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## Colossus Mah Jong

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## 1. Introduction.

### 1.1 General.

COLOSSUS MAH JONG is the computer version of the popular game of Mah Jong which enables you to enjoy a challenging game against three other opponents played by the computer.
The game of Mah Jong, first played in the Far East, was introduced into this country early this century as an exciting alternative to chess and bridge. Since then the game has been refined by generations of players until reaching its present form. The rules employed in COLOSSUS are those recommended by the British Mah Jong Association (BMJA) and widely regarded as the best.

### 1.2 Features.

1 - Adjustable speed of play.
2 - Automatically scores, doubles and settles up hands.
3 - Demonstration mode.
4 - Discards face up or down.
5 - Hints on play.
6 - Joystick control.
7 - Nine levels of play.
8 - Optional 19 special hands.
9 - Optional tournament mode.
10 - Peep at other players hands.
11 - Replay, new hand or new game.
12 - Take back last discard.
13 - 3D graphics.
14 - Tutor.

## 2. Running the program.

### 2.1 Loading the program.

The loading instructions for MAH JONG are printed on your disk or cassette.

### 2.2 Demonstration mode.

On starting, the program will enter a demonstration mode. You can stop the demonstration by holding down the escape key (ESC) (the stop key (STOP) on the Commodore 64/128) while the tiles are being drawn in the bottom
half of the screen. After the last tile has been drawn the computer will beep, indicating that the demonstration has been stopped. You should then release the key immediately, otherwise the demonstration will restart.

### 2.3 Program controls.

All tile discards are made using the cursor. This is shown by a 'diamond' symbol which will appear on the left of the screen above the lower set of tiles. The following controls will enable you to move the cursor and discard/claim tiles as you choose.

$$
\begin{array}{l|l}
Z & \text { left } \\
\text { X } & \text { right } \\
\text {; } & \\
\text { / up } & \text { down }
\end{array} \quad \text { select tile to discard. }
$$

The joystick also gives you full directional cursor movement.

### 2.4 Feature controls.

You can access a number of special features when it is your turn to discard a tule. Instead of using the cursor controls the following keys will invoke the relevant feature:-

D : Dead tiles - switches on/off the dead tile display enabling 'face up' or 'face down' play.

E: Expert - switches on/off the expert mode. This mode removes the flower and season tiles from play and activates the dead wall (14 tiles) rule. This becomes effective in the next deal. To bring it into immediate operation press ' $R$ ' to replay the current hand. (Note that if any flower or season tiles were dealt at the start of the current hand then the hands will not be the same when replayed).
H : Hint - indicates the tile which the computer thinks is the best discard from your hand.
K : Kong - form either a concealed or exposed kong from the tile(s) in your hand.
L : Level - displays the current level of play. Using left or right cursor controls will step through the alternative levels until released. Using the up or down
cursor controls will select the new level. Levels vary from 1-9, where 1 is easy and 9 is difficult.
$\mathbf{N}$ : New hand - starts a new hand in the current game without changing the wind of the round or the players winds.
P : Peep - displays your opponents hands.
Q : Quit - quits the present game and starts a new game.
$\mathbf{R}$ : Replay - replays the current hand in the current game without changing the wind of the round or the players winds.
S : Special - switches on/off special hand play.
T : Take-back - resets the game to the position before the last tile you discarded enabling you to retake a go.
W : Wait - displays the current wait period, that a discarded tile is displayed for. The wait period can be adjusted from $1-60$ seconds using the cursor controls.
ESC : Escape - (STOP key on Commodore 64/128) interrupts/restarts the demonstration mode using the current feature settings.

## 3. Tutor and brief rules.

### 3.1 The tutorials.

The loading instructions for the TUTOR are printed on your disk or cassette.
When the TUTOR is loaded you will be presented with a menu of four tutorials. To use each tutorial press the relevant number and then press any key to proceed through it. Pressing the escape key (ESC) (the stop key (STOP) on the Commodore $64 / 128$ ) will return you to the menu.

The four tutorials are:-

1) The Mah Jong set.
2) Recognising the tiles.
3) Special hands.
4) Scoring.

### 3.2 Brief explanation on how to play.

Mah Jong is played by four players called the East, South, West and North winds respectively, who compete to go Mah Jong by collecting four sets and
a pair. A set being either:
a pung - three identical tiles, or a kong - four identical tiles, or a chow - run of three tiles in the same suit.

Only one chow is allowed per hand.
Each player starts with thirteen tiles, except East who has one extra to start the game by making the first discard.

Apart from the flower/season tiles there are four of each kind of tile in the Mah Jong set.
Each player takes a tile from the 'wall' and then discards a tile in turn until someone goes Mah Jong, or until all the tiles are used up. This is termed a 'washout'.

Any player may claim the latest discard if and only if he can make a pung or kong with it, or go Mah Jong. The player whose turn it is is next may also claim it if he can make a chow, otherwise the discard becomes a 'dead tile'. When claiming a tile a player who goes Mah Jong has priority over a player claiming a pung or kong who in turn has priority over a player claiming a chow. When a discard is claimed the player who takes it must immediately 'expose' the set he makes then discard, play continues with the player next to him.

Sets made entirely from wall tiles are termed 'concealed' and score more points than 'exposed' sets. Also sets of 'minor' tiles (suit tiles numbered 2-8) score less than 'major' tiles. Exposed sets may only contain one discard and thus an exposed pung can only be made into an exposed kong with a wall tile.
Extra bonuses can be made by picking up a players flower or season tile. Flowers and seasons are connected to the winds as follows:-

| Wind | Flower | Season |
| :--- | :--- | :--- |
| East | Plum blossom | Spring |
| South | Orchid | Summer |
| West | Chrysanthemum | Autumn |
| North | Bamboo | Winter |

To maintain a balanced hand whenever a kong is made an extra tile is taken from the wall. If the kong is concealed then it is declared just like an exposed kong but one of the set is kept face down to indicate the higher score. An extra tile is also taken if a 'bonus' (ie. flower or season) tile is picked up from the wall which must be exposed immediately as bonus tiles do not count towards a Mah Jong hand (except in scoring).

When a player is only one tile from Mah Jong he is 'fishing' and must say so to warn other players.
Now you should be ready to load and start MAH JONG. Watch in demonstration mode for a few hands until you feel ready to read the remaining instructions and play a game.
To begin with to give yourself more of a chance, increase the 'Wait' period and reduce the 'Level'.

## 4. Playing the game.

### 4.1 Preliminaries.

As soon as the game has loaded the computer will begin the first hand and you will start by playing East wind. The tiles are washed, the wall built and the hands dealt. All hands are then checked for flower and season tiles which are immediately exposed and the hand replenished from the wall. Your hand is then drawn in front of you as if you were playing the real game.
The wall is simulated on the screen to indicate the progress of the game. Each tile shown in the wall represents two tiles.

### 4.2 Discarding a tile.

As East wind always starts it will be up to you to discard the first tile. To discard a tile move the cursor left or right (initially above the leftmost tile in your hand) to indicate which tile you wish to discard. Then choose either the upper or the lower tile by using either the up or down cursor controls respectively.

### 4.3 Claiming a discard.

Each of the computer players will in turn take a tile and make a discard. The tiles discarded by your opponents are shown inside the wall. While a tile is in view it may be claimed to make a chow, pung or kong or to go Mah Jong. The computer will verify that you have a legitimate claim to the tile before giving it to you. If you have made an incorrect call, or one of your opponents makes a call that takes precedence, then your claim is ignored.

The time that your opponents discards remain in view is set by the 'Wait' feature.

If you make a successful claim for a discard the tile will be exposed on the table along with the tiles from your hand comprising the appropriate combination (chow, pung or exposed kong). Should there be more than one possible combination, the alternatives will be displayed. Again by using the cursor controls the intended combination can be selected from the menu.

### 4.4 Claiming a kong from a wall tile.

The alternative method of completing a kong is when you take a wall tile. To accomplish this, select the 'Kong' feature when it is your turn to discard. If more than one kong is possible the alternatives will be displayed. As before, using the cursor controls, the desired kong can be selected from the menu. Otherwise the fourth tile will be treated as any other and can be discarded or used to make a chow. Four tiles left in a hand at the end of a game will not be scored as a kong.
When a concealed kong is declared, one of the tiles will be shown face down to distinguish it from an exposed kong.

### 4.5 Your opponents exposed tiles.

When one of your opponents claims a discarded tile, the combination is declared and exposed using a notation consisting of an icon to represent the 'suit' and letters/numbers to indicate the denomination. The notations used are shown below:-


> numbers from 1-9

> E, S, W, N

G, R, W
Pl, Or, Cr, Ba
$\mathrm{Sp}, \mathrm{Su}, \mathrm{Au}, \mathrm{Wi}$

In the case of a pung three numbers follow the icon and for a kong four numbers (ie. one for each tile). If a kong is concealed then one of the four numbers will be replaced by the icon representing a face down tile.

### 4.6 Dead tiles

If a discarded tile is not claimed then it becomes dead and is added to the dead tiles inside the wall. The convention used is shown at the start of a game before there are any dead tiles.

### 4.7 Fishing.

When a player requires only one tile to go Mah Jong that player is fishing and the fish icon will be displayed next to the players wind marker. In certain circumstances a player may cease to be fishing but the fish icon will remain. This is consistent with the real game where a player cannot retract his declaration once made.

### 4.8 A complete game.

As play progresses, the wall will diminish until either there are no tiles left (a washout) or a player goes Mah Jong. In the case of a washout a new hand is dealt and the winds rotate one place anti-clockwise. Otherwise, when a player goes Mah Jong the hands are scored, settled and the scoreboard updated before starting a new hand.
After scoring each hand the computer will wait for you to press the space bar (or fire button) before scoring the next. After all the hands are scored the computer will again wait for you to press the space bar (or fire button) before proceeding.
Normally the winds are rotated one place anti-clockwise after a Mah Jong hand, but if East wind goes Mah Jong then the winds do not rotate. When each of the players have had their turn at being East wind, the wind of the round changes. The current wind of the round is indicated by a letter and an icon in the top left corner of the display. After every player has been East wind four times the game is finished and the winner is the player with the highest score.
Note that in declaring the winner at the end of the game the wind of the winning player is that with which the player started the game (also the wind
with which the player will start the next game). For example, as you will always start the game as East wind and finish a game as North wind, should you win you will be declared as East.

### 4.9 A short game.

To play a complete game of Mah Jong can take a long time, but there is no reason why a game cannot be concluded after any number of whole rounds, when all the players have held East wind an equal number of times.

### 4.10 Large hands.

In theory it is possible to collect a hand with up to twenty-six tiles in it. The maximum that can be displayed in your hand is twenty, therefore if you have more than twenty tiles some flowers or seasons will not be displayed. However, they will be included in the score at the end of the hand. The probability of this occurring is very small and cannot arise if the flowers and seasons are removed from play (ie. the maximum hand is then eighteen).

## 5. Scoring and settling hands.

### 5.1 General

When a player goes Mah Jong all of the hands are displayed and scored in turn starting with the player who went Mah Jong. There is a limit of 1000 points per hand. The hand scores are then settled between the players and the cumulative game scores displayed on the scoreboard.
All of the basic scores, bonus points and doubles recommended by the BMJA are recognized by COLOSSUS with the exception of two (see Section 8).
Theoretically a game of Mah Jong could be infinitely long if East wins repeatedly and hence the game scores are also potentially infinite. In COLOSSUS the maximum game score that can be recorded by a player is approximately $\pm 32,000$ points.
5.2 Table of scores.
Each basic hand is scored as follows:-
Going Mah Jong ..... 20
Going Mah Jong with a wall tile .....
Going Mah Jong with only possible tile ..... 2
Pair of tiles ..... 0
A chow ..... 0
Exposed pung of minor tiles. ..... 2
Exposed pung of major tiles ..... 4
Concealed pung of minor tiles ..... 4
Concealed pung of major tiles ..... 8
Exposed kong of minor tiles ..... 8
Exposed kong of major tiles ..... 16
Concealed kong of minor tiles. ..... 16
Concealed kong of major tiles. ..... 32
Pair of players own wind tiles ..... 2
Pair of wind of the round tiles ..... 2
Pair of any dragon tiles ..... 2
Each flower or season tile ..... 4
The basic hand may then receive a number of 'doubles' according to the following conditions:-
Having players own flower or season ..... $\times 2$
Having all flowers or seasons ..... $\times 4$
Pung or kong of any dragon ..... $\times 2$
Pung or kong of players wind ..... $\times 2$
Pung of kong of wind of the round ..... $\times 2$
Fishing from dealt hand ..... $\times 2$
And for the player who goes Mah Jong the following extra doubles are available:-
A pure hand (one suit and winds/dragons) ..... $\times 2$
No chows ..... $\times 2$
A hand with no minor tiles. ..... $\times 2$
A completely concealed hand of different suits/winds/dragons ..... $\times 2$
Going Mah Jong from a dealt hand ..... $\times 2$
Going Mah Jong with the last wall tile ..... $\times 2$
Going Mah Jong with the last discarded tile. ..... $\times 2$
Going Mah Jong with a loose tile ..... $\times 2$
For scoring of special hands see Tutorial number 4.

### 5.3 Settling of hands.

When all four of the hands have been scored the players settle up.
Firstly the winner receives his score from each of the other players. Then the other three players compare their scores with each other and pay the difference to the player with the higher score.

The player who is East wind always receives and pays twice his score or difference.

## Example:

Suppose North has gone Mah Jong and the four hands are scored as follows:-
North 144
East 36

South 4
West 64
North receives 144 from both South and West and receives 288 from East. East receives 64 from South and pays West 56 . South pays West 60.

So at the end of the game the scores are adjusted as follows:-
North $+144+144+288=+576$
East $-288+64-56=-280$
South $-144-64-60=-268$
West $-144+56+60=-28$

## 6. Advanced play.

### 6.1 General.

To ensure that you are continuously presented with a challenge as you learn and progress, COLOSSUS contains many advanced features.

### 6.2 Special hands.

By selecting the 'Special' feature any one of the special hands recognised by the BMJA can be collected. (See Tutorial number 3)
NB. Certain special hands may be collected by your opponents which may not be instantly obvious to you, eg, 'plucking the moon from the bottom of the sea' and 'gathering the plum blossom from the roof'.

### 6.3 Playing with the dead tiles face down.

COLOSSUS undoubtedly presents you with more of a challenge if the dead tiles are laid face down during play. This can be simulated by selecting the 'Dead tile' feature.

### 6.4 Tournament rules.

By selecting the 'Expert' feature you can remove the flowers and seasons
from play, thus reducing the element of luck in the game to a minimum. The dead wall of 14 tiles is also activated giving players less time to complete a Mah Jong hand. However, the number of washouts may increase, especially at the lower levels of play.

### 6.5 Fast play.

Mah Jong is essentially a fast game; but because the ability of players will vary greatly COLOSSUS can be adjusted to play as quickly or as slowly as desired. However, the maximum challenge to the expert player can be achieved by reducing the 'Wait' period to the minimum of one second and switching off the dead tile display and special hands.
7. Departures from the BMJA rules.

There are some minor respects in which COLOSSUS departs from the BMJA rules:-

1) There is no goulash, the tournament rule is used instead (after a washout the winds rotate and play continues normally).
2) Players are not punished for letting off a cannon.
3) Kongs cannot be robbed.
8. Acknowledgements.
1) Know the Game Series - Mah Jong. By Gwyn Headly \& Yvonne Seeley. Pub. E.P. Publishing Ltd (1978, reprint 1983) Published in Association with British Mah Jong Association.
2) Amstrad CPC \& Commodore 64 programs written using Abersoft FIGFORTH by John Jones-Steele.

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