so, for they do not provide the data on which their opinions were based, even if we assume they had enough data on which to base an opinion.

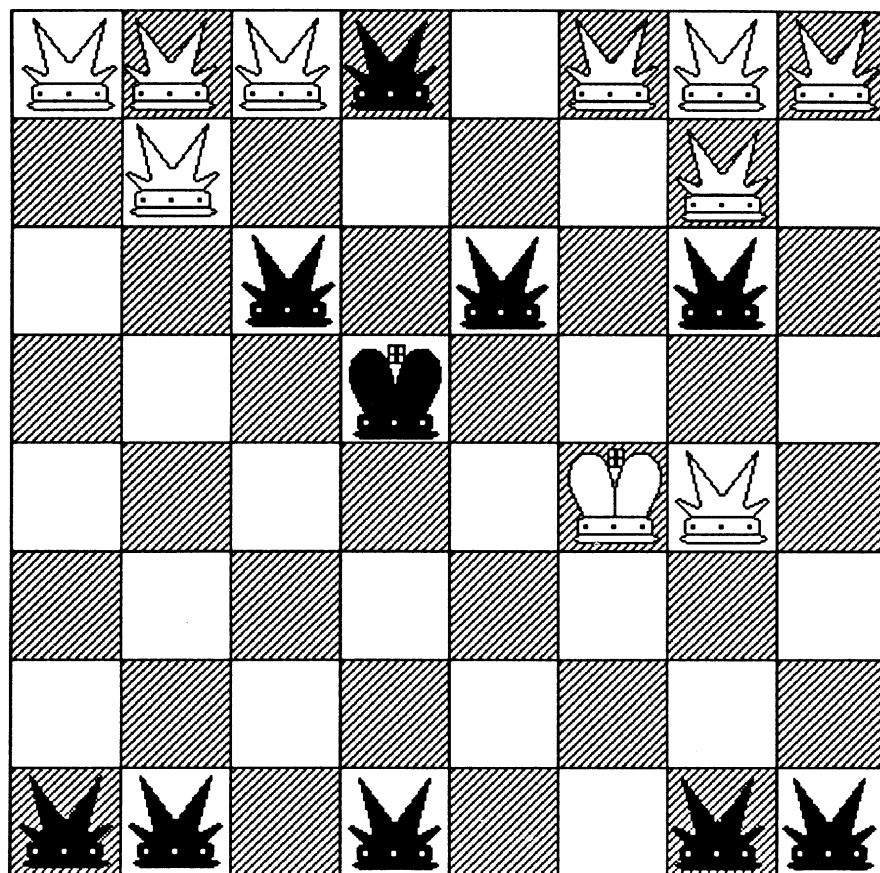
The general state of affairs is best exemplified by a recent article that defined as "fish" all chess computers. Probably its author did not realize that, by implication, he was also talking about some 90% of USCF members, weaker than today's best microcomputers. More important is what this statement reveals: a strong prejudice and lack of rational approach to these fascinating devices that just happen to be also chessplayers.

By publishing reviews, news, and comparative information about all chess computers on the market, we intend to share our findings with everyone interested in this field and also to orient the person who is trying to decide between the number of machines that today play "real chess," as opposed to clever toys, "piece movers," that will not even be considered here.

We anticipate that this publication will carry, in forthcoming issues, a number of letters to the editor and comments from manufacturers and programmers alike that will provide us with the much needed feed-back information to diversify and orient our content.

How Could This Happen???

18 QUEENS???



This is How...

- | | | | | | |
|------------|---------|-------------|----------|--------------------|---------|
| 1. h2-h4 | g7-g5 | 2. h4-h5 | g5-g4 | 3. ♖h1-h3 | g4xh3 |
| 4. h5-h6 | ♙f8-g7 | 5. h6xg7 | h7-h5 | 6. g2-g4 | h5-h4 |
| 7. g4-g5 | h3-h2 | 8. g5-g6 | h2-h1=♙ | 9. e2-e4 | f7-f5 |
| 10. e4-e5 | f5-f4 | 11. ♙f1-g2 | f4-f3 | 12. d2-d4 | ♙g8-f6 |
| 13. e5xf6 | e7-e5 | 14. a2-a4 | h4-h3 | 15. d4-d5 | c7-c5 |
| 16. a4-a5 | ♙b8-c6 | 17. d5xc6 | d7-d5 | 18. a5-a6 | b7-b5 |
| 19. c6-c7 | b5-b4 | 20. c2-c4 | ♙c8-b7 | 21. ♖a1-a3 | b4xa3 |
| 22. b2-b4 | a3-a2 | 23. a6xb7 | a7-a5 | 24. b4-b5 | a5-a4 |
| 25. b5-b6 | d5-d4 | 26. ♙c1-a3 | d4-d3 | 27. b7-b8=♙ | f3xg2 |
| 28. f2-f4 | h3-h2 | 29. f4-f5 | e5-e4 | 30. ♙a3-b4 | c5xb4 |
| 31. c4-c5 | a4-a3 | 32. b6-b7 | b4-b3 | 33. c5-c6 | a2-a1=♙ |
| 34. f6-f7+ | ♙e8-e7 | 35. g7xh8=♙ | b3-b2 | 36. ♙e1-d2 | a3-a2 |
| 37. ♙d2-e3 | d3-d2 | 38. g6-g7 | h2xg1=♙+ | 39. ♙e3-f4 | e4-e3 |
| 40. f5-f6+ | ♙e7-d6 | 41. b7xa8=♙ | e3-e2 | 42. f7-f8=♙+♙d6-d5 | |
| 43. f6-f7 | e2-e1=♙ | 44. c7-c8=♙ | ♙g1-c5 | 45. g7-g8=♙ | a2xb1=♙ |
| 46. c6-c7+ | ♙c5-c6 | 47. ♙f8-g7 | ♙b1-g6 | 48. f7-f8=♙+♙e1-e6 | |
| 49. ♙c8-b7 | b2-b1=♙ | 50. ♙d1-g4 | g2-g1=♙ | 51. c7-c8=♙ | d2-d1=♙ |

LATEST NEWS

REVIEW OF VIRTUAL CHESS

by Nick Schoonmaker

My review copy of Virtual Chess, distributed in the U.S. by I*Motion Inc., was received literally after this issue of CCR went to print (which explains why this review is included as an errata sheet to the magazine). As detailed elsewhere in this issue of CCR, Virtual Chess scored 3.5-2.5 in the 1995 Harvard Cup tournament (defeating GMs Boris Gulko and Michael Rohde, and drawing with GMs Joel Benjamin, Gregory Kaidanov, and Ilya Gurevich) to capture first place among the computer entrants.

The copy of Virtual Chess I received (version 1.05) operates only under Windows 95. I do not know if there is a commercially available version that is compatible with earlier versions of Windows or MS-DOS. I have also been provided a copy of Virtua Chess, which appears to be an older version of the same program but that is distributed in England; however, I was unable to get it to work on either my 100 MHz Pentium or 33 MHz 386DX computer. In either case, when attempting to run the program I received the following error message: "FATAL: This version will only work on English systems." However, I experienced no problems with running Virtual Chess (the U.S. version) on my Pentium computer.

I*Motion Inc. did not provide me the manual for Virtual Chess. And surprisingly, there was no documentation on the supplied CD-ROM disk as well as no on-line help while running the program. However, even without documentation the program is very easy to use. The pull-down menus are logically arranged and contain most of the standard features found with other top programs.

Virtual Chess has decent database functions. It processes PGN and EPD files, allowing both import and export capability. It also imports ChessBase files. One nice bonus feature is that the program comes with databases of many games (PGN format) for several dozen grandmasters. The program also analyzes games, a feature now standard among top programs.

Virtual Chess has a user adjustable hash table size. On my computer, which has 16 MB of RAM, the program is able to access up to just under 11 MB for its hash table. However, I do

not know what the size limitation is for computers with very large amounts of memory.

When given the One-Hour CCR test, the program scored 69 points, a result which is about in the middle of the pack for the top programs. It is the same score achieved by Chessmaster 4000, HIARCS 3.01, and REBEL 6.0 on my Pentium computer. (See separate article for more details) Unfortunately, the late date at which I received Virtual Chess did not allow me to perform further formal testing, such as the Franz Maresch endgame problem set. There is not much other data yet available on the program, since it is unrated by Ply. But based on preliminary results, and particularly on its first place finish among computers at the Harvard Cup tournament, the program is quite strong. Its database capabilities and other features seem generally comparable to the other top programs. So at this point, Virtual Chess appears to be a good choice for Windows 95 users. But further data on this program is still pending.

OOPS!!!

On page 136, we inadvertently left out the Krypton Challenge. So here goes:

Excalibur Krypton Challenge - under \$150 - pressure sensory - 100 levels - saves game in progress - 12"x 10" - 8 user selectable playing styles - LCD display showing chess clocks, line of play and position evaluation - takes back 32 ply - for advanced intermediate players - 4 AA batteries or AC - perhaps 2100 at 40/2 - 1 year warranty

YOUR OPINIONS COUNT

Let us know what you think of this issue...

Fax: 516-424-3405

E-mail: LGTY92A@Prodigy.com

Write: CCR, 21 Walt Whitman Road,
Huntington Station, NY 11746 USA