

Colossus and White Knight author Martin Bryant rates the mates.

Video games may come and go, but chess programs just grow bigger and better every year! In this article I will take a look at the latest and best available on a variety of machines.

The programs chosen were Colossus Chess 4.0 (CBM-64), Cyrus II Chess (CPC-464), Psion Chess (QL), Superchess 3.5 (Spectrum) and White-Knight MK12 (BBC). All of these packages have existed for several years and have been written by enthusiastic computer-chess programmers. This is a very important guide to the programs' quality because today's chess programs, have reached such a level that no new program written by a casual programmer catch up on the years of development that have gone into the commercial offerings.

The programs' abilities are compared in table 1. Of course, an overall verdict of the "best" program is impossible, because people have different requirements from their programs. Also the hardware which the programs run on varies greatly so direct program comparison is impossible.

Where relative comparisons of features are possible, the best program has been given 10 out



Psion Chess: best graphics, strongest game.

White Knight MK12 finds Rf2-a2 in 29 seconds. See how long your own program takes...

Examples.

.. BQ	BK8
.. .. XR	7
..	6
..	9
.. BQ	4
.. WB	2
.. WK	1
a b c d e f g h	

(Forsyth notation: 1q5k/4R3/8/8/1p6/1B6/5R2/1K6)

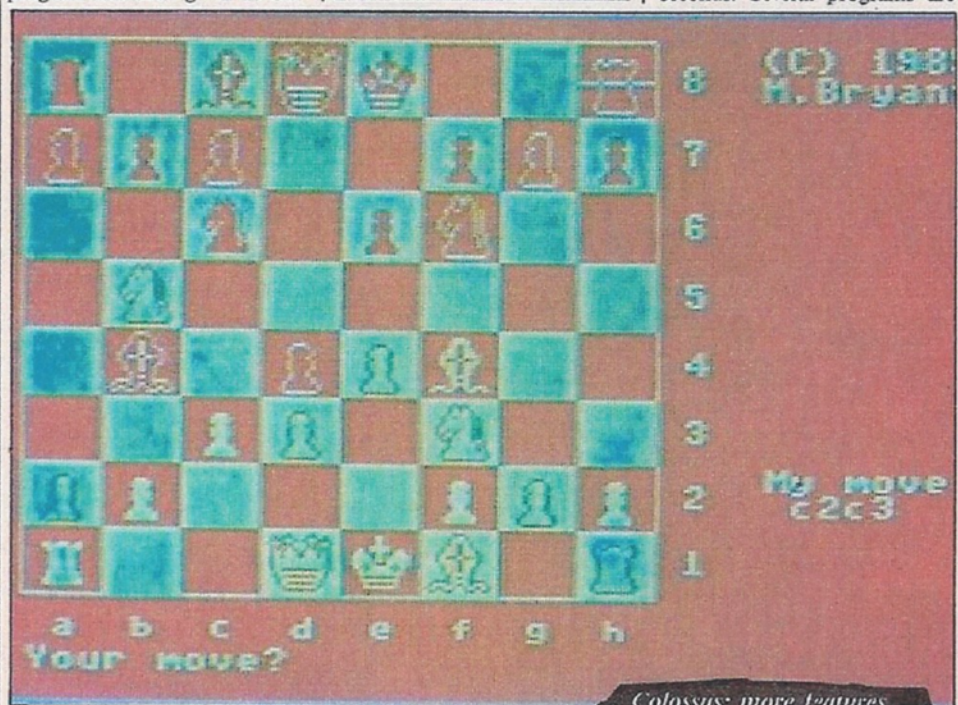
of 10 and the others a relative score. Other features are simple yes/no facts.

Gone are the days of chess programs which couldn't even beat a casual player on a bad day and programs took minutes to solve a simple mate-in-two.

Today's programs can give even the best club players a run for their money on tournament of blitz levels, and mates-in-two should now take at most a few seconds. Several programs are

Colossus Chess 4.0 versus Cyrus II Chess.

1. e2-e4	e7-e5
2. f1-c4	g8-f6
6. d2-d3	b8-c6
4. b1-c3	f8-c5
5. g1-f3	d7-d6
6. e1-g1	c8-g4
7. c1-e3	c5xe3
8. f2xe3	e8-g8
9. a1-c1	d8-d7
10. d1-d2	a7-a6
11. c1-d1	b7-b5
12. c4-b3	a8-b8
13. c3-d5	f6xd5
14. e4xd5	c8-e7
15. e3-e4	b5-b4
16. b3-c4	b8-b6
17. f1-f2	f8-b8
18. d1-f1	f7-f6
19. h2-h3	g4xf3
20. f2xf3	e7-g6
21. d2-f2	g6-f4
22. g1-h1	b8-b7
23. f2-e1	d7-a4
24. f1-f2	a4-e8
25. b2-b3	e8-g6
26. e1-f1	g6-h5
27. a2-a4	a6-a5
28. c4-b5	b7-a7
29. h1-g1	h5-g6
30. b5-c6	f6-f5
31. g2-g3	f4-h5
32. e4xf5	g6-h6
33. f1-e1	h5-f6
34. g3-g4	h6-g5
35. e1-e2	g5-c1+
36. f2-f1	c1-b2
37. e2-f2	e5-e4
38. d3xe4	f6xe4
39. f2-e3	e4-f6
40. g4-g5	b2xc2
41. g5xf6	c2-c5
42. e3xc5	d6xc5
43. f3-g3	g7-g5
44. g3xg5+	g8-f7



Colossus: more features than its rivals.

Chess Mates

- | | |
|--------------|-----------|
| 45. g5-g7+ | f7×f6 |
| 46. g7×h7 | b6-a6 |
| 47. h7-h5 | f6-e5 |
| 48. f5-f6+ | e5-d6 |
| 49. f6-f7 | a7-a8 |
| 50. c6-e8 | c7-c6 |
| 51. f7-f8/9+ | d6-c7 |
| 52. f1-f7+ | c7-b6 |
| 53. d5×c6 | a6-a7 |
| 54. f8×c5+ | b6-a6 |
| 55. c5×a5+ | checkmate |

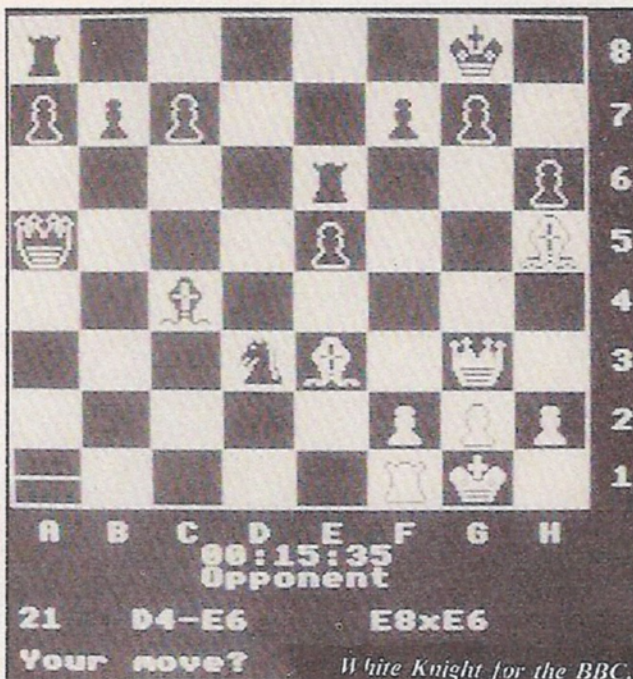
now able to spot some mates-in-five or even six on blitz levels in the middlegame. Psion Chess is the strongest home-computer chess program at the moment. It does run on much better hardware than the opposition — faster, better processor/more memory — of course than the opposition, but would still be a strong program with lesser hardware.

A version of Psion Chess, running on a Sage computer — about three times faster than a QL — came equal first with three other programs in the 1984 World Microcomputer Chess Championships. From the comparison table you'll also see that its rival are no pushovers!

Most modern programs will now think on the opponent's time by anticipating your move and continuing its search. If you play the more it was expecting it can save itself a lot of time and thus search further ahead and play much better. Problem-solving has come a long way too. Colossus Chess now offers the ability to solve not only normal mates but self-mates and help-mates up to seven moves ahead. This is the only commercial program to offer these features.

White-Knight Mk12 is actually used by international chess grandmaster John Nunn to aid in problem solving and design. If a grandmaster finds it helpful, think how much it can help club players, or anybody interested in chess problem-solving. Also, the better programs offer the ability to check problems for "cooks", i.e. alternative solutions to the one the problem-author intended.

Nowadays, the programs usually offer more than the standard levels. The move is towards modes-of-play and levels being totally user-selectable by



entering an average move time you wish to play at, thus providing thousands of levels. The new modes of play add to the normal averaged-move-time levels and they include easy-play where the program deliberately plays more weakly so that even

useless players stand a chance; all-the-moves where — as in most casual games in chess clubs — the whole game must be completed within a certain pre-agreed time or the slowest player loses on time; equal-time where the program kindly monitors your rate of play and adjusts its own accordingly — if you play

fast, it plays fast, if you slow down, so does it; infinite-search where the programs just looks further and further ahead until told to stop — useful for postal games where you can just leave the program to ponder a position overnight or even all week. Colossus provides six modes-of-play, more than any of the other programs.

The latest gimmick is of course 3D graphics. The quality will of course depend on the hardware available. I've seen one display where it was totally impossible to make out the pieces in a complex middlegame, making the display useless. On the other hand, the QL, which uses 32K screen memory — as opposed to 8K in the CBM-64 — can provide an excellent display which is a pleasure to use. Actually most of the recent attempts at 3D are much clearer and more usable.

Loading times are generally much better now. Colossus Chess 4.0 uses a turbo-loader, Psion Chess comes on Microdrive, Superchess can be transferred to Microdrive if you want, White-Knight loads quickly because the BBC's normal loading is quick, and the program is very compact. However, Cyrus II Chess takes forever to load on the CPC-464. ●

Table 1.

Program	COLOSSUS CHESS 4.0	CYRUS II CHESS	PSION CHESS	SUPER CHESS	WHITE-KNIGHT MARK 12
Playing Strength	8	7	10	4	7
Graphics (overall)	8	8	10	6	8
3D	Y	Y	Y	N	N
Analysis display	10	5	7	9	9
Anticipate	Y	Y	Y	N	Y
Book (Size, on/off)	10	6	10	3	0
Display (Text)	10	7	10	6	10
Manual	10	7	7	3	10
Sound (Variety, use)	10	6	7	6	10
Alter-position	10	9	7	3	10
Back-Forward step	10	9	7	6	10
Blindfold play	10	8	9	4	10
Clocks	10	0	10	0	10
Colour (Adjustable)	10	8	0	3	10
Force move	10	0	8	6	7
Joystick move entry	Y	0	2	10	10
Legal moves display	Y	Y	Y	Y	Y
Modes-of-play/Levels	Y	N	Y	N	Y
New-Game	10	N	N	N	N
Next-best move	Y	3	6	N	Y
Orientation change	Y	Y	Y	5	8
Play self	Y	N	Y	Y	Y
Printer	Y	Y	Y	N	N
Problem Solving	N	Y	Y	Y	Y
Replay game	10	Y	Y	N	Y
Save/Load games	10	5	8	N	N
Supervisor	Y	0	7	3	7
Volume/Sound (on, off)	Y	Y	Y	N	0
	10	0	5	N	Y
				0	10