

TACTICAL BATTLES

When a state of war is in effect, there will be a chance of some kind of naval action every turn. The missions might be:

- ▲ **Fleet battle:** A decisive battle with the entire fleet of both involved nations.
- ▲ **Cruiser battle:** A battle between cruiser forces.
- ▲ **Coastal raid:** Various kinds of bombardments, attacks on merchant shipping or other offensive activities near the enemy coast. The forces involved can vary but are usually based on faster ships up to battle cruisers in strength. In these battles coastal artillery and patrol craft will help the defending player.
- ▲ **Convoy attack/defence:** Attack or defence of a convoy, usually with cruiser forces.

You will be presented with a screen with a force estimate of enemy strength, where you have the option to accept or decline battle. Declining a battle will cost victory points, and may cost prestige after several declined battles. There is a chance that the enemy will decline battle if they are feeling that they cannot send out a force with reasonable chances of victory.

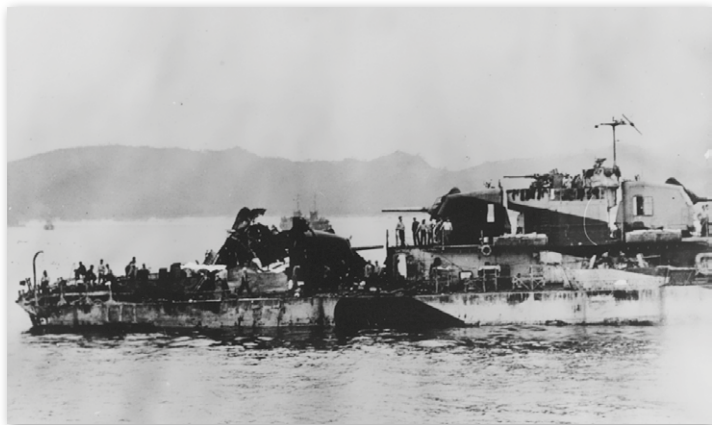
If you accept a battle, you will be brought to the tactical resolution screen. The ships at your disposal will be randomly selected from the ships in the area according to the size and type of battle, though your permanent division structure will be taken into account.

Sometimes there will be an additional friendly AI controlled support force present. This can both be a blessing and a source of problems. Sometimes the support force will save your skin, sometimes it can charge ahead and be involved in battles you would want to avoid.

The majority of battles will start with manoeuvre controls locked and the fleets meeting shortly. In rare cases, mostly in low visibility, the fleets may miss each other and the battle will be without contact between the fleets.

In coastal raids, there will be a large element of manoeuvre and finding (or avoiding) the enemy fleet.

After a battle, when you have finished studying the result, just close the battle screen to return to the main RTW screen.



SURPRISE ATTACKS

A surprise attack may occur on the first turn of war, if one of the nations has the national characteristic "Surprise attack".

In the early game, before 1925, a surprise attack will take place at night and involve a group of destroyers making a torpedo attack on the enemy fleet at anchor, with a heavier group of ships following up. The defending ships will be initially surprised.

To make the most of a possible surprise attack, you should have a decent force of destroyers in the same area as an enemy base. Having well developed torpedoes and destroyers also helps of course.

Surprise attacks in the game are arranged so that they can succeed brilliantly, but be prepared that surprise attacks can occasionally end in relative failure.

Surprise attacks between 1925 and 1935 will be replaced by a submarine sneak attack.

Surprise attacks after 1935 will be a carrier aircraft attack on the enemy's fleet in port. In this case, you will get the opportunity to mobilize carriers and supporting ships and have them moved to the area where the surprise attack is taking place. Naturally, a carrier that has been in the active fleet will have better pilots than a newly mobilized one, so it might be a good idea to have carriers in active service in preparation for an expected surprise attack.

Note that a surprise attack is not a sure thing. There is a basic chance of 80% for a surprise attack to take place. This is reduced considerably in subsequent wars with the same nation (they are not so stupid that they fall for the same trick again). Also, there might not be suitable enemy ships to target in a location within reach. In such cases, you will be informed that there was no opportunity for a surprise attack.

Note: Ships in reserve or mothballed status might be included as defending ships in a surprise attack, even though they will otherwise not take part in battles. This is to make them vulnerable, and make it impossible for the player to 'hide' ships from surprise attacks by putting them in reserve.

BLOCKADE

Map details

Northern Europe

Overview | Ship details

Foreign station tonnage / requirement: 156,087 / 0
Base capacity used / available: 669 / 1700
Trade protection / requirement (war): 0 / 6
Submarines / Submarine operations limit: 8 / 507
Ship ASW value: 27
Air ASW value: 182

Germany ships: 12 BB, 1 CA, 14 CL, 16 CV, 4 CVL, 140 DD, 66 KE, 8 SS (162) 310 a/c
Own blockade strength: Germany: 89

Great Britain ships: 1 BB, 2 CL, 1 CV, 1 AMC, 33 DD, 1 KE, 11 SS (6) 320 a/c
France ships: 2 CA, 2 CL, 1 CV, 5 CVL, 1 AV, 36 DD, 3 KE, 61 SS (29) 220 a/c
Russia ships: 3 BB, 3 BC, 1 CA, 1 CL, 3 CV, 2 CVL, 45 DD, 1 KE (11) 60 a/c
Spain ships: 1 CA, 1 CV, 4 CVL, 18 DD, 5 KE, 3 SS (5) 20 a/c

Germany base capacity: 1600 (Build area)
Great Britain base capacity: 1640 (Build area)
France base capacity: 1600 (Build area)
Russia base capacity: 10 (Build area)
Spain base capacity: 200 (Build area)

Possessions in area:
United Kingdom (Great Britain)
Germany (Germany)
Western France (France)
Northwestern Spain (Spain)
Ireland (Neutral)
Norway (Great Britain)

Move ships in area Close

[illegible]

To blockade a nation, you must have 110% of the enemy's naval strength in the build area of the enemy nation. Naval strength for this purpose is computed as a sum of all ships in the area, weighted by type. Some nations have their blockade strengths modified. For example, Britain has its blockade strength multiplied by 1.2 to account for its geographic position and its dominance in trade and finance. Russia has its blockade strength multiplied by 0.7 to reflect its geographic position.

If you are a blockading nation in a war, you will earn a number of extra VP per month as long as the blockade is kept up. A blockaded nation will also suffer a higher risk of the unrest level going up, which can ultimately lead to revolution and defeat.

A blockaded nation will not be able to move ships out of its build area, except as raiders, which are subject to possible interception as they break through the blockade.

The Baltic Sea is a special case for blockade purposes. Russia, which has home area in the Baltic Sea, can be blockaded from Northern Europe to simulate Russia's geographic position.

Tip: If you hover the mouse pointer over an area on the strategic map, you will see a summary of naval forces in the hint box. After the list of ship types for each nation is the total strength value in the area in parentheses. These are the values used to determine if a blockade exists. Note that to preserve fog of war, the values you see are before movement, ships might move during the turn and blockade is resolved after the move and any battles, but it should still be a pretty good indication

TRADE PROTECTION

When war breaks out each nation will be required to keep a number of ships on Trade protection duty. The number of ships required will be proportional to the fleet size and your economy, and modified by the strength of the enemy submarine force. Ships on

Trade protection are counted in one global pool, and their exact location is not important for fulfilling the overall requirement.

Ships assigned to trade protection will not normally be available for fleet operations. However, in non-home areas, any ship present might be used in battle.

DD and KE assigned to trade protection will be on ASW patrols or assigned as convoy escorts.

Cruisers assigned to trade protection will patrol against enemy raiders and provide heavy convoy escort.

If you do not satisfy the Trade protection requirement, there will be a larger chance of enemy submarines sinking merchant ships and your prestige may suffer. Stronger patrols than required will hamper the operations of enemy submarines and increase the chance of sinking them. Also, the crew quality of patrolling ships will have an effect, so while it is tempting to put your worst crews on obsolete ships on ASW patrol, it might not be an ideal solution.

Ships on Trade protection may be present in defensive coastal battles in the area where they are deployed, but will otherwise have a low chance of being involved in battles.

AMCs can be used on trade protection patrols and if you have invented Q-ships, they can surprise and sink enemy submarines.

RAIDERS

During war, you can send out ships as raiders to prey on enemy shipping. Raiders cannot be short range ships and are more effective if they have long range and relatively high speed. Generally, cruisers are ideal for this mission.

Raiders run a risk of being intercepted by enemy trade route patrols and brought to battle. Note that a raider winning a battle but suffering significant damage might be forced to scuttle itself or seek internment in a neutral port.

There is a slight risk that raiders run out of fuel, especially if not long range or of large size, or suffer a mechanical breakdown. This can force them to be interned in neutral countries until the war is over.

AMCs can be effective as raiders, despite relatively low speed, due to their ability to disguise themselves as normal merchantmen. A speed of at least 8 knots is required.

Large fast AMCs (fuel hungry liners) are however prone to running out of fuel. An AMC raider has a chance of deceiving and surprising an enemy intercepting ship, with the interception battle starting at short range and the intercepting ship surprised.

If you are blockaded, ships deployed as raiders may be engaged by enemy ships while breaking out to the trade routes.

Raiders have no effect if you are blockading the enemy (enemy merchant shipping is assumed to have been reduced to a minimum by the blockade).

ANTI-SUBMARINE AND MINE CAPABILITY

Each ship has a rating for its capabilities in these fields. However, if the ship has a capability in both of these fields, the effectiveness of each will be reduced, to reflect the fact that the ship has to divide its time between the various duties.

ASW WARFARE

Anti submarine weapons		Weight	Cost
DC throwers	4	16	16
ASW mortar/rockets	☒	12	12
Increased DC storage	☒	30	0
Enhanced sonar system	☒	150	100
Towed array sonar	☒	50	100
ASW value: 18			

Ship types capable of ASW warfare are DD, MS, CV and CVL. Later CL and AV will get ASW capabilities. Ships capable of ASW warfare have an ASW rating. The ASW rating of a ship depends on displacement and installed equipment. All DD and

small ships will automatically have a basic amount of depth charges when these are invented. Additional ASW equipment, like increased storage of depth charges, depth charge throwers, and ASW mortars, need to be added to the design and will increase the cost and weight of the ship.

The ASW value of CV and CVL will initially be low, but will increase with development of aerial depth charges and airborne radar.

AMC will have a limited ASW value during the early period (as Q-ships).

The ASW value will be used both in strategic turns and during tactical battles.

For the purposes of submarine attacks on merchant shipping, the numbers of ASW capable ships assigned to trade protection in the area the submarine operates will be used as a modifier. After attacking, there is a chance that the sub will be attacked by trade protection vessels. A random vessel in the area is selected, and its ASW rating is used as the basis for the attack.

For the purpose of submarine attacks on warships, the proportion of destroyers not on trade protection compared to heavier ships in the area will be used as a modifier.

Thus, you will have to balance the need for trade protection against the need to protect your heavy ships from submarines. It is easy to underestimate the need for ASW ships and find that you have a lack of them when war breaks out.

In battles, when a submarine is detected, the nearest ASW capable ship will try to attack the submarine, with success being based on its ASW value compared to the reliability rating of the submarine. Even if the submarine is not sunk, it will in most cases be driven to dive deep, and it will have a downtime before it can go to periscope depth and become active again.

MINE WARFARE



Mines are represented in three ways in RTW3.

There will be a defensive minefield around all bases. You will see those of the enemy but not your own. The purpose of these is to prevent enemy ships from operating unrealistically close to enemy bases. You cannot enter this area with your ships.

There will also be small minefields present in scenarios near enemy bases and coastal artillery positions. They will be more common the longer a war progresses. These minefields will be invisible until one of your ships hits a mine. Screening light ships will protect your heavy ships from these to an extent.

Before each battle, there will be a pre-battle round of mining and minesweeping, where ships with mining or minesweeping capabilities present in the area will take part. Results will be presented to the player, to illustrate the effectiveness of these often underappreciated but vital assets.

There is also operational mining carried out in the monthly turns. Ships equipped for mine laying will be assumed to carry out mining in the area they are deployed. Minelaying submarines will also contribute to operational mining. This mining is abstracted and will not show on the map, but will increase the risk of opposing ships falling victims to mines. Friendly minesweepers (DD or KE with minesweeping capability) will help mitigate the risk of striking mines.

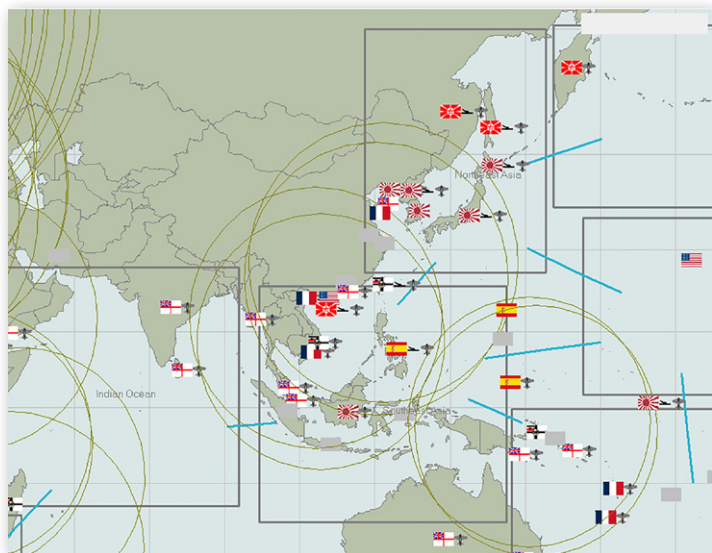
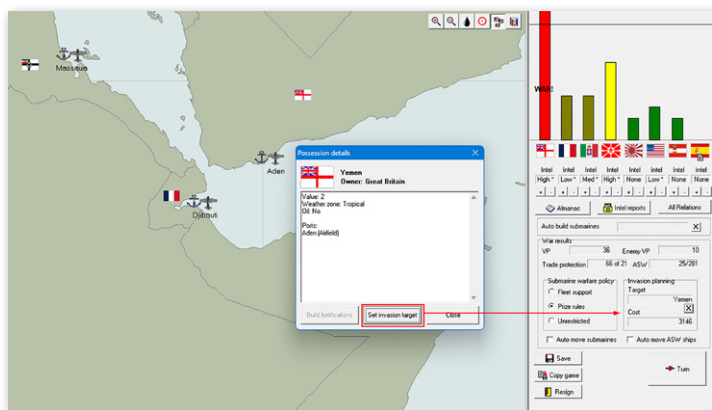
Ships equipped to lay mines will add to the mine value of the area, which will be used to determine the risk of enemy ships striking mines.

Ships equipped with minesweeping gear will contribute to a minesweeping value for each area. This value will be compared to enemy minelaying capabilities in the area to determine the risk of ships striking mines during operational movement and also influence the number of minefields during battles.

Similar to ASW, it is easy to underestimate the need for minesweepers and be caught unprepared.

INVASIONS AND AMPHIBIOUS OPERATIONS

Each nation has an invasion range, expressed in nautical miles. This is the range from friendly ports that you can conduct an invasion. It is measured from the nearest friendly



port to the nearest enemy port in the intended invasion target possession. If the range is greater than your invasion range, you cannot invade.

The invasion range is modified by advances in the tech area "Amphibious operations". It is also increased for global naval powers and for nations with surprise attack ability during the first year of a war. It is lowered for blockaded nations.

Your current invasion range is shown in the lower left of the main screen. By pressing the invasion range button on the world map, you can see invasion range circles from your bases.

To start an invasion, you select an enemy possession within your invasion range, either by clicking on the possession flag on the map or via the possessions list to the left. Once you have selected a target you should move naval forces into the area. For an invasion to take place you must have more strength in the area than the enemy, but there is also a random roll made each turn, so it may take a couple of months before the invasion is actually launched. The larger your naval superiority, the greater the chance of an invasion taking place.

Advances in amphibious capability will affect the chances of being able to carry out an invasion once you have selected an invasion target.

When the invasion takes place, you will have to fight a battle where you escort an invasion force of transports to the beaches. If you win the battle with more than marginal victory, the invasion has succeeded.

The enemy nations will of course also have the capability to invade your possessions, in which case you will have to fight a defensive invasion battle.

BLITZKRIEG

A nation that has a fascist, or to a lesser extent communist, regime can seize possessions in blitzkrieg invasions. Blitzkrieg invasions cannot take place before 1935. The chance of blitzkrieg invasions will be highest at the beginning of a war and then be reduced. As a player, you will be consulted on blitzkrieg attack plans by the General Staff. Note that even nations uninvolved in the current war might take the chance to make a blitzkrieg invasion of some coveted possession.



FUEL SHORTAGE

Nations without access to oil run a risk of suffering fuel shortages in wartime. The risk of fuel shortage occurring in a turn will increase the longer the duration of the war. If a nation is blockaded, the risk of fuel shortage will increase considerably.

In a turn with fuel shortage, there is a risk that ships will have ordered strategic moves cancelled or that they will be unable to take part in a battle. The larger the ship, the greater the risk of it being affected.

Ships using coal fuel will never be affected by fuel shortages.

WINNING OR LOSING A WAR

Battles and other events will gain victory points. When one side has a substantial advantage, there will be chance for some kind of peace agreement. Peace agreements might entail the loss or gain of territory, simulated in the game by gaining or losing possessions, which will in turn affect your base national economy. They might also involve handing over ships to the victor or restrictions on the shipbuilding of the losing nation.

Wars might be lost by revolution if the unrest level goes too high. Wars lost in this way will lead to unusually harsh conditions. Thus, if you notice that your unrest level is going up, you are well advised to consider reining in military expenditure and consider some kind of social reforms. If that doesn't help, a negotiated peace is a lot better than revolution.

YOUR FLEET IN BATTLE

USING THE MAP

The battle map shows your ships as coloured dots on higher zoom levels, and as ship graphics when you zoom in. The ships are shown in approximately double size, so ships might look more crowded together than they actually are.

Ships will be shown on the map and elsewhere in the game with the following prefixes denoting the ship type:

- BB** Dreadnought Battleship
- BC** Battlecruiser
- B** Pre-dreadnought Battleship
- CA** Armoured Cruiser/ Heavy cruiser
- CL** Light Cruiser
- DD** Destroyer
- KE** Corvette (used to represent a variety of small surface combatants without torpedoes)
- TR** Transport or merchant ship
- AMC** Armed Merchant Cruiser
- AV** Seaplane carrier
- SS** Submarine
- LT** Land target
- MTB** Motor torpedo boats (a squadron of three MTBs).



You can zoom the map by clicking the + or - buttons on the toolbar. You can also use the mouse wheel to zoom or left click and drag a box on the map to zoom in to a particular area of the map.

To scroll the map, right click and drag on the map, this effectively rotates the earth. You can also scroll the map by using the W-A-S-D keys.

Clicking the Zoom to force button will zoom the map so that you see all your ships, and any spotted enemy ships.

The lock button will make the map follow the currently selected division as it moves.

You can show various types of information like sighting ranges, visual or radar, gun ranges or fire lines for the selected division by pressing the appropriate buttons on the toolbar.

You can get details on friendly ships and divisions by right clicking on the ship or the division flag.

Info on enemy ships will be limited, depending on the sighting level. At first, you will only know it is a ship, then the ship might be identified as to type, and last its class might be identified. You can hover the mouse pointer over a ship to get additional info, and you can right click on an enemy ship to bring up information about the ship class from a simulated Jane's Fighting Ships, provided the class is identified.

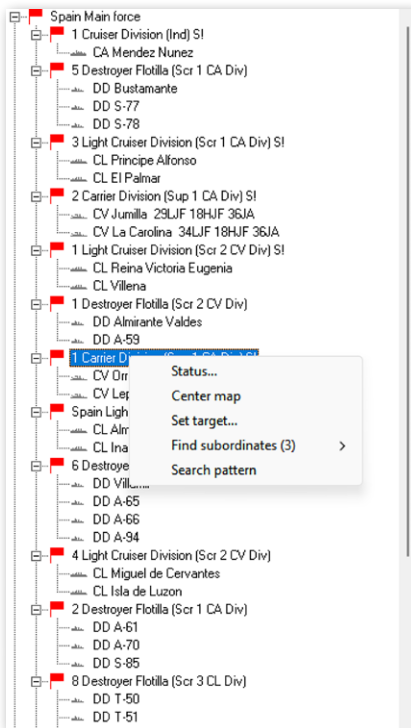
It is possible to show an inset with an enlarged view of the current ship by pressing the show enlarged view button on the toolbar. This can be very handy for checking if all guns are bearing, or if you just want to keep an eye on how your flagship looks. It can also be useful for taking a look at how the enemy ships look.

The ship displayed will shift when a popup is shown, but it is possible to lock the inset view to the current ship.

When the scenario is finished, you can use the track chart button on the toolbar to display a track chart of the action.

THE ORDER OF BATTLE TAB

The Order of battle tab to the left of the map lists all your ships and shows how they are organised. Each side will have one or more forces, which are divided into divisions



which contain the ships. You can expand the forces and divisions to see your ships.

As the ships are damaged, they will get stars beside their names in the tree, one star is light damage, two stars is medium damage and three stars is heavy damage. An (M) beside the name denotes that the ship is carrying mines.

Most objects in the OOB tree can be right clicked for further functionality, for example finding them on the map or seeing detailed info on forces, ships or divisions.

A force may be computer controlled, which means that there are friendly forces over which you have no control and do not know exactly where they

are. They will report sightings of enemy forces, but those reports will be fragmentary and subject to error. You cannot change the control of computer controlled forces, but you can change AI control of divisions in player controlled forces (see below)

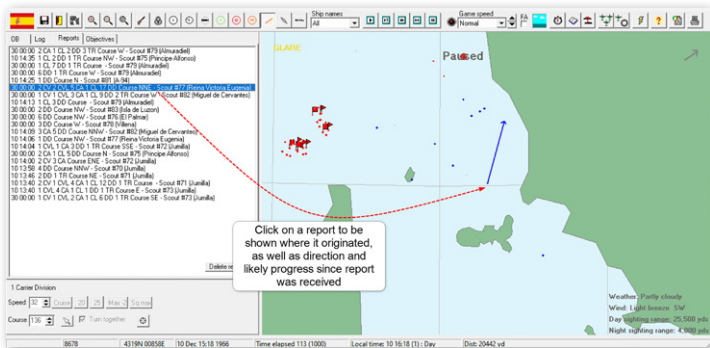
THE LOG



The log list on the log tab will list all important events taking place in the game. Events during the current turn will be in black, while events from the preceding turn will be shown in gray.

so it will keep the formatting with colors and bold lines for hits etc. In this way, you can peruse the log after the battle or even save it for future reference.

THE REPORTS TAB



The reports tab lists all reports on enemy activity that come from friendly non-player controlled forces or submarines. Click on a report to locate it on the map. Note that reports are randomized and subject to “fog of war”, both as regards location and enemy strength.

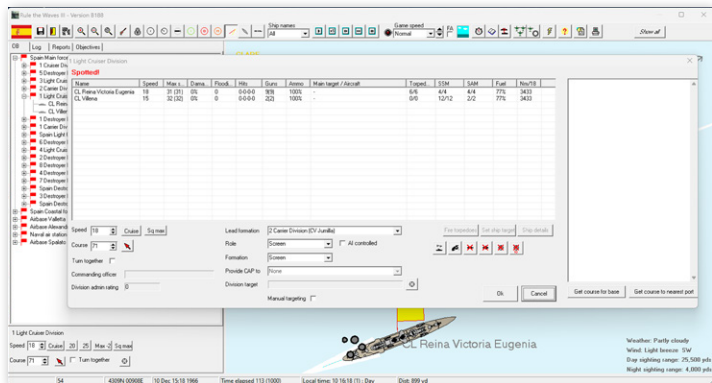
THE OBJECTIVES TAB

This lists all objectives for your side. Click on an objective to highlight its location on the map. See more on objectives under Victory and objectives.

MANOEUVRING YOUR SHIPS

Rule the Waves puts you in the place of the admiral. That means you will give orders to divisions of ships, not to single ships (unless they are alone in a division).

Divisions are shown on the map with flags. A square flag means a division under the control of the player, a triangular flag means the division is under AI control.



Tip: It can often be preferable to have smaller ships, destroyers for example, under AI control. In a big battle, that will let you focus your attention on the big ships. It will also insure against a division doing something stupid just because you have forgotten to give it orders. You can switch on and off AI control for divisions in your force at any time during play, subject to the realism level you have chosen (see preferences section).

There are a couple of ways to give orders to a division. You can right click on the division flag, which will bring up the division dialog. The division dialog will show a list of the ships in the division, and their details. For further details on a ship, double click on its listing.

You can set the speed and course for the division. Clicking the arrow button by the course value will let you pick a direction from the map. The map will be shown and the cursor will be a cross. Left click on the map and the division will be given a course to the point you clicked.

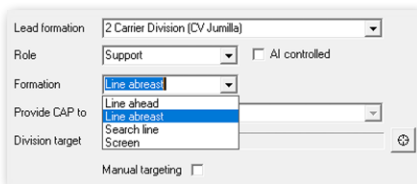
There is also a quick way to give orders by using the panel in the lower left corner of the main screen. If a division is selected, you can simply enter a course or a speed, or press the arrow button to pick a course from the map.

Lastly, you can give a course order to the currently selected division by holding down shift and clicking on the map. By holding down Ctrl and clicking on the map, you can give the

currently selected orders to move to that point and the game will pause when the division reaches that point (or when something happens which would cause the game to pause).

You can switch on and off AI control for a division by clicking the AI control checkbox (possibly restricted depending on realism level).

FORMATIONS



The formation of the division will affect how the ships deploy. Line ahead means all ships will follow the division flagship. Very common formation, especially for heavier ships, as it maximises

firepower and will avoid putting ships in the line of fire of each other.

Line abreast means the ships will form up on the flagship in a line abreast. Usually used when avoiding torpedo attacks or when you want to withdraw, or for manoeuvring cruiser forces.

Search line is a specialized formation, like line abreast but with much larger intervals between ships. Typically used by a lone squadron trying to locate the enemy.

Screen means the ships will spread out to cover an arc in front of the lead division. Used by destroyers or cruisers screening heavier ships.



Formations other than line ahead have a risk of ships getting separated from the division, especially at night or in poor visibility. Heavy ships (heavier than CL) in line abreast will also tend to have their formation disordered after a while.

ROLES

You can also select the role for the division. This will affect how the AI will handle the division:

The screenshot shows a configuration window for a division. The 'Lead formation' dropdown is set to '2 Carrier Division (CV Jumilla)'. The 'Role' dropdown is open, showing options: 'Independent', 'Core', 'Support', 'Scout', 'Screen' (highlighted), and 'Patrol'. To the right of the 'Role' dropdown is a checked checkbox labeled 'AI controlled'. Below the 'Role' dropdown is a 'Formation' dropdown with options: 'Independent', 'Core', 'Support', 'Scout', and 'Screen'. Below the 'Formation' dropdown is a 'Provide CAP to' dropdown. Below that is a 'Division target' dropdown with options: 'Screen' and 'Patrol'. At the bottom left is a 'Manual targeting' checkbox, which is unchecked. At the bottom right is a gear icon for settings.

Independent divisions will not care about other friendly divisions, but they will manoeuvre in the general direction of the force flagship. The force flagship itself is always independent.

Core divisions will follow their lead division. Typically used for battleship divisions in the main line of battle.

Support divisions will follow some distance behind the supported division or on the disengaged side and endeavour to stay out of the line of fire. Typically used for destroyers supporting a battleship or cruiser division. Supporting destroyers will launch torpedo attacks or counterattacks on enemy destroyers when they deem it appropriate.

Scout divisions will place themselves a considerable distance in front of their lead division, and spread out their ships. Typically used for cruisers scouting for a heavier force.

Screen divisions will form a screen a short distance in front of the lead division. Typically used for light cruisers or destroyers screening heavier ships.

Patrol divisions will patrol around their objective. Used for patrolling coastal forces etc, usually not under player control. However, it might be useful to put a player controlled division on patrol if you want it to loiter in an area. Consider using it for aircraft carriers that you want to stay out of the way of the enemy, or if you want a force to guard an area.

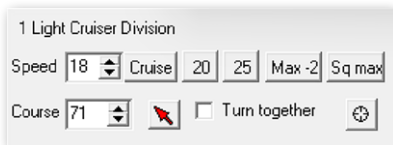
Note that all roles are not available to all ship types, to reflect historical practice. For example, you cannot place a battleship division on scout. Neither can you place a destroyer division on scout unless all its ships are larger than 1500 tons. This is to reflect the historical limitations on early destroyers. WW1 destroyers were small and had poor means of navigation and communication, which precluded their use in scouting. They can be put on screen instead.

Lead division is the division that the above roles relate too. All divisions will have a lead division except independent divisions.

The turn together check box makes it possible to order a division in line ahead to turn together if you for example want to turn away quickly from the enemy or a torpedo attack or similar.

The Division dialog can also be accessed by right clicking on a division in the OOB tree and selecting status from the pop-up menu. It is also possible to centre the map on a division or ship if you cannot find them.

SPEED



There is a temptation to run ships as fast as they can go in tactical battles. You should be aware that there are some drawbacks to running ships at full speed. In the early years

especially, full speed is something that should be saved until it is really necessary.

After a period at full speed, ships will get 'Grates fouled', which will reduce the speed of the ship by one knot. Grates fouled will escalate to 'Stokers exhausted' after an additional period, with a 2 knot speed loss. Coal fired ships are more sensitive to this than oil fired ships, and ships with VTE engines even more so.

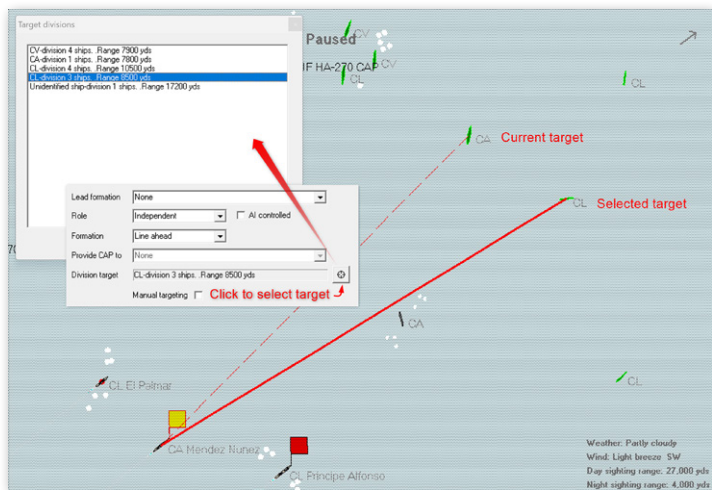
If you lower speed to cruise speed or below, your crew will eventually have cleaned the grates and gotten the engines up to full capacity, but that will take longer than incurring the penalty.

Running at full speed for long periods can also result in engine breakdowns, especially for ships with engines that prioritize speed.

In combat, ships at full speed and above 25 knots will suffer vibrations that give a gunnery penalty, and a division at full speed will leave no margin for ships to catch up, and will often lead to spread out formations. It is generally advisable to keep division speed to a couple of knots below maximum speed.

TARGETING

Your digital gunnery officers will normally handle targeting. However, unless you are playing at Admiral's mode you can set targets yourself for divisions that are not AI-controlled.



If you set a target manually for a division or ship on automatic targeting, it will shoot at that target until the target is out of range or cannot be seen. It will then revert to automatic mode. Note that this might mean that a more important target will be ignored. If you give manual targeting orders, you must also pay constant attention to what your ships are firing at.

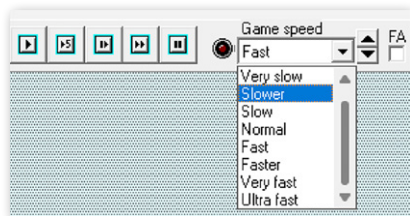
On manual mode, it is entirely up to the player to select targets. If a target is out of range or not visible, the ship will simply stop shooting. This means that constant player supervision is recommended if you put a division on manual targeting.

If you are playing at Rear Admiral's or Captain's mode, you can also order a division to hold fire for 10 minutes or indefinitely, and to abstain from launching torpedoes. Note that ships given hold fire orders might end up being pummelled by the enemy without shooting back, so as with manual targeting, you will have to pay careful attention to what's happening,

Secondary batteries and torpedoes will always have automatic targeting. Occasionally, you might see secondary batteries not firing at targets well in range. The reason is most often that there is already a substantial number of ships firing at the target, and further

guns firing will just complicate observation and lower accuracy, so your digital gunnery officer has decided to hold fire.

PLAYING A TURN



The game moves in one minute turns, though when the game runs, the turns will flow after one another to give an impression of continuous play. The ships are animated to create a smooth movement, but everything

actually happens in the minute turns. The turn button will play a single one minute turn. Run 5 will run the game 5 minutes, and just Run will run the game until something happens which will cause the game to pause, or turn or pause is pressed (or the P key). The game can be run for a variable number of minutes by pressing the number keys, i.e. pressing 7 will run the game for 7 minutes.

The > key is a useful shortcut. It will run the game for five minutes if in contact, or one hour if not in contact with the enemy, and pause if something important happens.

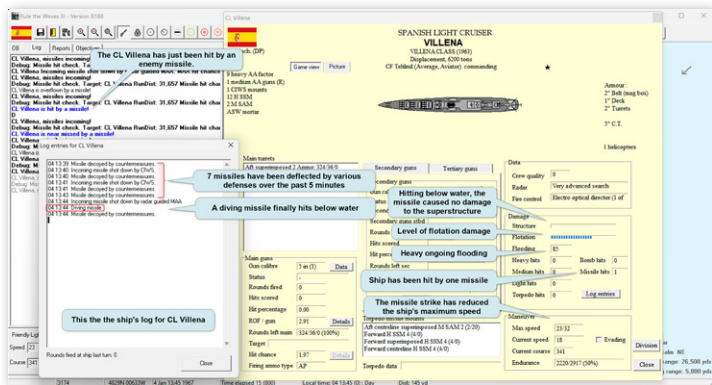
The events that will pause the game automatically are configurable under preferences.

You can adjust the game speed with the game speed control on the toolbar. Speed varies from ultra-fast, which will have game minutes passing by at the rate of several minutes per real life second, down to real time. Normal speed equals roughly one game minute per real life second (varying slightly with computer performance and the number of ships engaged).

If you are playing at slow speeds and press P to pause the game, it will take some time for the game to pause until the current minute is played out. In the meantime, the text "Pause pending" will be shown in the display.

The game will revert to normal if on a faster setting whenever an enemy ship is sighted. You can thus safely up the speed when no enemy is in sight.

HITS AND DAMAGE



Hits will be shown in the event log. Hits on your own ships will be detailed as to location and the part of armour hit. An asterisk * after the hit denotes that the hit penetrated armour. Hits that do not penetrate armour will cause no or slight damage.

Armour types are:

B Belt: The main belt armour

BU Upper belt: Upper strakes of belt armour or armour protecting the upper part of the hull.

BE Belt extended: Armour or armour protecting the ends of the ship as well as boiler uptakes.

D Deck: The main armour deck of the ship.

DE Deck extended: Corresponds to BE above.

T Turret: Main gun turret.

TT Turret top: Roof of main gun turret.

SEC Secondary gun armour.

CT Conning tower.

The range at which the ship is hit will influence whether belt or deck armour is hit, with deck hits being more frequent at longer ranges.

Ships take damage either as structure damage or flotation damage. Flotation damage will affect the speed of the ship and will eventually sink the ship. Structure damage is not directly dangerous to the ship, but extensive structure damage will affect the general performance of the ship, for example, gunnery, rate of fire and damage control.

In addition all individual main turrets can take damage. Turrets can either be destroyed, which is permanent, or disabled, which might be fixed by the crew. Even non penetrating hits can disable a turret, the chance being dependent on the shell size. Turrets can also jam from mechanical failures which are similar in effect to being disabled. A penetrating turret hit might trigger an ammunition flash fire, which might either destroy the ship or burn out two turrets. The risk of this happening is dependent on nationality modifiers, which vary over time.

Engine room hits will in most cases affect the speed of the ship.

Waterline hits or **torpedo** hits can cause progressive flooding, which will gradually cause flotation damage. Damage control will try to limit flooding. The chance of reducing flooding will increase if the ship is at lower speed. Going at high speed with extensive flooding can risk the ship. 10 knots is usually "safe" speed when it comes to limiting flooding.

When ships sink, they will not just turn turtle and disappear. A ship will be in sinking state for up to several hours. Sinking ships might be targeted by your gunnery officers, and there is no way you can know if an enemy ship is sinking or just badly damaged. This is to recreate the conditions under which real admirals had to make decisions.

In the ship details window, you can get a list of all events that affected the ship, including the hits that ship has received, with hit location and if it is a critical hit etc. If a hit has a ## mark, it means the hit was made while the ship was already sinking. During play, you will not see the firing ship name. After the scenario is over, you can see exactly which ship or air unit scored which hit.

When a ship is sunk and the enemy is not too near and friendly light ships are close, you will get a question if you want to detach a ship to pick up survivors. Picking up survivors earns victory points, regardless of which side they are from. Sea battles are supposed to be chivalrous affairs and besides, enemy prisoners are good for propaganda.

HIT LOCATIONS

- ▲ **Near miss:** Might cause flotation damage to un-armoured ships or knock out guns on light ships or un-armoured secondary or tertiary guns.
- ▲ **Turret:** Can destroy or disable the turret. A penetrating turret hit can cause a catastrophic flash fire.
- ▲ **Hull hit:** Will cause flotation damage
- ▲ **Engine room:** Will affect speed and might cause flotation damage
- ▲ **Superstructure:** Causes superstructure damage and might damage un-armoured secondary or tertiary guns.
- ▲ **Torpedo tubes:** Will knock out torpedo tubes and there is a chance of an explosion which might cause further damage. Hits on underwater torpedo tubes might cause bad flooding.
- ▲ **Missile launchers:** Will knock out the launcher and there is a chance of secondary explosions which might cause further damage.
- ▲ **Secondary battery:** Can destroy secondary guns
- ▲ **Critical hits:** Include rudder damage, catastrophic machinery damage, magazine hits, fire control, conning tower and bridge hits, electric system damage and bad waterline hits. Might also cause any mines carried to explode, with catastrophic effects.

Most hits have a possibility of causing some additional superstructure damage



Some hits by AP shells on un-armoured locations can be pass-through hits that don't explode. Such hits will cause minimal damage.

Torpedo hits will cause massive flotation damage and might cause progressive flooding. They might also damage machinery or knock out turrets.

Note that the term "superstructure" is rather loosely applied here. Superstructure damage can really be seen as damage to areas above the main armour deck.

FIRES

As ships accumulate damage, fires may break out. Fires are started by hits, with the chance being larger for HE shells. The risk of fires varies according to ship type, with Carriers, TR, AMC, AV, and B being the ship types most susceptible to fires. Initially, fires don't do much damage, they may either spread or be successfully fought by damage control. Large fires will eat away at the superstructure points of the ship, and might lead to other damage control being hindered or rate of fire affected, or even the ship stopping firing as gun crews and damage control personnel concentrate on fighting the fire. Fire level will be indicated in the ship details window, and also noted in the map pop-ups.

A ship on fire will produce more smoke, contributing more to obscuring lines of fire. A ship on fire will be easier to spot (but not identify) at night.

Fires will be more common during the earlier period of the game, and the risk of fire will also be affected by damage control research. In the early period of the game, it can be a viable doctrine choice to fire HE shells at heavy ships to cause fires, as the penetration of AP shells in this period is rather low.

GUNNERY

A lot of factors affect the gunnery of the ships in the simulation. Gunnery accuracy depends on:

- ▲ Technology (*research level in fire control*)
- ▲ Crew quality
- ▲ The type of fire control installed in the ship

- ▲ Firing ship turning
- ▲ Target ship turning
- ▲ Previous salvo on target
- ▲ Sea state
- ▲ Smoke interference
- ▲ Damage to firing ship
- ▲ Range
- ▲ More than one ship firing on the target
- ▲ Target evading
- ▲ Twilight (*firing eastwards in dusk or westwards at dawn is penalised*)
- ▲ Glare (*firing within 45 degrees of the sun within one hour of sunset or sunrise, provided weather is clear or partly cloudy*).

To sum it up, to obtain the best result from your ships gunnery, keep a straight course with as many guns as possible bearing, and make sure your smoke is not blowing towards the enemy, especially if you have coal fired ships. Of course, keeping a straight course may make you a better target for enemy torpedoes, so you must keep a balance.

Rate of fire (ROF) is dependent on:

- ▲ Technology (*research level in gun mountings*)
- ▲ Crew quality
- ▲ Firing ship turning
- ▲ Sea state
- ▲ Smoke interference (*smoke will not affect loading of guns, but it will affect timely correction of fire*)
- ▲ Damage to firing ship
- ▲ Range
- ▲ Visibility

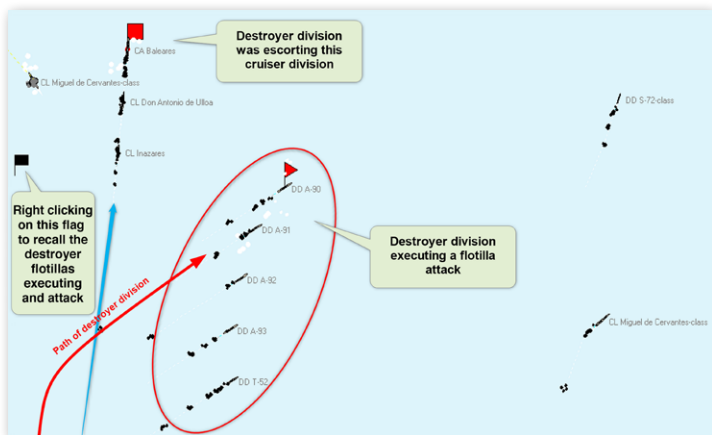
Ships low on ammo will fire more slowly and be more selective about targets to conserve ammo. Your digital fire control officers will also use ammo for heavy guns sparingly when firing at light ships at long range.



Ships firing at a new target will be ranging and fire more slowly and with less accuracy until they have found the range.

You can see detail on all factors affecting accuracy and rate of fire in the ship details screen during battle.

TORPEDOES

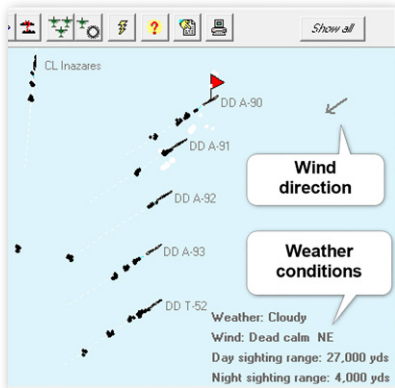


Torpedo firing is normally automated in the game, and torpedoes will be fired by your virtual torpedo officers when a suitable target is in range. Note that underwater torpedo tubes cannot be fired at a speed higher than 25 knots.

At captain's mode (see Preferences below) torpedoes can be fired manually.

Torpedoes can do severe damage to your ships, and you should take care not to follow a straight course for too long when in torpedo range of the enemy. Note also that enemy ships ahead of you and to the beam will have much better torpedo solutions than ships that are slightly behind you.

WEATHER AND VISIBILITY



Visibility will change with the weather. The weather has two parameters that are to a large extent interdependent: sea state and precipitation. These will be shown in the lower right hand corner of the map. The precipitation level will also be shown as a graphic on the toolbar.

Sea state really expresses the wind force, and is given as in the Beaufort scale. Stormy weather will

lower visibility and affect the gunnery of ships, with small ships suffering the most. It might also cause badly damaged ships to founder. Torpedo accuracy and reliability will also be affected by heavy seas. Heavy seas will also limit the speeds of ships, again with lighter ships suffering most.

Precipitation level simulates fog, mist, rain and snow. Mist and rain/snow will lower visibility ranges, sometimes severely.

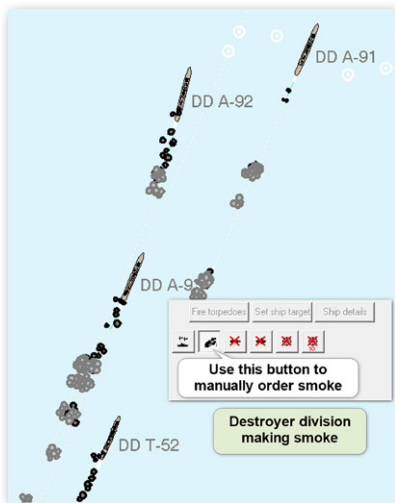
Stormy weather will make fog much less likely, while it will increase the risk of rain.

SMOKE

Smoke had a profound effect on visibility in naval battles during the first half of the 20th century. Coal fired ships emit copious amounts of smoke at full power, but oil fired ships also emit smoke that can interfere with visibility. Smoke is simulated in the game in several ways.

Funnel smoke will degrade gunnery when firing through it, regardless of which ship the smoke is coming from, except normal funnel smoke from the target ship.

Destroyers and light cruisers can lay smokescreens. A smokescreen can be laid for a maximum of 5 minutes. After that, a ship has to wait 20 minutes before it can lay



a smokescreen again. (Extensive smoke generation will foul the boilers). Smokescreens will vary in thickness, and are mostly not fully opaque, but will affect gunnery through it to a larger extent than normal funnel smoke. A smokescreen will affect all gunfire through it, even against the ship laying the smokescreen.

Smoke floats can be deployed by light cruisers in nations having them (through research). Smoke floats will both block line of sight in their densest area, and cause

similar effects to funnel smoke. Smoke floats can be ordered manually in captain's mode, and will be deployed when the carrying ships deem it necessary on other realism levels, generally when the carrying ships or their lead division is disengaging. Each light cruiser will have between 3 and 5 smoke floats. Later these will be superseded by smoke generators.

Accumulated smoke from many coal fired ships moving at high speed and firing guns in a confined area will eventually lower the sighting range for all ships in the area.

Smoke will tend to disperse faster and cause less visibility effect in stronger winds.

MOTOR TORPEDO BOATS (MTB)

If a side has MTB units in an area where a battle takes place, MTB squadrons will appear in coastal areas at night. They are always AI controlled, but will move around and attack enemy ships that they find. They will automatically withdraw during daytime.

In the later part of the game, when anti-ship missiles are developed, MTBs will be replaced by missile boats.

MINEFIELDS IN BATTLE

Minefields can be of two types, “friendly” minefields and suspected enemy minefields. Ships will automatically attempt to avoid both types. In addition, there might be unknown enemy minefields which will come as an unpleasant surprise.

There is a chance that a mine strike will be reported as a torpedo attack, as there was historically often doubt about if the ship had been hit by a torpedo or a mine.

See also Mine warfare.

LAND TARGETS

Land targets are similar to ships except that they cannot move. They are typically either unarmed bombardment targets or coastal batteries. They will be targeted just as if they were ships (though ships will not fire torpedoes at them). Some scenarios will have destruction of land targets as an objective.

Airfields are also land targets, and can be targeted by bombardments. Land targets can often be spotted at longer ranges than visibility range. This simulates that these are usually area targets, and their general location is known beforehand.

SUBMARINES IN BATTLE

Submarines have a patrol area and can attack ships in that area. They will also report sightings of enemy ships, but usually with a substantial delay, as the sub will most likely be forced to dive and stay submerged for some time after an encounter.

Nearby destroyers will protect larger ships from submarine attack. They will make it harder for the sub to attack and more likely that the sub will be spotted before it can attack. There is a possibility that a surface ship with an ASW capability will sink the submarine.

Submarine operations in the early 20th century were severely affected by weather. If the weather is too calm, the submarine will be spotted more easily, and attacks will be harder. If the seas state is too violent the sub cannot keep attack depth and observation will be difficult. A sea state from 2 to 5 is optimal for submarines.

Early submarines were notoriously unreliable and hard to control and integrate into other naval operations. To reflect this, each submarine has a reliability rating that roughly determines how large a percentage of time the submarine will be able to scan for targets.

There were frequent examples of sightings of imaginary submarines and torpedo tracks that sometimes had a profound impact on operations. This is simulated in the game by sightings of non-existent submarines.

It might be a good idea to stay clear of areas where friendly submarines are operating with your surface ships, as there is a risk of mistaken identity with potentially embarrassing results.



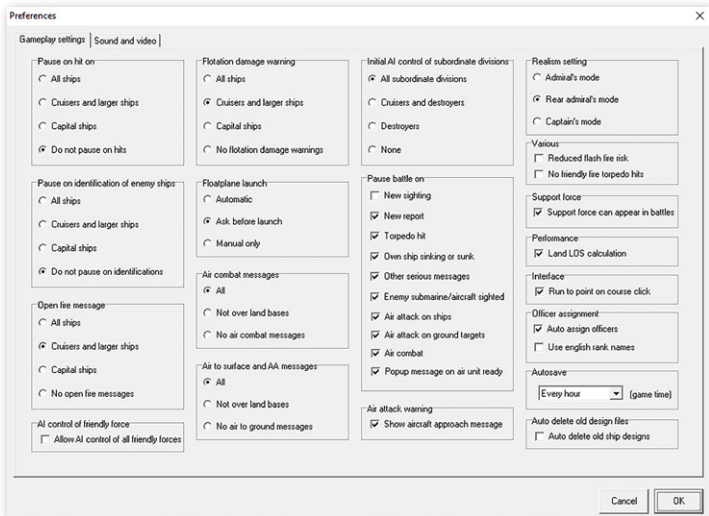
PREFERENCES IN TACTICAL BATTLE

There are user settings for the level of detail in most reports, as well as what is shown on the game map. It is also possible to select what events will pause the game.

In addition, the player can choose between one of three realism levels.

ADMIRAL'S MODE

The ultimate in realism. The player can only give orders to the lead divisions of each force. Other divisions can be controlled only by selecting their role. No manual targeting is allowed. If you want to experience the real limitations of WW1 and WW2 fleet command, this is how you should play.



REAR ADMIRAL'S MODE

The player can put any divisions in his force on manual or AI control as long as they are within sight of the force flagship. The player can give target orders to divisions. Victory points will be reduced by 10%.

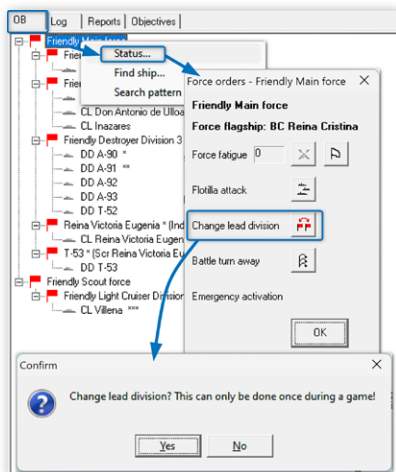
CAPTAIN'S MODE

The player can put any divisions in his force on manual or AI control. The player can give target orders to divisions or ships. Victory points will be reduced by 20%.

Note that many battles have friendly forces that are not under player control. This is not affected by the realism setting.

FORCE ORDERS

Especially under Admiral's mode, force orders offer a possibility to influence your whole force. Right click a force in the OOB tree to open the force orders dialog.



Flotilla attack: This orders a general destroyer attack. Might be used to finish off a crippled enemy force or as a desperate move to cover a withdrawal. Note that the attack might take a few minutes to develop, as it takes time for orders to transmit and commanders to react.

To remind you that a flotilla attack order is in force, a black flag will be shown on the left in the main window. Right clicking the Flotilla attack flag in the main map window will give an opportunity to recall all flotilla attack orders.

Designer's Note: A black flag was hoisted in some navies to signal that a ship was performing a torpedo run.

Rally: This will raise force morale, making a battered force more likely to fight it out. Note that the effect will be temporary if your force has suffered heavy casualties or is low on ammo.

Disengage: This will lower force morale, causing subordinate divisions to tend to increase range or withdraw.

Change Lead division: You can also change the force lead division. This can only be done once in a scenario, to prevent misuse. It can be useful if playing on admiral's mode and you need to change direction of your whole force, or if your battle fleet is deployed in cruising formation and you want to deploy on the opposite column to the lead division. This order is likely to cause quite a lot of confusion in your fleet if it is used to reverse course of the battle line.

Battle Turn Away: If you have developed it, you can use Battle Turn Away, which works somewhat like changing force lead division, except that it will also change the order of ships within the divisions, with each ship doing a 180 degree turn. This manoeuvre is optimised to reverse course of the battle line. Even so, it is still liable to cause some confusion.



SCENARIO VICTORY AND OBJECTIVES

The basic victory levels are dependent on points for damaging and sinking enemy ships. Sinking a ship will earn substantially more points than just damaging it.

The player is given a number of objectives for the scenario that give bonus points when completed. These are usually to sink a number of enemy ships. Important: The ships must be sunk within 100 nautical miles of the objective to count. Also, ships sunk must be at least 600 tons to count. This means that sinking a lowly patrol boat or corvette will not trigger the conditions.

To find the location of an objective, click on it in the objective list and the objective location will be shown on the map.

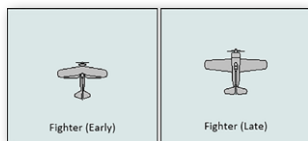
Note: The sections below apply to aircraft operations and radar. Aircraft will only start to have an impact in the game from circa 1916, so if you are a first time player you can stop reading here and revisit the manual when your game reaches the mid-1910s. Radar will only appear in the late 1930s.

AIRCRAFT OPERATIONS

AIRCRAFT AND AIRCRAFT ROLES

There are several different aircraft roles in the game.

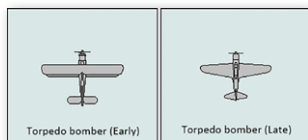
FIGHTERS (F)



Effective in countering other aircraft, as combat air patrol (CAP) or as escorts. Later models can carry bombs, and with improved glide bombing become reasonably accurate at bombing. With development of rockets they

become even more useful in attacks on ships and ground targets.

TORPEDO BOMBERS (TB)



Can be carrier based or land based. Torpedo bombers are the earliest kind of attack aircraft that appear in the game. They can drop torpedoes or bombs. Torpedoes are more effective in sinking ships than bombs.