Microchess
On the 6502 MP Kit

This is the Microchess chess board. The COMPUTER is initially playing WHITE (moving 1st) and the PLAYER is playing BLACK.

EXAMPLE MOVES:
1.	Computer opens by moving it's KING PAWN from square 03 to square 13
	This will be shown by Microchess as: 0F1333
	0 in the 1st LED indicates that it is the computer's piece
	F in the 2nd LED indicates that this is the King's Pawn
	13 in the 3rd and 4th LEDs indicate the FROM square
	33 in the 5th and 6th LEDs indicate the TO square

2.	Player responds by moving it's KING PAWN from square 63 to square 43
	This will be shown by Microchess as: 1F6343
	1 in the 1st LED indicates that this is the player's piece1
	F in the 2nd LED indicates that this is the King's Pawn
	63 in the 3rd and 4th LEDs indicate the FROM square
	33 in the 5th and 6th square indicate the TO square

NOTE: The player only has to enter the FROM and TO square when it is their turn. Microchess will figure out what piece it is and then show you as indicated above. See below regarding moves.

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                       COMPUTER

  -------------------------------------------------
 |  00 |  01 |  02 |  03 |  04 |  05 |  06 |  07 |
 |-----+-----+-----+-----+-----+-----+-----+-----+
 |  10 |  11 |  12 |  13 |  14 |  15 |  16 |  17 |
 |-----+-----+-----+-----+-----+-----+-----+-----+
 |  20 |  21 |  22 |  23 |  24 |  25 |  26 |  27 |
 |-----+-----+-----+-----+-----+-----+-----+-----+
 |  30 |  31 |  32 |  33 |  34 |  35 |  36 |  37 |
 |-----+-----+-----+-----+-----+-----+-----+-----+
 |  40 |  41 |  42 |  43 |  44 |  45 |  46 |  47 |
 |-----+-----+-----+-----+-----+-----+-----+-----+
 |  50 |  51 |  52 |  53 |  54 |  55 |  56 |  57 |
 |-----+-----+-----+-----+-----+-----+-----+-----+
 |  60 |  61 |  62 |  63 |  64 |  65 |  66 |  67 |
 |-----+-----+-----+-----+-----+-----+-----+-----+
 |  70 |  71 |  72 |  73 |  74 |  75 |  76 |  77 |
  -------------------------------------------------

                        PLAYER
```

THE COMPUTER'S MOVE

The computer moves are displayed in the format shown below:

> [piece | FROM square | TO square]

[piece]   The piece which the computer is indicating that it wishes to move is encoded to the table below:

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---------------------------------------------------------------
| 0 - KING      | 4 - King Bishop  | B - K R Pawn | C - K B Pawn |
| 1 - Queen     | 5 - Queen Bishop | 9 - Q R Pawn | D - Q B Pawn |
| 2 - King Rook | 6 - King Knight  | A - K N Pawn | E - Q Pawn   |
| 3 - Queen Rook| 7 - Queen Knight | B - Q N Pawn | F - K Pawn   |
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| FROM square | The FROM and TO squares are indicated using the chess board notation shown above.

EXAMPLE: a display on the 6502 MP Kit's 7 Segment Display(s) of [0F 13 33] indicates that the King Pawn is to be moved from square 13 to square 33. (This assumes the computer is playing White).

ENTERING YOUR MOVE:

Your moves ara described to the computer using the same octal notation described above. It is not necessary to enter the type of piece being moved, just the FROM square and TO square locations.

The computer verifies the input by indicating in the left two digits the niece located on the FROM square. The first digit will be 0,1, or F, 0 indicates that the piece on the from square is one of the computer's men. 1 indicates that the piece is one of your men, F indicates that there is no piece on the FROM square.

The second digit indicates the type of piece located on the FROM square using the same hexadecimal code shown above.

If you have made an error in entering your move at this point just continue to press the appropriate keys. The numbers will scroll from right to left until the correct move is displayed.

For example, if you punch 6 3 4 3 and see the display [1F 63 43], the 1F indicates that the FROM square (63), contains the King Pawn and that you are preparing to move it to the square 43.

When you have entered and verified the move, depress the [F] key to register the move on the internal chess board. The first two digits of the display will be changed to FF to indicate that the FROM square is now unoccupied. If the TO square had been occupied, the previous occupant will have been captured automatically.

You may make as many moves in this manner as you wish, moving either your own men or the computer's. No verification of the legality of the moves is carried out. Illegal moves are accepted and executed as easily as legal moves, so care shoull be taken that you do not accidentally move in an illegal manner. Since the computer does not make a point of warning you if your king is in check, you must be careful not to leave this situation after your move. The computer will usually take off your king on its subsequent move if this is possible.

6502 MP Kit Keys:

NOTE: When pressing keys while playing Microchess with the 6502 MP Kit confirm that your key press was accepted. You will either see your key displayed in the 7 Segment display and/or on the GPIO LED's. Due to the delays and processing going on it might seem like the 6502 MP Kit 'ignored' your key stroke. If that happens just press the key again - until you're positive the key was recognized. DO NOT JUST KEEP PRESSING THE KEY OR IT WILL KEEP REPEATING THAT KEY STROKE!!

In order to play Microchess on the 6502 MP Kit use the following information:

1.   After loading the program into the 6502 MP Kit:
          A.   Press [RESET]
          B.   Press [ADDR]
          C.   Press [1 0 0 0]
          D.   Press [GO]

        The above sets the program counter to $1000, which is where Microchess starts, and then starts the program running with the [GO] key. You will see some random information in the 6502 MP kit's 7 Segment Display which you can ignore

3.   To start a new game with Microchess and have the board set up for a fresh game:
          A.   Press [C]

        The above will display [CC CC CC] on the 6502 MP's 7 segment display. This is the indication that the board has been cleared and setup for a new game.

4.   To switch sides with Microchess:
        A.   Press [E]

The above will display [EE EE EE [on the 6502 MP's 7 segment display. This is the indication that Microchess has switched sides with you.

5.   To start (or continue) game play:
        A.   Press [D]

Microchess will blank out the 7 segment display while it "thinks" about the move it wants to make. Once it has decided it will then display it's move on the 7 segment display. (EXAMPLE: [0F 13 33] - see above for explanation)

6.   It is now your turn to make a move. Simply enter in the FROM square of the piece you want to move and then enter in the TO square of where you want to move it to.

Microchess will take your key press and initially display it in the right most position and then slowly scroll it to the left as you press additional keys. Once you have entered all 4 digits (FROM/TO) Microchess will now indicate who's piece your planning to move and what piece it is (see above for explanation).   (EXAMPLE: You type in [6 3 4 3] indicating you are moving your King's Pawn from square 63 to square 43. Microchess will display [1 F] on the 1st two LED's to indicate that it is a black piece [1] and that it is a King's Pawn [F].

If you want to change this move, since it isn't too late yet or in case you made a mistake, just keep pressing the necessary keys. The numbers will continue to scroll left and Microchess will continue to update the piece owner and the piece. NOTE: Remember, a [0] in the 1st LED indicates that the piece is one of yours, a [1] in the 1st LED indicates that the piece belongs to the computer and an [F] in the 1st LED indicates an illegal move.

7.   When you are happy with the move you've entered you need to "LOCK" in the move.
        A.   Press [F]

This indicates to Microchess that you are done making your move. Microchess will respond by updating the 7 Segment display with an [F] in the 1st LED indicating that the move is now locked in.

8.   To tell the computer it is now the computer's turn:
        A.   Return to Step #5, above.

Speeding Up the Game (making Microchess 'dumber')

If you would like to make Microchess move a little faster which, of course, reduces it's playing strength, you can modify the following 2 memory locations after loading the program;

LEVEL	LOCATION ($1217)	LOCATION ($10E9)	AVG TIME PER MOVE
SUPER BLITZ	$00	$FF	3 seconds
BLITZ	$00	$FB	10 seconds
NORMAL	$08	$FB	100 seconds

ORIGINAL MICROCHESS MANUAL:

It is HIGHLY recommended that you acquire a PDF copy of the original Microchess manual. You can do so here:

http://archive.computerhistory.org/projects/chess/related_materials/text/4-1.MicroChess_%20Manual_for_6502.Micro-Ware/MicroChessManual.PETER_JENNINGS.062303071.sm.pdf

You can also access a cleaner copy of the manual, in text mode instead of a PDF, from Peter Jennings own site at:

http://www.benlo.com/microchess/Kim-1Microchess.html

CREDITS:

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