# COMPUTER SCRABBLE® 

## software by PSION

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## LETTER DISTRIBUTION

| Letters | Quantity <br> in Game | Letters | Quantity <br> in Game |
| :---: | :---: | :---: | :---: |
| A | 9 | N | 6 |
| B | 2 | O | 8 |
| C | 2 | P | 2 |
| D | 4 | Q | 1 |
| E | 12 | R | 6 |
| F | 2 | T | 4 |
| G | 3 | U | 6 |
| H | 2 | V | 4 |
| I | 9 | W | 2 |
| J | 1 | Y | 2 |
| K | 1 | Z | 1 |
| L | 4 |  | 2 |
| M | 2 |  | 1 |
| Blank | 2 |  |  |

## INTRODUCTION

This booklet is split into two sections: the first describes the game SCRABBLE® and sets out the rules; the second contains instructions on how to play Computer SCRABBLE® on your ZX Spectrum Computer.

## A. RULES FOR PLAYING SCRABBLE®

SCRABBLE® is a word game for one to four players. The play consists of forming interlocking words, cross-word fashion, on the SCRABBLE® playing board using letter tiles with various score values.

Each player competes for a high score by using his letters in combinations and locations that take best advantage of letter values and premium squares on the board. The combined total score for a game may range from about 500 points to 700 or more depending on the skill of the players.

## THE PLAY

Each player has seven letters in his rack at the start of the game, and after each play draws enough new letters to maintain this total.

1. The first player combines two or more of his letters to form a word and places them on the board to read either across or down with one letter on the centre square. Diagonal words are not permitted.
2. A player completes his turn by counting and announcing his score for the turn. He then draws as many new letters as he has played, thus always keeping seven letters in his rack.
3. The second player, and then each in turn, adds one or more letters to those already played so as to form new words. All letters played in any one turn must be placed in one row across or down the board. They must form one complete word and if, at the same time, they touch other letters in adjacent rows, they must form complete words, cross-word fashion, with all such letters. The player gets full credit for all words formed or modified by his play.
4. New words may be formed by:
a. Adding one or more letters to a word or letters already on the board.
b. Placing a word at right angles to a word already on the board. The new word must use one of the letters of a word already on the board or must add a letter to it.
c. Placing a complete word parallel to a word already played so that adjoining letters also form complete words.
5. No letter may be moved after it has been played.
6. The two blank tiles may be used as any letter desired. When playing a blank the player must indicate what letter it represents, after which it cannot be changed during the game.
7. Any player may use his turn to replace any or all of the letters on his rack. After discarding them he draws the same number of new letters and his discarded ones are then mixed with those remaining in the pool. He then awaits his next turn to play.
8. Any words found in a standard dictionary are permitted except proper names, etc., usually commencing with a capital letter, those designated as foreign words, abbreviations and words requiring apostrophes or hyphens. Consult a dictionary only to check spelling or usage. Any word may be challenged before the next player starts his turn. If the word challenged is unacceptable, the player takes back his tiles and loses his turn.
9. Play continues until all tiles have been drawn and one of the players has used all of the letters in his rack or until all possible plays have been made.

## SCORING

10. The score value of each letter is indicated in the table at the end of this booklet, with the letter distribution at the front. Note that the value of a blank is zero.
11. The score for each turn is the sum of the score values of all the letters in each word formed or modified in the play plus the premium values resulting from placing letters on premium squares.
12. Premium Letter Squares: A light blue square doubles the score of a letter placed on it; a dark blue square trebles the letter score.
13. Premium Word Squares: The score for an entire word is doubled when one of its letters is placed on a green square; it is trebled when a letter is placed on a red square. Include premiums for double or triple letter values, if any, before doubling or tripling the word score. If a word is formed that covers two premium word squares, the score is doubled and then redoubled (4 times letter count), or trebled and re-trebled (9 times letter count) as the case may be. Note that the centre square is a green square and therefore doubles the score for the first word.
14. The above letter and word premiums apply only in the turn in which they are first played. In subsequent turns letters count at face value.
15. When a blank letter tile falls upon a premium word square the sum of letters in the word is doubled or trebled even though the blank itself has no score value.
16. When two or more words are formed in the same play, each is scored. The common letter is counted (with full premium value, if any) in the score for each word.
17. Any player who plays all seven of his letters in a single turn scores a premium of 50 points in addition to his regular score for the play.
18. At the end of the game each player's score is reduced by the sum of his unplayed letters, and, if one player has used all of his letters, his score is increased by the sum of the unplayed letters of all the other players.

## B. PLAYING COMPUTER SCRABBLE

Load and run the program by typing LOAD "scrabble".
If you are unfamiliar with the rules of $\operatorname{SCRABBLE®\text {,readtheprecedingsectionsofthis}}$ booklet - but don't worry, the computer will not allow you to make an illegal move.

After loading the program you will be asked a few questions to determine various parameters such as how many players you wish etc.. These questions and the required responses are listed below:

1. Is your television colour or black and white: press C for colour or B for black and white.
2. Do you wish to load a previously saved game: press Y for Yes or N for No.
3. Select total number of players: press 1 to 4 .

For each player in turn:
4. Do you wish the spectrum to play as this player: press Y or N .
5. If yes then at what level do you wish the computer to play: press 1 to 4 where 4 is the hardest level.
6. The name of the player: type the name then press ENTER (a maximum of 8 letters for human players and 7 for any computer players).

Finally,
7. Do you wish to see the computer thinking: press $Y$ or $N$. Selecting $N$ means you don't see any computer players trying words on the board, nor is the computer's letter rack displayed on the screen during the move.
8. Do you want the computer to wait between its moves: press Y or N .

The computer will then randomly choose who is to play first, draw the SCRABBLE® board and load the letter racks with the letters - again selected completely at random. You can trust it not to cheat!

The screen will then show the SCRABBLE® board with a panel to the right displaying the players' names and scores, along with a list of options. There is also a full size display of the current player's letter tiles, and his name will be flashing. A description of the options available is given below:

## OPTIONS

The various options are selected by pressing SYMBOL SHIFT and the option letter e.g. The option "VIEW RACKS" is selected by typing SYMBOL SHIFT and V together. The options can be selected at any time during the game, except when the computer is taking its turn.

The options are:
V - VIEW RACKS this option displays the letters of all players in the side panel. Restore the OPTIONS panel by pressing SYMBOL SHIFT and O.

S - SYMBOLS this option calls up another display that indicates the premium value squares. Return to the OPTIONS panel by pressing SYMBOL SHIFT and O.

R - REARRANGE allows the current player to rearrange his letter tiles on the racks. Having selected this option simply type your letters in the order you wish to see them.

C - CHANGE if desperate you can change any or all of your letter tiles, but this uses up your turn. Having selected this option you are prompted to simply type the letters you wish to change. If you make a mistake use the DELETE key. When satisfied press ENTER. If you wish to PASS just press enter without having typed any letters.

J - JUGGLE instructs the computer to rearrange the current player's letter tiles in a random manner.

T - TILE VALUES displays the alphabet with corresponding scoring values. Return to the OPTIONS panel with SYMBOL SHIFT and O, or view the letter DISTRIBUTION with option D (SYMBOL SHIFT and D).

D - DISTRIBUTION displays the number of tiles of each letter that are available at the start of the game.

Q - QUIT abandons the game and allows you to either start another or save the current game on a separate blank cassette for completion at a later date.

## MAKING A MOVE

Once you have thought of a word you wish to play you need to show the computer where to place the word. Move the cursor with the keys 5 to 8 to where you want the word to start and press A or D to indicate whether the word is to run Across or Down the board.

You are now ready to play your word by simply typing it and pressing ENTER when you've finished (you don't need to type any letters that are already on the board, the computer will do it for you).

Assuming that you haven't tried an illegal move the computer will then score the move and ask you if you want to accept it or try another: press $Y$ for Yes or $N$ to have another attempt. Once you are happy with your move and have answered Yes the computer will move your letters from the large rack on to the board and refill your rack. After a brief pause to let you see your new letters the computer will move on to the next player, but remember you can still view your rack in the side panel by asking the next player to select option V.

PLAYING A BLANK - when it comes to playing a blank letter the procedure is slightly different. To play the blank letter press the SPACE key once and the cursor will not move. Then type the letter you wish the blank to represent and continue with the rest of the word as normal. You will see that the blank tile displays the letter you have nominated, but in inverse video to indicate that it is a blank (with zero scoring value).

ILLEGAL MOVES - the computer will not let you use letters that are not on your rack, so you can't cheat. Similarly it will not accept words that are placed on the wrong part of the board and will allow you to try again.

CHALLENGING - once you have made your move the computer will search its vocabulary of over 11,000 words. If it can't find the word, or any of the new words formed by the move, it will ask you to confirm that the words are legal. Being a trusting computer it will accept the word if you type Y , and reject it if you type N . In the latter case you score nothing and lose your turn, as per the rules.

This facility allows for challenges by other human players who must not let the computer player type Y until the challenge is settled! The computer itself cannot be challenged but it can only play words that have been stored in its memory, and these have been carefully checked for legality by a SCRABBLE® expert.

FINISHING - at the end of the game the computer will reduce each player's score by the sum of his unplayed letters, and if one player has used all his letters his score will be increased by the sum of the unplayed letters of the other players.

SAVING - a partly played game can be saved on a separate blank cassette for completion later. Take the QUIT option and then follow the instructions offered on the screen. Remember to use a separate blank cassette - only a datafile will be saved, not the entire program.

RELOADING - a partly played game can only be reloaded from within the main program so make sure you have loaded Computer SCRABBLE® from the original cassette first. Then take the QUIT option, from where you can choose to reload an old game. This facility is also available at the start of the program. You will be prompted to
enter the file name of your saved datafile, then press ENTER and start your tape running.
STRATEGY - the computer has an element of strategy programmed into it, so even at the hardest level (4) it may not place the highest scoring word it can, perhaps hoarding a useful letter like an S for a more profitable move. However it does not play a negative strategy such as avoiding opening up a premium score square to an opponent - it can beat you without adopting tactics like that.

VOCABULARY - the computer's vocabulary contains over 11,000 words, an unprecedented achievement on a relatively small computer. In order to ensure that the computer could play a sufficient number of high scoring words some simple words in everyday use have been omitted - so if the computer challenges you and you are sure it is a permitted word, just answer Yes when it asks if the word is acceptable. And remember, the computer's vocabulary has been carefully checked by a SCRABBLE® expert, so it can't play any illegal words itself.

## C. LOADING THE PROGRAM

The procedure for loading a program is described in chapter 20 of the Spectrum manual. The steps are summarised below.

1. Connect the ear socket on your Spectrum to the ear socket on your cassette recorder.
2. Position the tape before the beginning of the program that you wish to load.
3. Turn the volume control to $3 / 4$ maximum or to a level which you have found to be reliable on your recorder.
4. Type LOAD "scrabble" and press the ENTER key.
5. Start the cassette recorder playing.

Psion cassettes for the Sinclair ZX Spectrum are designed to load over a very wide range of volume and tone settings on your tape recorder. If you have any difficulty, ensure that the head and pinch-roller of your tape recorder are quite clean. Cleaning kits for this purpose are widely available.

## LETTER VALUES

| Letter | Score | Letter | Score |
| :---: | :---: | :---: | :---: |
| A | 1 | N | 1 |
| B | 3 | O | 1 |
| C | 3 | P | 3 |
| D | 2 | Q | 10 |
| E | 1 | R | 1 |
| F | 4 | S | 1 |
| G | 2 | T | 1 |
| H | 4 | U | 1 |
| I | 1 | W | 4 |
| J | 8 | X | 4 |
| K | 5 | Y | 8 |
| L | 1 | Z | 4 |
| M | 3 |  | 10 |
| Blank | 0 |  |  |

PSION acknowledges the contribution of Peter Turcan who has worked with PSION and whose analysis of SCRABBLE® forms the basis of this program.

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