



Story line

At the edge of the Milky Way, two civilizations are fighting in a joust, certainly peaceful, but with considerable stake: to be the ultimate ruler of the known Universe. The fleets of the two civilizations display the dominant colors of their respective home planets: red or blue.

Galactic Law forbids the voluntary suppression of life; weapons are not used to kill or even destroy the enemy ship, but to expel it into a parallel universe. To achieve this, a ship has its quantum cannons at its disposal, provided they can overcome the deflector shields of the opposing ship.

The ships move autonomously with their gravitonic sails, but can also use synchronous teleportation; this technology does not allow a ship to move alone, but rather to exchange the location of allied ships, including those exiled in the parallel universe.

The objective of the game is to send the opponent's flagship into the parallel universe. The flagship is the weakest ship in the fleet, but the one that contains the fundamental energy sphere, without which the entire fleet becomes inoperative.

Rules of MAD

Description of the game

Mad is played with two players on a *cosmic arena* bounded by a 6×4 square or 5×5 square grid. Each player has eight spaceships (red or blue). They are distinguished by their number (1 or 2) of *gravitonic sails*, *quantum cannons* and *deflector shields*, which determine their **M**otion, **A**ttack and **D**efense capabilities respectively. Ships can also *teleport* by swapping or rotating. When teleporting, it doesn't matter how far and how many obstacles separate the ships.

Ships are concisely designated by their three numbers of sails, guns and shields, in that order. For example the ship with 1 sail, 1 gun and 2 shields is designated by 112.

Ship 111 is called a **corvette**, ships 112, 121 and 211 are **frigates**, ships 221, 212 and 122 are **destroyers** and ship 222 is a **cruiser**.

Basic rules

Players alternate moves; red begins (see figure for starting position).

On his or her turn, a player must perform one and only one of three possible moves: moving a single ship, swapping two ships or rotating three ships. There are two exceptions: the *positioning turn* and the *bonus move* (see special rules).

Moving a ship can result in the **expulsion** of an opposing ship in a parallel universe.

A ship in the parallel universe (out of arena) is said to be **exiled**. Exile can result from an expulsion by an opposing ship, but also from a permutation or a rotation (see below). The game ends as soon as a corvette is exiled.

The aim of the game is the exile of the opponent's corvette 111.

Movement. A ship with 1 sail can move 1 square in the arena. A ship with 2 sails can move 1 or 2 squares. The movement is done horizontally and/or vertically, in all directions. When a ship is moved 2 squares, there can be a change of direction but not a U-turn and the midway square must be free.

The arrival square must be free or occupied by an opponent's ship whose number of shields is less than or equal to the number of cannons of the moved ship. Thus a ship with only 1 cannon cannot move to a square occupied by a ship with 2 shields. When a ship arrives on an occupied square, the moved ship takes the place of the opponent ship, and this one is exiled to the parallel universe.

Initial position 6 × 4

221	111	222	212
121	122	211	112
121	122	211	112
221	111	222	212

Initial position 5 × 5

221	111	211	222	212
121		122		112
121		122		112
221	111	211	222	212

Movement with expulsion

122		111	221
212	222	211	112
212		211	
121	121		
			112
122	111	222	221

red 211 moves 2 squares
and expels blue 121

Permutation. Each ship has a **complementary** ship. The pairs of complementary vessels are (111, 222), (112, 221), (121, 212) and (211, 122). The permutation consists of swapping the location of two complementary ships. Swapping is allowed if both ships are in the arena *or* if only one is in the arena. In the latter case, the one that was in the arena is exiled, and the one that was exiled takes its place.

Rotation. It consists in exchanging the locations of the three frigates or the three destroyers. One of the three ships takes the place of one of the other two, which itself takes the place of the third, which itself takes the place of the first. Rotation is allowed if all three ships are in the arena *or* only *two* are in the arena. In the latter case, the one that was exiled takes the place of one of those in the arena, which itself takes the place of the other vessel in the arena, which itself is exiled.

Special rules

Positioning turn. On his first turn (and only on this turn), each player may perform a permutation or a rotation, or leave his ships in their original position; moving a single ship is not allowed. This particular turn is called the *positioning turn*.

N.B. The purpose of this rule is to diversify starting positions. Players may agree not to apply this rule.

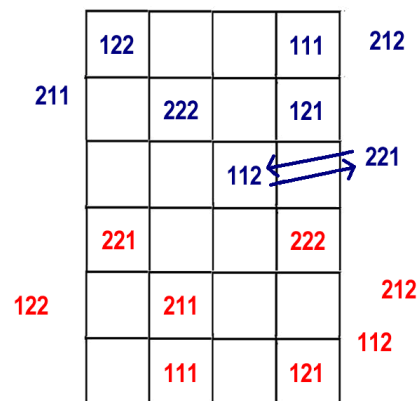
Bonus move. If a player moves a ship only *one* square and the arrival square is on the *last* row of four or five squares (the one on the opponent's side), he *may* immediately perform a permutation or a rotation with *that* ship.

This extra move in the same turn is called a *bonus move*.

Clarification: The bonus move is not mandatory. It must involve the ship that reached the last row. It is allowed even if there was an expulsion during the movement.

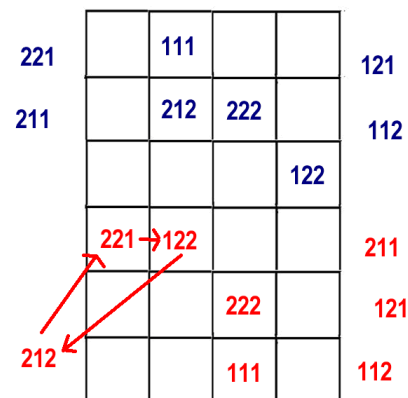
Tie-breaker for lack of exile of a corvette. The game is stopped even though no corvettes have been exiled if both players agree that they will not be able to exile one of the two corvettes, or if the number of ships in the arena has remained constant for 40 consecutive turns (20 for each player). In this case the last player to expel an opponent's ship is the winner (or if there was no expulsion, blue wins). However, this is only considered a *semi-victory* (counting for 1/2 point).

Permutation



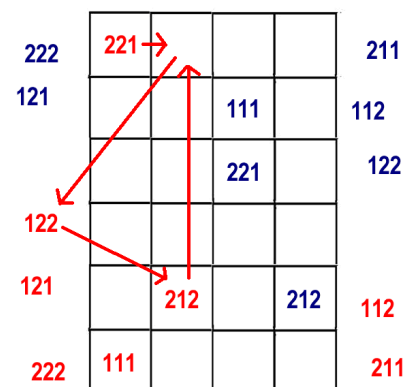
permutation of the complementary blue vessels 112 and 221

Rotation



rotation of the red destroyers

Bonus move



red 221 moves 1 square then rotates with 122 and 212

Game tactics

Teleportations (permutations and rotations) must be used wisely. They make it possible to bring the right vessel to the right place, but do not contribute to the occupation of the plateau in the same way as the simply moving. A teleportation can bring a slow but strong ship to a strategic square instead of a fast but weaker ship. A permutation also makes it possible to recall in the arena a destroyer that has been expelled in exchange for a frigate.

It must be taken into consideration that destroyers are generally more powerful than frigates. Sacrificing a destroyer against an opposing frigate is usually unfavorable. However, the expelled destroyer may be recalled to the arena by permutation, provided that the complementary frigate is still in the arena, but it will cost a shot.

As for the cruiser, it is undoubtedly the most powerful ship. A player must prevent his cruiser from being expelled without there also being expulsion of the opposing cruiser in return. The cruiser also has a weak point: once expelled, it can no longer be called back as it would mean that that player would lose the game. One mustn't advance the cruiser too quickly because it would then be quickly subjected to enemy attack, and could not moreover swap with the corvette because it would be exposed in its place.

When you only have three or four ships left in the arena, you must take care to recall as much as possible the destroyers, and avoid having in the arena, apart from the cruiser and the corvette, only a pair of complementary ships, because this prevents you from recalling other ships. In case both players are left with the same ships, the position of the ships is decisive. In the last exchanges, one must be careful that when there are only the two corvettes left in the arena, the player whose turn it is will win for sure if there is an even number of empty squares between the two corvettes, otherwise it is the opponent who wins for sure.

To find out more, visit the MAD website: <http://www.doeraene.be/mad/>