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INTERATIONAL CHESS MASTER DAVID LEVY ON OUR MICROCHESS CHAMPIONSHIP

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MIKE JOHNSON: Microchess Champion

PCW MICROCOMPUTER CHESS CHAMPIONSHIP

David Levy

As part of the PCW show at the West Centre Hotel in London, it was decided to organize the first microprocessor chess tournament to be held in Europe. Only one other event of its kind had ever taken place; that was in California earlier this year. Now that many individuals are writing chess programs for their own computers we shall doubtless see many such events in the future. Computer tournaments provide an excellent medium for chess programmers to exchange ideas and to learn from each others efforts. Also, they are great fun!

The tournament in London was an all-play-all event with six contestants. Three of the entries were from England, all written by private individuals who had done the programming in their own time. The other entries were from North America and were all the result of commercial enterprise – Boris and Chess Challenger are marketed as stand alone units while Microchess is sold by a personal software company based in Toronto, and can run on various microprocessors (Tandy, Commodore). Some interesting details about each program can be seen in figure 1 below.

Program	Programmer	Machine	Positions examined per sec.	Language
MIKE (England)	Mike Johnson	Home built Motorola 6800	300	6800 assembler
BORIS (U.S.A.)	?	F8	approx 30	F8 code
CHESS CHALLENGER (U.S.A.)	?	Z80A	35	?
MICROCHESS 2.0 (Canada)	Peter Jennings	Commodore Pet	?	6502 machine code
FAFNER (England)	G.A. Burkill	Apple II 6502	2,000	Assembler/ Basic
COCMA (England)	A. Cornish	Apple II 6502	20	Assembler/ Basic

I was very pleased when PCW editor Meyer Solomon invited me to act as tournament director and commentator. I had filled this post in many earlier computer chess tournaments though never in an event in which all the entrants were running on micros. Before the tournament began I was not particularly optimistic about the standard of play that could be expected from these programs but I must confess that I was pleasantly surprised when I discovered that the best programs were playing at about the level of the average mainframe programs of a decade ago. Presumably, since micros are readily available to almost anyone with a yen for programming, many more chess programs will be written for home computers during the next few years. It would therefore seem reasonable to expect that the standard of play will increase substantially and that within a decade there will be matchbox sized machines that can play

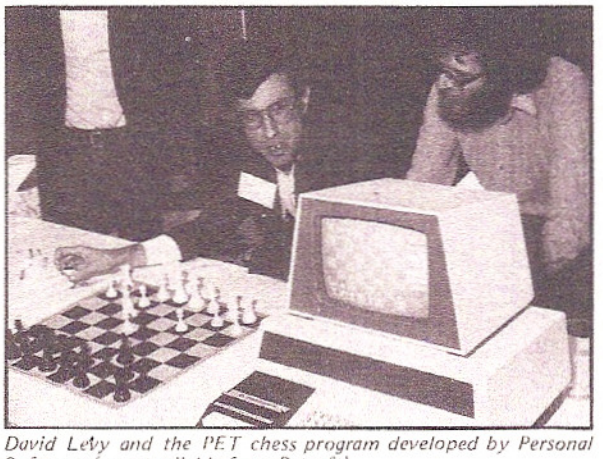
Boris plays Chess Challenger. Both machines were in at the kill.

A tense moment, MIKE v. FAFNER (extreme left of photo).

chess as well as the current World Computer Champion, CHESS 4.7.

The first round of the tournament produced two unfortunate incidents. In the game between FAFNER and MIKE, MIKE was forced to abandon the game in a winning position because the voltage was slipping down to 220 and the machine on which MIKE was running required 240 volts. Mike Johnson rushed across London during the lunch interval to fetch a transformer which would step up the voltage and by the afternoon he was back in action. After this misfortune MIKE played excellent microchess for the remainder of the event.

The other *domage* occurred in the game between BORIS and CHESS CHALLENGER, the world's two best known commercially available chess machines. During the game CHESS CHALLENGER played the perfectly reasonable move Pb7-b6 (pawn on b7 moves to b6), which was the most logical move in the position and the move which I had predicted in my commentary to the audience. Later in the game White (BORIS) played its queen to c4, giving check, whereupon CHESS CHALLENGER tried to capture the queen with something on b5. When the position was verified it transpired that C.C. thought that it had a pawn on b5 instead of b6. Since, at that point in the proceedings, C.C. had only one minute remaining before the time control, it was quite impossible for its operator to recover the situation.



David Levy and the PET chess program developed by Personal Software (now available from Petsoft).

After the first round BORIS, MIKE and CHESS CHALLENGER clearly demonstrated their superiority over the other programs. When the fifth and final round began any one of these three contestants was in a position to win the tournament. CHESS CHALLENGER held a half point lead over MIKE and BORIS, but C.C. had to play MIKE in the last round and so a tie for first place was quite possible. While BORIS won its last round game fairly easily, the battle between MIKE and C.C. was very hard fought.

White: CHESS CHALLENGER
Black: MIKE

Queen's Gambit Accepted

1	d2-d4	d7-d5
2	c2-c4	d5xc4
3	e2-e4	Nb8-c6
4	d4-d5	Nc6-e5
5	Qd1-d4	Ne5-d3ch

The best solution. White maintains its pawn centre but Black gets the advantage of two bishops against bishop and knight.

6	Bf1xd3	c4xd3
7	Qd4xd3	c7-c6!

Attacking White's pawn centre.

8	Ng1-e2	Ng8-f6
9	Nb1-c3	Bc8-e6

The right idea but the wrong move. Black could play h7-h6 and then e7-e6, increasing the pressure on d5.

10	Ne2-f4	Be6-d7
11	d5xc6	Bd7xc6
12	Qd3-c4	e7-e5
13	Nf4-d5	Bc6xd5
14	e4xd5	Bf8-d6
15	Qc4-b5ch	Qd8-d7
16	Qb5xd7ch	Nf6xd7

Better is 16 . . . Ke8xd7. The king is needed in the centre for the end game but most chess programs like to castle so much that they do not employ this heuristic.

17	Nc3-b5	Bd6-b4ch
18	Bc1-d2	Bb4xd2ch
19	Ke1xd2	0-0
20	d5-d6	

White does not realise that the further this pawn advances the more difficult it will be to support it.

20	. . .	f7-f5
21	Rh1-c1	Nd7-f6!

Threatening 22 . . . Nf6-e4ch in some positions, forking the king and the pawns on f2 and d6.

22	f2-f3	Ra8-d8
23	Rc1-c7	a7-a6
24	Nb5-c3	Rd8xd6ch
25	Kd2-e3	

Although this was the move displayed by CHESS CHALLENGER the move made on its internal board was different. After

25	. . .	f5-f4ch

CHESS CHALLENGER tried to play 26 Rc7xb7, which is, of course, illegal (since White is in check).

The C.C. operator verified the position and discovered that although d2-e3 had been displayed at move 25 the machine thought that the white king was on e2. After some difficulty the correct position was reset in C.C. and the game continued. It is still not clear whether the error in this game and in the CHESS CHALLENGER'S first round encounter are due to a bug in the machine (the latest, 10 level version) or whether the cause was the fluctuating voltage that had disturbed MIKE in round one.

26	Ke3-f2	Rd6-d2ch
27	Kf2-g1	Rd2xb2
28	Ra1-e1	Rf8-e8
29	Rc7-c5	Rb2-c2
30	Rc5-c7	e5-e4!
31	f3xe4	Re8xe4
32	Rc7-c8ch	Re4-e8??

Why? After 32 . . . Kg8-f7 33 Rc8-c7ch Kf7-g6, White would probably have nothing better than 34 Nc3xe4 Rc2xc7 35 NE4xf6, when Black would have two extra pawns in the ending. Now, however, White can simply take the piece.

33	Re1xe8ch	Nf7xe8
34	Rc8xe8ch	Kg8-f7
35	Re8-c8	

Presumably this is what MIKE missed when playing its 32nd move. The reason is probably that MIKE realised that both the knight and the white rook are under attack, but did not look for a way to defend both of them simultaneously. This, in turn, is probably because its search could not go more than 5-ply when calculating its 32nd move.

35	. . .	h7-h5
36	Rc8-c7ch	Kf7-e6
37	a2-a4	g7-g5
38	h2-h3	b7-b6
39	Rc7-c6ch	

CHESS CHALLENGER can win quite easily by unpinning the knight, e.g. 39 Nc3-d5! Rc2-b2 40 Rc7-c6ch and 41 Rc6xb6. But without being able to unearth this concept it is almost certain to fall prey to the

eventual advance of the black-b-pawn, which will decide the game.

39	...	Ke6-e5
40	Rc6-c4	b6-b5
41	a4xb5	Rc2-c1ch
42	Kg1-h2	a6xb5
43	Rc4-c7	b5-b4!
44	Nc3-d5	

Forced, but not it is too late.

44	...	Rc1xc7
45	Nd5xc7	b4-b3

The white knight could run back to guard b1 but then Black could win on the king side.

46	g2-g4	b3-b2
47	Kh2-g2	b2-b1=Q
48	Nc7-e8	Qb1-a2ch
49	Kg2-f1	f4-f3!

The quickest way to end the game.

50	Ne8-g7	Qa2-g2ch

and mates next move (51 Kf1-e1 Qg2-e2).

In my opinion this was the most interesting game of the tournament.

Boris *(Rex Kent) playing* Mike *(Mike Johnson)*

MIKE's win produced a tie for first place, as can be seen from the following cross table of the tournament.

	Program	1	2	3	4	5	6	Total	Place
1	MIKE	x	1	1	½	0	1	3½	1–2
2	BORIS	0	x	1	1	½	1	3½	1–2
3	CHESS CHALLENGER	0	0	x	1	1	1	3	3rd
4	MICROCHESS 2.0	½	0	0	x	1	1	2½	4th
5	FAFNER	1	½	0	0	x	½	2	5th
6	COCMA	0	0	0	0	½	x	½	6th

A play-off game took place on the final afternoon of the PCW show in which MIKE and BORIS played with the opposite colours to those that they had during the tournament. Unfortunately this game was marred by yet another strange happening.

White: BORIS
Black: MIKE

Irregular Opening

1	e2-e4	e7-e5
2	d2-d4	d7-d5
3	Nb1-c3	d5xe4
4	d4xe5	Qd8xd1ch
5	Ke1xd1	f7-f6
6	Bc1-e3	f6xe5
7	Kd1-c1?	

I could not understand why BORIS did not capture on e4.

7	...	Ng8-f6
8	Bf1-c4	Bf8-d6
9	Ra1-b1	

Another peculiar move.

9	...	Nb8-c6
10	Kc1-d1	Bc8-f5
11	Ng1-e2	0-0-0
12	Kd1-c1	

What is all this king shunting about?

12	...	Nf6-g4
13	Ne2-g3	Ng4xe3
14	f2xe3	Nc6-a5?!

A positional mistake. The knight is badly placed on the edge of the board.

15	Ng3-f5?	

White should retreat the c4 bishop to e2.

15	...	Na5xc4
16	Rh1-f1	g7-g6
17	Kc1-d1??	

An inexplicable blunder; at least it was inexplicable at the time. After he returned home BORIS's operator, Rex Kent, tried his position several times and not once did BORIS so much as think about moving its king. Possibly a voltage fluctuation was causing the strange king moves. It seems likely that in future events some sort of stabilising system must be used in order to protect the programs.

17	...	g6xf5
18	Kd1-e2	Rh8-g8
19	b2-b3	Rg8xg2ch
20	Rf1-f2	Nc4xe3!!

Winning another pawn. If now 21 Ke2xe3 Bd6-c5ch followed by 22 . . . Rg2xf2 wins even more material.

21	Rf2xg2	Ne3xg2
22	Nc3-d5	Ng2-f4ch
23	Nd5xf4	e5xf4

and Black won without any difficulty. First prize was £200, second was 2 bottles of Scotch and a bottle of champagne!

PCW *Publisher presents cheque to Championship winner Mike Johnson*

I was very pleased (if an unbiased arbiter is permitted to be pleased) at the result of this tournament, because it shows that one individual who is programming for a hobby can easily produce a better result than the resources of a commercial company. Had MIKE not had hardware problems in the first round it would have won the tournament with 4½ out of 5, and I think that it must be agreed that the best program won.

I should like to thank PCW for organising the event and for inviting me to direct it. I am beginning to prefer computer chess to competing in international tournaments!

A bulletin containing the moves of all the games is available from Personal Computer World, 62a Westbourne Grove, London W2. Send 40p and a self addressed envelope (9" x 6").