



considers, the programmer can greatly increase the depth of analysis in each choice the computer explores, since the computer will then have much more time to devote to a particular line of play. Yes, time *is* a factor, especially when some systems can take over an hour a move.

It's not so difficult to say what you want the program to achieve: you want the computer to play decent chess, using the guidelines already outlined. The problems arise in the actual programming of the computer, when you find it difficult to translate what you want the computer to do into a workable program — chess is a complex game. Then, too, there are some peculiar bugs that seem to plague chess programs in particular.

The first bug that appears in a chess-playing program will be found in most complex programs: the computer is given such a complicated path to follow that a foul-up will occasionally occur. Either the computer will make an outright blunder in play or miss a step somewhere. . . this, of course, is a law every programmer knows: the more complex the set-up, the more things there are to go wrong.

Another problem that will arise is the actual type of playing the computer will produce — a slow, conservative style, lacking in dynamic, sacrificial play. Conversely, the computer will grab at its opponent's pieces, even when snatching an opponent's pawn means falling into a rather obvious trap. Unless you are prepared to run the program on some crazy random move basis, this foible is unavoidable. The rule which must be heavily stressed in a chess program is not to lose pieces, and this factor tends to outweigh other considerations, even when the opportunity for a sacrifice lies open and waiting, only two moves away. What programmers often use is a combination formula-definition called mobility and multiply it by a constant. If the numerical value of the piece the computer is risking is less than the mobility factor that will be attained, the computer might choose to make a sacrifice — a rare occurrence in computer chess.

Development in the field has had its share of woes, but there are many bright moments. Witness the game shown — White played by program, Black by a consultation team of two humans. The level of play represented is not very impressive: what *is* amazing is that the SCHACH MV5.6 program had no look-ahead capability! A good program would have a United States Chess Federation rating of about 1500; a person with a comparable rating would be

## MICROCHESS

Unlikely as it seems, a tight little chess-playing software package is available for the KIM-1 6502 microprocessor system. The developer reports that the program and data occupy only 1100 of the 1152 bytes of available RAM. No additional memory is required and no peripherals are required; all moves are entered and displayed via the KIM keyboard and LED display.

The program can be adjusted to one of three different levels of play requiring 3, 10 or 100 seconds for each computer move. "Although the level of play is probably below

that of the average serious chess player, it is a good match for the average computer programmer."

The documentation supplied includes a Player's Manual with instructions for using the program, a Programmer's Manual with details of the program operation and suggestions for expansion and modification, and a complete annotated source listing.

PERSONAL COMPUTING hasn't checked this out with Bobby Fischer, but the package sounds interesting at \$10. Write Microchess, 1612-43 Thorncliffe Pk. Dr., Toronto, Ont. M4H 1J4, Canada.

known as a class C player.

The techniques keep improving, however. There are computers nowadays which benefit from games that play by learning from their mistakes — all as part of the program. With the computer's use of such techniques, even a few masters have succumbed once or twice to the mechanical Morphys. Not too long ago, there appeared an article in the *New York Post* advertising a minimicrocomputer to be marketed soon, at about \$120, whose sole purpose is to play chess. The manufacturer, Cardinal Industries, Incorporated, claims the machine can operate on eight dif-

ferent levels of play, from a few seconds a move to a few hours, as the standard of play goes up. The programmer, David Lindsay, acknowledged that it was no Fischer but did say, "I must confess it beat me once at level three."

As a closing note: the British master David Levy has bet \$2500 that he will still be able to beat any chess-playing computer by the year 1978. He claims he is still 100% sure of victory. . . but Mikhail Botvinnik, three-time winner of the World Chess Championship and a computer and electronics expert, as well, is reported to have told him, "I feel very sorry for your money."

White	Black	White	Black
SCHACH MV5.6	Fischer/Schneider	SCHACH MV5.6	Fischer/Schneider
1 N-QB3	P-Q4	13 Q-R6	N-B4
2 P-Q4	B-N5	14 BxN	NPxB
3 P-B3	B-B4	15 N-KN5	QxNch
4 P-K4	PxP	16 QxQch	K-R1
5 PxP	B-Q2	17 P-KN4	PxP
6 N-B3	N-QB3	18 QxP	P-B4
7 P-K5	P-K3	19 Q-R4	P-B5
8 B-KN5	B-K2	20 N-K4	P-B6
9 Q-Q2	P-KN3	21 N-N5	R-B2
10 B-Q3	P-N3	22 NxRch	K-N1
11 BxB	KNxB	23 Q-B6	P-B7
12 0-0-0	0-0	24 N-R6mate	



**A Chess Piece by David Galef**

**If you are not already a computer chess fanatic,  
this modest introduction to the field will be helpful.**

Source: Personal Computing Magazine — May/June 1977

**This article contains a very important hidden piece of information!  
Anyone unfamiliar with computer chess history might easily  
overlook it without understanding its importance...**

**This is the following text from the article...**

... Not too long ago, there appeared an article in the *New York Post* advertising a mini-microcomputer to be marketed soon, at about \$120, whose sole purpose is to play chess. The manufacturer, Cardinal Industries, Incorporated, claims the machine can operate on eight different levels of play, from a few seconds a move to a few hours, as the standard of play goes up. The programmer, David Lindsay, acknowledged that it was no Fischer but did say, "I must confess it beat me once at level three."

**In 2019, I did a lot of research on this operational prototype microcomputer called: The Mostek Mystery! See: [https://www.schaakcomputers.nl/hein\\_veldhuis/database/files/10-1976%20\[A-2620\]%20Fidelity%20-%20Chess%20Challenger%20\(prototype\).pdf](https://www.schaakcomputers.nl/hein_veldhuis/database/files/10-1976%20[A-2620]%20Fidelity%20-%20Chess%20Challenger%20(prototype).pdf)  
I wasn't taken seriously by everyone on the HIARCS chess forum back then either. It's a tricky topic, of course, because there's almost no useful information on the subject.  
See: <https://hiarcs.net/forums/viewtopic.php?t=9480&start=15>**

## **A $\mu$ C CHESS OPPONENT?**

Mostek Corp. demonstrated at the 73rd annual American Toy Fair in New York City a hand-held chess algorithm calculator. The player enters his moves into the unit via a keyboard and the calculator, after analyzing the position of the pieces, responds with countermoves which are indicated on an 8-digit display.

The assembled version will be offered by Cardinal Industries early this summer at a suggested retail price of \$120.

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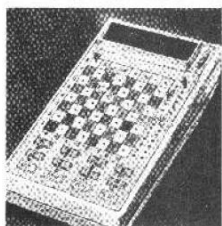
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**Source: Microcomputer Digest – Volume 2, Number 12, June 1976, Page 5.**

**Many thanks to Mike Watters for this source of information!**

**Note: 73rd annual American Toy Fair in New York City = January/February 1976.**

### Chess mate



Mostek Corp. of Carrollton, Texas, having won one kind of consumer with a checkbook calculator, is now pursuing a totally different breed—the chess player—with the electronic chess set drawn above.

Demonstrated in breadboard form last week at the 73rd annual American Toy Fair in New York City, the set is a hand-held calculator in which a chess algorithm is stored and into which a player feeds his moves. The calculator, after analyzing the position of the pieces, responds with countermoves indicated on an 8-digit diode display. Basic to the set is an F-8 microprocessor developed by Fairchild Camera & Instrument Corp. but second-sourced by Mostek. Cardinal Industries Inc., a New York City toy manufacturer, plans to hire an assembler for the unit and begin selling it in June at a suggested retail price of \$120.

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**Source: From a German chess club in Berlin - May 1976  
Many thanks to Rob van Son for this source of information!**

**In closing, the following regarding the new information that has only just come to me (September 2025). The "Chess Mate prototype" from manufacturer Cardinal Industries and Mostek Corporation was thus operational and programmed by David Lindsay! What else can I conclude from this? David Lindsay is the programmer for Applied Concepts/Chafitz BORIS, which entered the American market in February 1978. BORIS also had an F-8 microprocessor developed by Fairchild, so it wasn't that difficult for him to implement his chess program at another manufacturer. Only David Lindsay knows what went wrong at Cardinal Industries and Mostek Corporation!**

**Where can I contact David Lindsay personally? Three years ago, the following person commented on a YouTube video.**

**For the video, see: <https://www.youtube.com/watch?v=vSAFya-tJC8>**



**@joemonktx** 3 jaar geleden

So... I know David Lindsay personally. David is the programmer of this game. It has a fairchild F8 processor, and only 1K of ram! The computer that Boris was developed on was hand-assembled and all of the cards in it were wire-wrapped to the back main bus. The game was actually loaded into the development computer using paper tape. David had a teletype model 33 which was interfaced to the development computer, and used to print listings and punch paper tapes of the program. David lived in Flower Mound, Texas during the middle to late 1970s. He now lives on the east coast.

**Who can help me get in touch with @joemonktx ??  
Or put me in direct contact with David Lindsay? Thanks in advance!  
Hein Veldhuis as historian - email address: [heinveldhuis@home.nl](mailto:heinveldhuis@home.nl)**