

# Move from the East

*This month, Frederic Friedel, editor of the West German Computer Shack magazine, reports on the Budapest World Microcomputer Chess Championships held in October 1983.*

Nobody believed it could be done. A dedicated computer chess enthusiast in Hungary, Dr Laszlo Lindner, worked unerringly for almost a year. In the end all the large manufacturers of chess computers — and a few amateur entries — got together in Budapest to take part in the Third World Microcomputer Chess Championship — the first time an event of this kind has been staged in a socialist country.

There were astonishingly few problems getting the computers to Hungary. A number of units, especially the 68000-based ones, had to be cleared by the US Trade Administration before being allowed to go on the trip. And the Hungarian customs officials had to be carefully prepared to cope with the sudden arrival of so many computer systems at Budapest Airport. But everything went well and on the evening before the tournament all participants had arrived safely at the Szamok Computer Education and Information Centre, the venue of the World Championship. The teams and the participating machines were as follows:

**Fidelity Electronics:**

Authors: Dan and Kathe Spracklen, Ronald Nelson, Boris Baczynskyj.

*Prestige.* This is the chess computer well known to aficionados as one of the finest (and most expensive) sets available on the market. The version used in Budapest ran at 4MHz on a 6502C. The new program (in EPROM) is 20k long and requires 14k RAM. The machine is capable of generating and evaluating about 1000 positions per second. The special openings library contains 16,000 positions.

*Elite A/S.* A completely new product (no connection with the old Elite) manufactured at Fidelity's plant in Germany. The handsome wooden board is less bulky than the Prestige. Both programs are identical, although the Elite A/S processor runs at 3MHz and looks at 750 positions per second. Normally the unit comes with a built-in openings book containing about 16,000 positions, but as in the Prestige the Spracklens used a specialised tournament book with fewer (but deeper) lines in Hungary.

*Chess Challenger Sensory 9.* The newest version of the well-known 'CC9'

has become faster (2MHz instead of 1.5, 500-600 nodes per second) and received an improved program which resides in 16k masked ROMs and contains some very interesting new algorithms. The openings book contains 3000 positions.

**Hegener & Glaser:**

Authors: Thomas Nitsche, Elmar Henne

*Mephisto Excalibur.* The big wooden Mephisto sensor board has no less than a complete 68000 system built into it. The 43 kbytes program is loaded from EPROM into RAM, allowing the system to run at 8MHz (on the 1802 used in the regular Mephisto unit this would correspond to about 21MHz!). The new Mephisto III program has an extremely selective search and looks at only five positions per second, spending most of its time on sophisticated chess evaluations. The openings book contains about 1500 moves and the program will recognise all transpositions. The unit is available in Germany for around £1250.

*Mephisto X.* Practically identical to the Excalibur, except for a smaller openings book of 1000 moves.

**Novag Industries:**

Authors: David Kittinger, Scott McDonald.

*Constellation.* The normal Constellation speeded up from two to three MHz, but otherwise unchanged (6502, 16k ROM, 2k RAM, 2500 positions in book). The computer looks at about 800 nodes per second. Although it has no special end game heuristics, it uses this speed to go down 10-11 ply and play very pretty end games. Constellation is also well-known for tactical brilliancies.

*Super Constellation.* A new version planned for 1984. In Budapest the prototype ran at 4MHz (6502C) but had to be slowed down to 3.6MHz after technical difficulties in the first two games. The program is 32k long and requires 4k of RAM. It looks at just over 1000 positions per second.

*Novag X.* A true Kittinger 'Experimental' which he expected would

win the tournament outright. The 34k program running on a 6502C at 3.6MHz was built into the base of Novag's 'Robot' with LEDs around the edge of the board to indicate the computer's moves.

**Intelligent Software:**

Authors: Richard Lang, Mark Taylor  
*Chess 2001:* This computer, programmed in England and manufactured in Hong Kong, performed very well in the PCW tournament in London. It is one of the few Z80-based chess computers left. The processor was running at 8MHz in Budapest (vs. 4 in the standard version). The 16k program is in masked ROM and includes an openings library of 2500 positions. It conducts a selective search and looks at about 500 nodes per second.

*Chess 2001 X.* Identical with the previous unit (except for red squares on the chess board). For experimental purposes David Levy, who was operating the machine, turned off the openings library for a large part of the tournament.

*65 Cyrus X.* A completely new version of the Cyrus program (which is also in the 2001), developed by Richard Lang and Mark Taylor. They used an Apple II with a Saturn Systems Accelerator Card (3.6MHz). The playing code of the program is only 5k long and the openings book contains 180 moves.

**SciSys:**

Author: Julio Kaplan  
*Superstar X.* This new product from the Hong Kong manufacturers arrived at the very last moment via Holland. The 24k program is executed by a 6502A running at 2MHz and looking at about 400 nodes per second. The openings library contains 2500 positions. This computer has some highly interesting I/O features and 24 extremely versatile playing levels.

**Mikroelektronik Erfurt:**

Authors: Rüdiger Worbs, Dieter Schultze

*Chess Master.* The very first East European chess computer, developed and built in the German Democratic Republic. It has advanced magnet sensors and LEDs in all 64 squares. The processor (U 880 D, 2.5MHz), a development of the company, is very close to

Zilog's Z80. The program is 12k long, contains 180 opening moves and looks at 12-15 positions per second. The wooden board unit has a novel method of entering positions. It is already available in East Germany and will probably be sold in western countries at very competitive prices.

#### University of Hamburg:

Authors: Manfred Allers, Dirk Hauschildt, Alexander Reinefeld, Jan Ropers, Dieter Steinwender

**Micromurks.** This 68000-based program is already available on disk in the USA. In Budapest it ran on a new 68000 card (the 'AP-20' built by IBS in West Germany) with an effective speed of 3.5MHz. The playing code requires 32k RAM in the Apple and the highly specialised openings book contains 824 positions.

#### University of Copenhagen:

Authors: Kaare Danielsen, Hartvig Ekner

**Logichess 2.2.** The authors were the youngest in the tournament (21 and 19).

They brought a Lynx (Z80A, 4MHz) to Budapest and their program, which is stored on cassette, used a total of 24k RAM. It conducts a selective search and looks at about 50 positions per second.

#### Private entries:

**Labirint 64.** This compact unit with alphanumeric move entry and a microscopic display was built by a Romanian team. It is 8085-based and looks at no more than one position per second. It entertains its opponents by playing melodies to express its feelings — a triumphant tune when capturing a piece, sombre strains when it is losing.

**Gedeon X.** The only Hungarian participant, Bela Gedeon, turned up with a modified Chess Challenger Champion from Fidelity (as far as I could ascertain the modification was only to the power supply!). Data of the machine: 6502B, 3MHz, 32k RAM, 16k IAM.

The tournament began with loud protests when it turned out that Fidelity was prepared to certify that the Sensory 9 entry was 'identical to the units that are available under the same name'. This meant that the Sensory 9 would be the only set qualifying for a special prize for the best commercial unit. General Manager Sid Semole swore that the increase in speed and the new program were part of the current production run and so Sensory 9 was given the commercial prize before the tournament began. Later on, the East Germans also laid claim to the prize, but Fidelity's machine had a point more in the end and retained the award.

Micro computer chess tournaments are fraught with commercial interests and there is bound to be a lot of politicking during the games. The computers are always very calm, the programmers usually anxious and the manufacturers often extremely aggressive. During the fifth round in Budapest there was an incident that illustrated the basic atmosphere.

In this round Fidelity's finest, the Prestige, which was tied for second, had to play one of the Mephisto machines. These were not doing too well and badly needed every point they could get. Ossi Weiner, PR consultant and best chess player in the Mephisto team (he has won the Munich championship twice) was operating the German machine; Dan Spracklen made the moves for Prestige.

#### Round 5 (17.9.1983)

**White: Prestige O Black: Mephisto X**  
1.e4 d5 2.exd5 Qxd5 3.Nc3 Qd6 4.d4 Bf5 5.Qf3 Qe6+ 6.Be3 c6 7.Bc4? (White should not help black to unravel his terrible position.)

7... Qxc4 8.Qxf5 e6 9.Qe5 Nd7 10.Qg3 Ba3 (A strange move which humans are not likely to play.)

11.Bc1 Bb4 12.Nge2 Bxc3+ 13.bxc3 g6 14.Qc7 (Both computers love to attack b-pawns.)

14... Qa6 15.Rb1 b5 16.Rb2 Ne7 17.0-0 Nd5 18.Qg3 N5b6 19.Qf3 Rc8 20.a3 (White is afraid of Nc4 and Qxa2. Now if 20... Qxa3 then 21.Rxb5 wins back the pawn.)

20... 0-0 21.Bh6 Rfe8 22.Ra1 f5 23.Rbb1 Nc4 24.Rb4 e5 25.Rb3 (White is wasting an unbelievable amount of time with these rook moves.)

25... Qa4 26.Qd3 e4 27.Qh3 Na5 28.Rb2 c5 29.d5 Nc4 30.Rba2 Nf6 31.Nf4 Nb6 32.d6 Red8 33.Rd1 Rc6 34.Qg3 Rxd6 35.Rxd6 Rxd6 36.Nd5?? (An astonishingly short-sighted blunder, not at all typical for the Prestige. White overlooks the fact that after 36... Rxd5 37.Qb8+ Kf7 there is a threat of back-rank mate that prevents him from winning back the knight. Mephisto has just been given a piece for nothing!

On the adjacent board the Sensory 9 is winning against Superstar, but both computers are in bad time trouble. The operator of the SciSys machine offers his opponent a draw and is turned down.)

36... Rxd5 37.Qb8+ Kf7 38.h3 Qc4 39.Ra1 Qxc3 40.Rb1 Qxc2 41.Rxb5 Qa4 42.Rxc5 Rd1+ (After 42... Rxr 43.Qf8+ wins back the rook.)

Meanwhile, on another table, the Superstar-Sensory 9 game has reached a climax. Superstar calmly computes its 38th move in the last minute of its clock time, the petrified operator hardly daring to breathe. He has offered a draw a second time and has been turned down again. Literally seconds before the flag falls Superstar finally makes the move.

Now the Fidelity people stop breathing. They have a little over three minutes on the clock and it is perfectly clear that they will win the game if their computer makes the next move in time. You can almost hear the prayers of Peter Reckwitz, Fidelity's German importer, who is operating the machine. If it loses on time the blame is sure to fall on him. You always blame the operator for being too slow entering and executing moves.

With Peter Reckwitz growing crim-

son and the public squealing in excitement, Sensory 9 shows absolutely no sign of concern. It serenely goes on computing until the flag falls. Fidelity has lost a very important point, and with the Prestige game going down the drain spirits in the team are very, very low.

43.Kh2 Ne8 44.Re5 Rd3 45.Be3 (Mephisto has an overwhelming advantage of a piece and a pawn, but now it is his turn to miscalculate.)

45... Nc4? 46.Rxe8 Qxe8 47.Qc7+ Kf6 48. Qxc4 (Now Prestige is only the exchange and a pawn down, still completely lost, of course, but with a glimmer of hope that there may be a god-sent draw somewhere.)

Qe5+ 49.g3 a5 50.Qa6+ Qd6 51.Qxa5 (After an exchange of queens black would have no difficulty using his remaining material advantage to win the game. White must retain queens and try to operate with perpetual checks.)

51... Rxa3 52.Qb5 Rd3 53.Qb2+ Ke6 54.Kg2 h5 55.Qg7 Kd5 56.Qb7+ Qc6 57.Qf7+ Qe6 58.Qb7+ (White is quite obviously playing for a draw. The Mephisto team, which was really enjoying this game, is now somewhat subdued.)

58... Kd6 59.Bf4+ Kc5 60. Qa7+ Kb5 61.Be3 Qc6 62.Qb8+ Kc4 63.Qe5 Kb3 64.Qb8+ Kc3 65.Qb1 Kc4 66.Qa2+ Kb5 67.Qb1+ Ka5 68.Qb2 Ka4 69.Qa1+ Kb4 70.Qb2+ Rb3 71.Qd4+ Ka5 72.Qa1+ Kb5 73.Qe5+ Ka6 74.Qa1+ Kb7 75.Qg7+ (Ossi Weiner can't take much more of this. His computer is making no progress and seems to be heading for a draw. Peter Reckwitz has come to watch and is beginning to make deprecatory remarks.)

75... Qc7?? (To the horror of the Mephisto team black decides to sacrifice two of his pawns to avoid further checks!) 76.Qxg6 Qd7 77.Qxh5 Rb5 (White now has a dangerous passed pawn on the h-file. Of course black can still draw fairly easily, but with Mephisto X in the mood it's in, anything can happen. Ossi Weiner can hardly wait for the imminent adjournment and adjudication by the master, who is sure to give him a draw.)

78.Bf4 Qc6 79.Qf7+ Ka6 80.Be3 Ka5 (Both computers have made the time control with plenty of time on the clocks.)

81.Bd2+ (The excited murmurs around the board turn to cries of outrage: Ossi Weiner refuses to enter this move into his computer! The technical arbiter tells him he must do so, but Weiner argues that nothing in the rules make this mandatory. He goes away to phone his boss in Munich.)

81... Ka6 82.Be3 Rd5 83.g4 (Thomas Nitsche has entered these moves, but now even he refuses to go on. Weiner returns and Peter Reckwitz, a big man, begins yelling, telling Weiner he will slaughter him in the press for this. Weiner, a small, delicate person, turns pale and refuses to operate the

Continued from page 221

machine. The arbiter is not sure what he should do and decides to postpone a final decision until the international jury can be summoned the next day. For purposes of pairing the game is tentatively adjudicated a draw.

The next afternoon the international jury interviews all involved and decides that the spirit of the rules are quite clear and requires the operator to enter the opponent's moves at all times. He is not allowed to slow down the game for strategic reasons. It issues a reprimand to the Mephisto team for attempting to circumvent the rules' and also express strong disapproval of the 'emotional and hostile behaviour of the Fidelity representative'. It rules that the game must be 'resumed at the point where it was left, that the level of play be reset to the level of the previous evening and that the game be played on for an additional 45 minutes' (the approximate total time lost during the incident.)

33 ... Qd7 84.Qg8 fxg4 85.hxg4 Kb5 86.Qg6 Re5 87. Qg8 Qe6 88.Qg7 Rd5 89.g5 Qg4+ 90.Kh2 Qh5+ 91.Kg3 Qf3+ 92.Kh4 Kc6 (The 45 minutes are over and the arbiter studies the position. After a short time he adjudicates it a draw.)

There is a collective sigh of relief. Everyone is happy with the solution. The same evening Weiner and Reckwitz are observed drinking a beer together and joking boisterously ...)

In the seven round Swiss style tournament no computer was allowed to play against another machine from the same manufacturer. This naturally made for strange pairings, and some very striking oddities in the final results

1. Elite A/S	6
2. Mephisto X	5
3. Novag X	5
4. Super Constell	5
5. Prestige	4.5
6. Chess 2001	4
7. Gedeon	4
8. Chess 2001 X	3.5
9. Mephisto Y	3.5
10. Mephisto Excal.	3
11. Constellation	3
12. Sensory 9	3
13. Superstar X	3
14. Micromurks	2.5
15. LogiChess	2
16. Chess Master	2
17. Cyrus X	2
18. Labirint	0

Fig 1. Results:  
Third World Microcomputer  
Chess Championship

must be considered a result of the system. It is interesting to note, for example, that the Prestige and the Elite A/S have identical playing codes. Still, the slower machine fared much better. Of the three virtually identical Mephisto machines, one came in 2nd and the other two, 9th and 10th.

The winner of the tournament—a full point ahead of the rest—was the Elite

A/S, followed by Mephisto X and Novag X. The prize for the best amateur program was won by Mikromurks. The final results are shown in Fig 1.

The current Computer World Champion Belle was defeated in New York by Cray Blitz, a program running on a 0.2 Gigaflop machine (Cray X-MP). Tony Harrington will be back next month with an account of the New York championship.

### Games section

White: Belle. Black: Cray Blitz. World Computer Championship, New York 1983. Sicilian Defence. Notes by David Levy.

This was the game that everyone had been waiting for. If Belle had won the game, there would have been a 3-way tie for first place, with Belle winning on tie-break.

1 e2-e4 c7-c5  
2 c2-c3

(A move which was rarely seen a decade ago, but which is now rather popular in human tournaments and in computer events. If Black does nothing, his opponent will build a strong pawn centre with d2-d4. The only two moves which come into serious consideration are 2... Ng8-f6 and 2... d7-d5.)

2 ... d7-d5  
3 e4xd5 Qd8xd5  
4 Ng1-f3

(The move order 4 d2-d4 e7-e6 5 Ng1-f3 is somewhat more usual.)

4 ... e7-e6  
5 d2-d4 Ng8-f6  
6 Bf1-d3 Nb8-c6

(Both 6... c5xd4 7 c3xd4 Nb8-c6, and 6... Be7, are more often seen.)

7 0-0 Bf8-e7  
8 Bc1-e3 0-0  
9 d4xc5 Rf8-d8  
10 Nf3-d4?!

(This move allows Black to retain most of the pressure in the d-file. White should have been content to trade queens and maintain a very small edge by 10 Bd3-e2 Be7xc5 11 Qd1xd5 Rd8xd5 12 Be3xc5 Rd5xc5 13 Nb1-d2.)

10 ... Be7xc5  
11 c3-c4?!

(Parting with control of two important squares, b4 and d4. White should probably play 11 Nd4xc6, and if 11... Qd5xc6 12 Qd1-e2; or if 11... b7xc6 12 Be3xc5 Qd5xc5 13 Qd1-e2, with roughly equal chances in each case.)

11 ... Qd5-d6  
12 Nd4xc6 b7xc6  
13 Be3xc5 Qd6xd3  
14 Qd1-a4?

(After this move, Black's advantage is clear. The correct plan was to trade queens: 14 Qd1xd3 Rd8xd3 15 Nb1-c3, and if 15... Nf6-d7 16 Nc3-a4.)

14 ... Nf6-e4  
15 Bc5-b6

(Naturally not 15 Bc5xa7?? Rd8-d7, winning the bishop. But better than the artificial text move would have been simply 15 Bc5-e3.)

15 ... Rd8-d7  
16 Bb6-a5 Bc8-b7

17 Nb1-c3 Ne4-c5  
18 Qa4-b4 Qd3-d4  
19 Ra1-d1 Nc5-d3  
20 Qb4-a4 Qd4-g4

(Threatening 21... c6-c5!, opening the b7-g2 diagonal, as well as the more prosaic 21... Nd3xb2.)

21 c4-c5 Qg4-f5

(Now White must lose at least a pawn, but Belle makes the wrong decision and decides that rather than give up a pawn it will sacrifice its queen for rook and minor piece. This trade is materially equivalent to a pawn, but the queen is much more powerful in this type of position and White's bishop is left completely out of play. This type of error in judgement is what still makes it possible for the strongest humans to win against the strongest computer programs.)

22 b2-b4 Nd3-b2  
23 Rd1xd7 Nb2xa4  
24 Nc3xa4 Qf5-c2  
25 Rd7xb7 Qc2xa4  
26 Rf1-a1

(White has poorly coordinated forces, and can offer little resistance to the raging black queen.)

26 ... e6-e5  
27 f2-f3 Qa4-c2  
28 Rb7-c7 Qc2-d3

(Threatening 29... Qd3-d4+, forking king and rook.)

29 Ra1-f1 Qd3-d5  
30 a2-a3 g7-g5  
31 Rc7-e7 f7-f6  
32 Re7-c7 h7-h5  
33 h2-h3 Kg8-h8

(A typical computer move—when in doubt, put the king on a safer square!)

34 Kg1-h2 a7-a6  
35 Rf1-e1 Ra8-e8  
36 Re1-e4 f6-f5  
37 Re4-e2 g5-g4!  
38 h3xg4 f5xg4  
39 f3xg4 h5xg4  
40 Re2-f2 e5-e4  
41 Rf2-f7 Qd5-e5+  
42 g2-g3 e4-e3  
43 Rf7-h7+ Kh8-g8  
44 b4-b5

(Sacrificing a pawn in order to slow down the advance of the Black e-pawn, but it soon becomes clear that White must lose even more material.)

44 ... c6xb5  
45 Ba5-e1 Qe5-b2+  
46 Kh2-g1 Qb2-a1  
47 Kg1-g2 Qa1-f6

(Not 47... Qa1xe1?? when White can draw by 48 Rc7-g7+ Kg8-f8 49 Rg7-f7+ Kf8-g8, etc.)

48 Kg2-h2 Re8-d8  
49 Rh7-d7

(Black was threatening 49... Rd8-d1.)

49 ... Rd8-f8  
50 Rd7-d6 Qf6-b2+  
51 Kh2-g1 Qb2-b1  
52 Kg1-h2 Qb1-c2+  
53 Kh2-g1 Qc2-c5

Resigns

(There is no satisfactory defence to the threat of 54... Qf5-f1+ 55 Kg1-h2 Qf1-e2+ and 56... Rf8-f1 mate.)

(The king is dead, long live the king!)