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***** GRAPHICS SUBROUTINES *****

SPOF (SPOT OFF)  THIS SUBROUTINE WILL TURN OFF THE RECTANGLE
LOCATED HORIZONTALLY BY THE VALUE IN 00ED AND VERTICALLY BY THE
VALUE IN 00EE.  IF THE VALUES GIVEN BY THESE LOCATIONS ARE SUCH
THAT THE POINT WOULD BE LOCATED OFF THE SCREEN, THEY ARE REPLACED
BY VALUES WHICH WILL CAUSE THE SPOT TO "WRAP AROUND" VERTICALLY,
HORIZONTALLY OR BOTH.  THE SUBROUTINE DOES NOT AFFECT X OR Y
REGISTERS.  THE ACCUMULATOR WILL ALWAYS BE NON-ZERO ON EXIT.
HAVING AT LEAST THE MSB SET BECAUSE OF THE VERTICAL ENTRY.

SPON (SPOT ON) IDENTICAL TO SPOF EXCEPT THE SPOT IS TURNED OFF

VERT (VERTICAL ENTRY) IN SOME CASES TIME CAN BE SAVED BY ENTERING
THE HORIZONTAL ENTRY ONCE AND THEN CHANGING ONLY THE VERTICAL
ENTRY.  AN ENTRY AT VERT WILL DO THIS.  CONDITIONS ARE AS FOR SPOF.

INIT (INITILIZE)  SETS UP OUTPUT PORTS FOR TRANSFER OF INFORMATION
TO THE GRAPHICS BOARD.  ALSO SENDS CODE TO INITILIZE THE BOARD.
AFFECTS ONLY THE ACCUMULATOR.

BLNK (BLANK SCREEN)  BLANKS THE SCREEN.  AFFECTS ONLY THE ACCUM.
00ED AND 00EE WILL CONTAIN $FF ON EXIT.

BLIN (BLINK A SPOT)  ALLOWS YOU TO PRODUCE A MOVING SPOT BY
REPLACING THE COORDINATES IN 00ED AND 00EE WITH THOSE IN 00EB
AND 00EC.  THE SPOT AT THE ORIGINAL LOCATION IS TURNED OFF AND
ONE AT THE NEW LOCATION IS TURNED ON.  USES SPOF AND SPON.  AFFECTS
ONLY THE ACCUMULATOR.

CONT ( CONTINUOUS LINE )  IF ENTERED HERE THE ORIGINAL SPOT WILL
NOT BE ERASED AND IF ADJACENT COORDINATES ARE USED, A CONTINUOUS
LINE CAN BE DRAWN.  CONDITIONS AS FOR BLIN.
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MIT EXPERT ON PERSONAL COMPUTING

People Magazine: *Will computers be widely used by the average person in coming years?*

Michael L. Dertouzos, Director MIT Laboratory for Computer Science: We don't see technical limitations in computer development until the mid-1980's. Until then, decreased cost will make computers smaller, cheaper and more accessible. In 10 or 15 years, one should cost about the same as a big color TV. This machine could become a playmate, testing your wits at chess or checkers. If a computer were hooked up to AP or UPI newswires, it could be programmed to know that I'm interested in Greece, computers and music. Whenever it caught news items about these subjects, it would print them out on my console – so I would see only the things I wanted to see.

– *People Magazine*
August 30, 1976

HOW 'BOUT COMPUTER CHESS?

Editor: March 1, 1977

Due to the apparent lack of a medium of communication among devotees of Computer Chess, I decided to start a Computer Chess Newsletter, patterned after Hal Singer's Micro-8 Newsletter.

I hope that some suitable publisher (such as PCC) or computer science department (such as Stanford) will pick this up and do what needs to be done. It seems a shame to re-invent the basics of computer chess programming so many times. An exchange of ideas might lead to a more powerful program than independent work can.

No decisions have been made so far as to price, size, or periodicity.

All contributions are welcome, such as letters, suggestions, news, programs, games, or whatnot.

Sincerely,
Douglas L. Penrod 1445 La Cima Road

6502 CHESS SOFTWARE

Dear Jim: December 10, 1976

I am pleased to announce the availability of a new and exciting software product designed specifically for the microcomputer hobbyist.

MICROCHESS is a chess playing program written for the KIM-1, 6502 microprocessor system. It requires no additional memory or peripherals. In fact, the total memory required for program operation is only 1100 bytes.

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. Even the best players will be surprised by challenging moves.

MICROCHESS was designed with the hobbyist experimenter in mind. Experimenting with your own strategy ideas is as simple as modifying a single subroutine. Further expansion of the basic program will create a sophisticated chess playing machine. 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.

The cost of the entire package is only $10.00. I believe that this package is of special interest to the readers of *Dr. Dobb's Journal*, and would greatly appreciate your assistance in informing them of its availability. If you have any further questions please do not hesitate to write to me at the following address.

Sincerely,
Peter R. Jennings

MICROCHESS
1612-43 Thorncliffe Pk. Dr.
Toronto, Ont., M4H 1J4
Canada

MICROCHESS

NOW YOU CAN PLAY CHESS WITH YOUR KIM–1
6502 BASED MICROPROCESSOR SYSTEM.

MICROCHESS REQUIRES NO ADDITIONAL MEMORY.
The program and data occupy only 1100 of the 1152 bytes of available RAM.

MICROCHESS REQUIRES NO ADDITIONAL PERIPHERALS.
All moves are entered and displayed via the KIM keyboard and LED display.

MICROCHESS PLAYS CHESS.
Although a good chessplayer will probably beat the program, he will be surprised again and again by challenging moves.

MICROCHESS HAS SEVERAL LEVELS OF PLAY.
You may set the program up for 3, 10, or 100 seconds per move. Change the speed at any time during the game!

MICROCHESS IS EXPANDABLE AND FULLY DOCUMENTED.
You receive a Player's Manual, complete annotated source listing, and Program Documentation describing the strategic algorithms. Instructions are provided for modification, expansion or system conversion. Experiment with your own strategies by replacing one simple subroutine.

MICROCHESS COSTS ONLY $10.00.
Send your cheque or money order today to:

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