

CLAD in IRON

Sakhalin 1904



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System Requirements

Before installation, verify that your computer meets the minimal system requirements. Close all other programs prior to installing. You must have DirectX 9.0c installed. After installation you can start the game from the windows "Start" menu.

WARNING: Game stability or performance on notebooks and laptops has not been tested.

Minimal:

OS: Windows XP SP2 / Vista / 7, DirectX 9.0C
The processor: Pentium 4 / Athlon 1.1 GHz or better
RAM: 2 GB
Videocard: 512 MB GeForce 6600 / RADEON 9600 or better
Sound card: compatible with DirectX 16-bit sound PCI a card

Recommended:

OS: Windows XP SP2 / Vista / 7, DirectX 9.0C
The processor: Pentium 4 / Athlon 2,4 GHz or better
RAM: 4GB or above
Videocard: 1024 MB GeForce 7600 / RADEON x1600 or better
Sound card: compatible with DirectX 16-bit sound PCI a card

Camera Management

Camera rotation: Move the mouse left or right while holding the right mouse button. This can also be accomplished using the "Home" and "End" keys on the keyboard.

Camera height: move the mouse up or down while holding the right mouse button. This can also be accomplished using the "PgUp" and "PgDn" keys on the keyboard.

Camera zoom: scroll the mouse wheel up or down or use the "+" and "-" keys on the keyboard.

Hotkeys

Click to real time mode.	(Key - Z)	
Click to time acceleration.	(Key - X)	
Click to pause.	(Key - C)	
The units group number - I	(Key - 1)	
The units group number - II	(Key - 2)	
Menu: save, load, exit game	(Key - Esc)	C:\Users\Public\Documents\Clad in Iron (for Windows Vista, 7, 8, 10)
Screenshot	(Key - F5)	C:\Users\Public\Documents\Clad in Iron (for Windows Vista, 7, 8, 10)
Hide game user interface	(Key - F4)	

Support Service

For technical support relating to installation, start up, or game crash issues contact us: support@totemgames.ru

Before contacting us, please ensure that your computer meets the minimal system requirements. Additionally, check to make sure you have the latest version of your computer's video drivers and that DirectX 9.0c is installed.

When sending an email requesting technical support, attach your computers diagnostic file and game log file. To get the files, follow the instructions below:

1. Find and start a file "Info.exe" in a game folder (example ..\Steam\steamapps\common\Clad in Iron\Info.exe).
2. Follow program instructions.
3. Send both files (Totem3Log.log and DxDiag.txt) to the support@totemgames.ru or totemgames.ru@gmail.com

This game is about naval actions during of conflict between two hostile sides. The game takes place during the Russo-Japanese War was fought between the Russian Empire and the Empire of Japan over rival imperial ambitions in Manchuria and Korea. Players can take control of either the Russia or the Japan.

How to Play in Strategic Mode

Strategic Map

The strategic mode of the game is one of two modes in which all the game events occur. In this mode, you need to control the movements of warships and infantry units on a strategic map. In addition, in strategic mode, the player manages the construction and repair of new units and buildings (if this option is provided in the game scenario). The main task of the player in this mode is to destroy as many enemy units as possible and capture as many of his harbors as possible.

The strategic map is based on a geographical map. The map contains groups of slots: harbors with blockade stations and supply routes (cruising zones). Slots can hold ships or structures. You can move your warships from one slot to another but can't move structures.



Scheme of Strategic Map

- | | |
|--------------------------------|-----------------|
| ① Russian Harbor (Golden) | ③ Supply Route |
| ② Japanese Harbor (Grey Color) | ④ Cruising Zone |

Harbors

Harbors are the keys to victory. Any harbor in game represents Victory Points. By the end of the game, you need to control as many harbors as possible. Each harbor gives you Victory Points and increases your Success Rate. Complete victory is 100% Success Rate. In the game, you play on strategic and tactical maps. Gameplay on the strategic map is in turned-based mode while gameplay on the tactical map is in real time. One turn on strategic map lasts one month. You can see all turns and current one in the right side of info panel in top of a screen. Game time on tactical map may last up to 3 hours.

Harbors are named the same as their cities. For example, Petropavlovsk harbor belongs territorially to Petropavlovsk City.

Harbors are the most important elements of the strategic map. The main purpose of the game is to control all harbors. Harbors belong to only one side of conflict but each side can take control of a harbor. This is mean that Japan can take control of Petropavlovsk but this harbor still belongs to the Russia. The color of a harbor's name shows which side controls the harbor. More information about harbor you can get from pop-up dialog if you place mouse above harbor symbol (picture Harbors Structures, №2) on strategic map.

If a harbor belongs to a player and the player controls it, then the harbor earns supply for the player every turn. Each harbor earns different amounts of supply depending on city population. Captured harbors don't earn supply. You can see harbor income in the pop-up dialog of fort.

Some harbors in the game can't be controlled by the hostile side. Only harbors with a pair of slots for both sides can be taken under control. The player must destroy all enemy warships and infantry units inside the harbor to control it. At least two turns are required for this. To control a harbor, it is not necessary to keep warships inside, just don't let hostile infantry units stay more than two turns inside the harbor.

As was said, the color of harbor symbol of control (picture Harbors Structures, №1) shows who belongs a harbor. The color of harbor symbol (color circle) shows who controls a harbor. The color of the symbol changes when control changes. When this happens, all structures and warships in docks have to be destroyed. The controlling side can't construct any structures or ships in this harbor. For example, Japan can't construct coastal batteries or repair ships in Petropavlovsk.

If a harbor belongs to one side but it is under control of another, the original owner can't construct any structures or ships inside this harbor. For example, Russia can't begin construction of coastal batteries in Petropavlovsk if Japan controls it.



- ❶ blockade station (blockade)
- ❷ infantry defense area

- ❸ naval defense area
- ❹ control symbol, harbor info & income

- ❺ harbor area (attack)

Slots for Warships

There are two pairs of slots in harbors, blockade stations and supply routes for each side. For example, there are two slots at some point of a supply route: one for Japan (grey symbols) and one for Russia (gold symbols).

To move a warship from one slot (make sure it is a warship slot) to another you need to:

1. Place the mouse cursor above the warship.
2. Click the left mouse button.
3. Make sure you see the selection symbol above the ship.
4. Place the mouse cursor above the slot where you want to move the ship.
5. Click the left mouse button to move the warship.

Consider the seaworthiness when you are moving your warship. Some warships can't move in high seas. To get information about seaworthiness of a warship or slot, you need to place the mouse cursor above it and wait for a pop-up info dialog.

Harbor (Anchorage) - all slots within harbors, for all types of warships.

High Seas (Cruise) - all slots on the high seas, for seagoing ships only

3800t	armoured sloop	Japan
3200t	armed merchant	Russia
1350t	1st class gunboat	Japan
960t	armed transport	Russia
650t	army transport	Russia
620t	2nd class gunboat	Japan

Coastal (Blockade, Harbor) - all slots near the coast

410t	torpedo boat destroyer	Russia
410t	torpedo boat destroyer	Japan
120t	1st class torpedo boat	Russia
120t	1st class torpedo boat	Japan
25t	3rd class torpedo boat	Russia

When the turn ends, the player's opponent (computer) makes his own moves. As a result, warships of each side can be in one area what lead to battle. The player can control his warships in the battle manually on the tactical map in real time mode or can choose auto battle mode on the strategic map. In the last case, battle consists of rounds; each round is equal to 5 minutes of real time. Warships fire in column-ahead formations. If one warship in line is destroyed or runs (turned away from line), the next warship takes its place in the formation but not in the slot. In tactical real time mode, warships in columns stay in the same order as on strategic map.

In the blockade area, the auto battle ends when all warships of one or both sides are damaged by more than 50%. Inside the harbor, the auto battle ends with the destruction of all the warships of one side.

Slots for Infantry Units

One pair of infantry slots in harbors for each side of a conflict: one group for Japan and one group for Russia.

Before moving infantry between ports make sure that in the harbor of departure and in the harbor of destination is not the enemy ship. At the same time, ensure that the port of departure and the port of destination are not blocked by enemy ships.

Amphibian Infantry unit as the Marines could land in enemy harbor area. More information about infantry you can get from pop-up dialog if you place mouse above unit.

To move infantry unit from one slot (make sure it is infantry slot) to another you need to do next:

1. place mouse cursor above infantry unite.
2. click left mouse button.
3. make sure you see selection symbol above unit.
4. place mouse cursor above slot you want to move unit.
5. click left mouse button to move unit.

When the turn ends player's opponent (computer) makes his own moves. In results of it infantry units of each side can be in one area what lead to battle. The player cannot control his infantry units in the battle manually (auto battle mode on strategic map only). Battle consist of rounds; each round is equal to 2 minutes of real time. Infantry units are shooting each other in simulation of battle line fight. If one unit in line is defeat or retreat (turned away from battle line) next infantry unit takes his place in fight but not in slot. The effectiveness of the infantry unit in combat is determined by the number of soldiers (Strength) and the Experience of the unit.



Scheme of Warship and Infantry Units Movement

An enemy ship in any of the red-marked slot prevents with the movement of your unit.
Coast batteries also interfere with the movement of infantry.

Slots for Structures

In harbors, you can see slots for structures and slots where you can begin construction of a new warship or repair damaged ones. There are slots for suppliers or coastal batteries.

Harbors can defend warships inside from attack with coastal batteries or mines fields.

Only the infantry can take control over harbor. If during two rounds in the harbor there is at least one your infantry unit and there is no enemy infantry, the city is considered taken.

To build a structure in a harbor, you need to:

1. Find an empty slot for the structure you want to build.
2. Wait for an information pop-up and make sure you have enough supply.
3. Click on a slot with the left mouse button.



Harbor Structures

- | | |
|-------------------------------------|----------------------------------|
| ① Symbol of control | ⑦ Warship Repair Slot |
| ② Harbor Symbol (info & income) | ⑧ Slots for Warships (aggressor) |
| ③ Defensive Works for Infantry | ⑨ Supply Ship Slot |
| ④ Slots for Infantry Units | ⑩ Coastal Battery |
| ⑤ Military Hospital & Training Camp | ⑪ Harbor Minefield |
| ⑥ Slots for Warships (defender) | ⑫ Torpedo Boat Station |

Harbor Defense Structures

Coastal batteries damage the most dangerous enemy warship in the harbor every turn.

Harbor minefields have a chance to destroy any entering warship in the harbor but can't destroy a warship which stays in harbor more than one turn.

Torpedo boat stations have a chance to destroy one blockading warship.

Siege works and fortifications protect soldiers in the bombardment and defense. The infantry under protection of a fort loses much less soldier in battle with enemy infantry.

Repairing Warships

To repair a warship, you need to place it in the shipbuilding slot of a harbor:

1. Select a warship and choose a shipbuilding slot in a harbor under your control.
2. Wait for the pop-up info dialog to make sure you have enough supply.
3. Click the left mouse button to move the warship to a slot. The ship may not move to the slot in some cases. For example, blockade may prevent it.
4. When a warship is in the shipbuilding slot, you can't move it until completion.

Supply Ship

In the supply ship slot, you can build a ship. Each turn, this ship earns you supply. As always, you can see income in the pop-up info dialog of the slot. Each turn, supply ship can be captured by hostile warships in blockade or raid areas (cruising zones).

Training Camp & Hospital

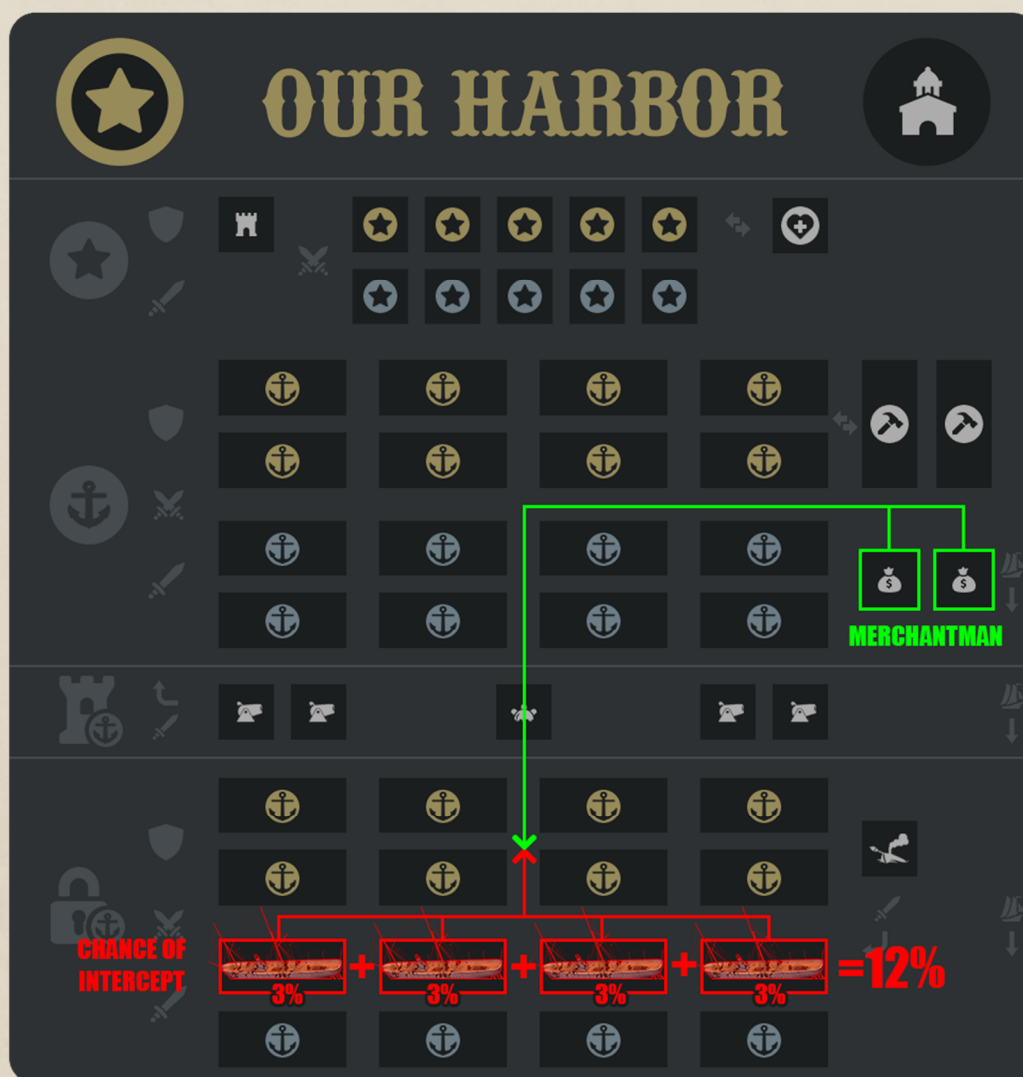
To reinforce infantry unit, you need to place it in training camp slot of a harbor:

1. Select unit and choose training slot in harbor under your control.
2. Wait for pop-up info dialog to make sure you have enough supply.
3. Click left mouse button to move unit in slot. Unit may not move to slot in some cases, blockade may prevent it for example.
4. When unit is in training slot you can't move it until the end of works.

Blockade Stations and Supply Routes

You can place your warships in blockade stations in front of hostile harbors to prevent movement of hostile warships or to destroy merchantmen. In the same way, you can defend your harbor from hostile blockades by placing your warships in the blockade station of your harbor; hostile warships can't move in the harbor in this case.

Warship can't move out of a harbor if hostile warships are present in the blockade stations. First, warships must move to the blockade stations for battle. After battle, warships can leave the harbor or return to it.



Scheme of Functioning of the Blockade Station

Supply Ship use supply routes (№3 - Scheme of Strategic Map, see above in the text) to operate. In a turn, a Supply Ship leaves a harbor with cargo, makes his way to a destination point on the supply route, and goes back with supply. To destroy hostile Supply Ship, you need to place a warship on supply route. It can be in blockade stations or the high seas (in cruising zone, №3 - Scheme of Strategic Map, see above in the text).

The probability of intercept depends on the number of warships placed on a supply route. You can see this number in the pop-up info dialog. Interception of Supply Ship yields supply so you need to protect your supply routes and blockade stations from hostile warships. Successful seizure of the Supply Ship is encouraged by some supply points.

Supply: Income and Expenses.

All warships and infantry units each game round (turn) spend on their maintaining a certain number of supply points (see marker number 1 in the following schemes of units maintaining). The cost of maintaining units in different types of slots (when performing different tasks) is not the same. For example, if the warship is in a slot in the cruising zone, then its maintaining costs 100 supply points, and if it is in the harbor, then only 35 supply points.

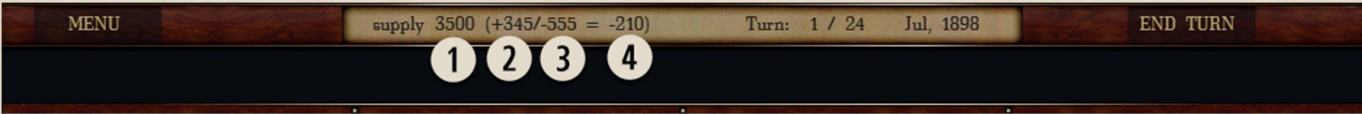


Scheme of Information About the Cost of Warship Maintaining



Scheme of Information About the Cost of Infantry Maintaining

The balance of income and expenses of supply points is located on the top information panel of the game interface. The first number shows the current reserve of supply points. The second number shows how many supply points you get each game round. The third number shows how many supply points all your ships and infantry units will spend if they are in the current slots at the beginning of the next game round. The fourth marker shows the balance of income and expenses.



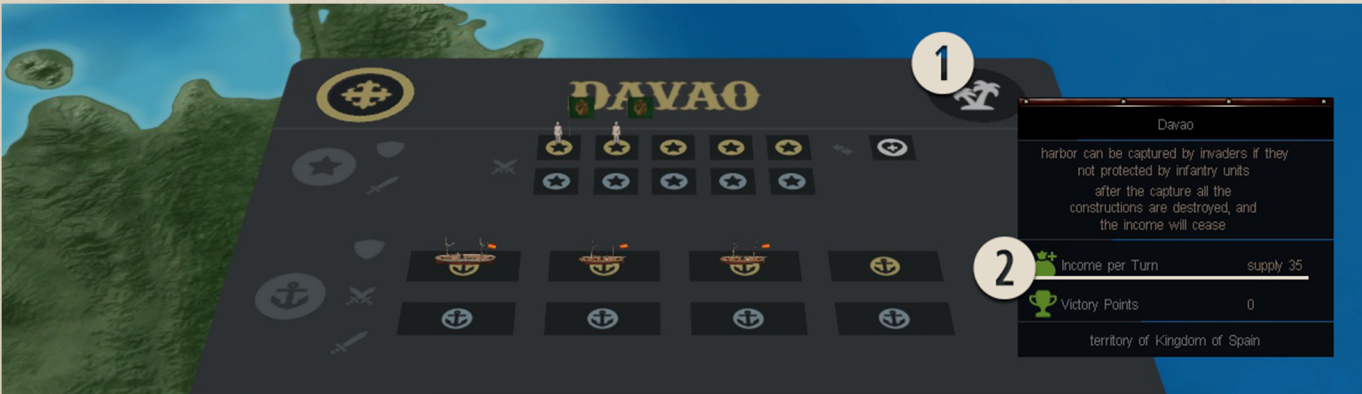
Scheme of Top Information Panel

If you see a negative number, then you need to reduce costs or increase revenue. To reduce the costs of supply points to a minimum value, you need to move all your units to your harbor and abandon the attack or blockade of enemy harbors, as well as placing your ships in cruising areas.

Each turn, some harbors and active supply ships top up your supply points reserve. To increase the flow of supply points, you need to order as many supply ships and control harbors that generate revenue. Capturing an enemy harbor does not increase your supply points revenue, but deprives the enemy of the opportunity to receive revenue from this harbor and supply ships in it.



Scheme of Supply Ship Information



Scheme of Information about Supply Points in Harbor

To find out how much revenue each of their ready supply ships or harbors brings, you need to hover your mouse over the areas marked with number 1 in the Scheme of Supply Ship Information or in the Scheme of Supply Information in Harbor. At the pop-up prompt, find the line (number 3 in the Scheme of Supply Ship Information or number 2 in the Scheme of Supply Information in Harbor) in that shows the number of supply points.

In addition to maintaining ready-made units, supply points are spent on building new structures in harbors (for example, coastal

batteries) and repairing and replenishing your ships and infantry units.

If the costs of supply points exceed revenues, then the current stock is used. If the supply is zero and the costs are higher than the revenue, then some parameters of your units are penalized. Ships cannot use their maximum speed, the replenishment of the stock of shells slows down, infantry units shoot less often in combat. Information about the presence and influence of the penalty is on the pop-up prompt: marker number 2 in the Scheme of Information About the Cost of Infantry Maintaining.

At the end of the turn, a screen shows all finance events. You can read a description of event in the bottom of info panel.



Scheme for Checking the Cost of Maintaining a Unit

To find out the cost of maintaining a unit (in supply points per turn) in the slot chosen for the move, you need:

1. Place the mouse cursor above the unit (Scheme for Checking the Cost of Maintaining a Unit, Marker №1).
2. Click the left mouse button. You have selected a unit.
3. Make sure that a green arrow appeared over the unit.
4. Place the mouse cursor above the slot in which you want to move your unit (Scheme for Checking the Cost of Maintaining a Unit, Marker №2).
5. Wait for the pop-up information dialog to appear.
6. Find the line in which the reported information on the cost of maintaining a unit in this slot (Scheme for Checking the Cost of Maintaining a Unit, Marker №3).

Replenishment of ammunition.

Each warship starts the game with the initial full ammunition of shells and torpedoes (if any). During the battle, the number of ammunition is reduced. Once every several game turns (in turned-based strategy mod only), ammunition is automatically replenished. The current number of ammunition is increased by a few percent from the initial full ammunition of shells or torpedoes. For example, in a battle the ship expended 100 shells from the initial full ammunition of 1000 shells. Every 5 turns, ammunition is replenished for 50 shells. So after 10 game turns the warship will have a full ammunition again. However, if you have a supply penalty, ammunition will be replenished more slowly. If the supply penalty is 50%, then for two game turns, only half the ammunition will be replenished. In fact, if the penalty is 50%, then every 5 game turns ammunition will be replenished only by 25, not 50 shells.












Since warships have several types of guns, ammunition for each type is replenished separately, but by the same percentage of the initial full ammunition. For example, ammunition is replenished by 10% every 3 turns. The ammunition of the main battery with an initial full ammunition of 100 shells through 3 turns will be replenished with 10 shells. At the same time, the ammunition of the secondary battery with an initial full ammunition of 5,000 shells will be replenished by 500 shells.

Each type of gun can have shells of three types: armor-piercing, common and explosive. Shells of each type are replenished separately, but in the same percentage. If there were 50 armor-piercing shells in the initial full ammunition, then with a 50% replenishment, their number will increase by 25 shells. Simultaneously, if there were 100 explosive shells in the initial full ammunition, then with a 50% replenishment, their number would increase by 50 shells.

The stock of torpedoes replenishes on a similar principle, that is, once in several game turns. The number of these turns is the same as for the replenishment of the stock of shells. However, the stock of torpedoes is replenished to the full (up to 100% of the maximum number). Replenishment of torpedoes depends on the current level of supplies. For example, the maximum stock of torpedoes is 4 pieces. If there is no supply penalty, the stock will be replenished by 4 torpedoes. If the supply penalty is 50%, then the stock will be replenished only by 2 torpedoes.

During the repair of the warship (in Warship Repair Slot), ammunition is replenished as usual.

Information about the ships on the tooltip.

1	protected cruiser Alfonso XII	
2	 Displacement	4700 ton
3	 Maximum Speed	11.2 / 14 kts
	 Supply Penalty	80%
4	 Wrought Iron Armor	2-8 inch
5	 Main Battery Guns	10 x BL 6in 30cal
	Ammo CP, HE, AP	400, 60, 40
6	Secondary Battery	6 x QF 2in 30cal
	Ammo CP, HE, AP	940, 0, 0
7	+ammo / turns number	8% / 4
	current supply penalty	80%
8	 Torpedo Tube	4 x 18in M1892
	Ammunition	8 + 2 per 4 turns
9	 Seaworthiness	cruiser
10	 Experience	35%
11	 Damage	0.0%
12	 Blockade	5%
13	 Supply Cost	supply 68 (20%)
14	anchorage slot	

type and name of the ship

ship displacement

11.2 knots this is 80% of the max. speed (14kts)
the max. technical speed is impossible due to supply penalty

min and max thickness of armor in iron equivalent
example: 50mm of steel is equal to 70mm of iron

number and caliber of main guns
the number of shells: ordinary, explosive, armor-piercing

number and caliber of secondary guns
the number of shells: ordinary, explosive, armor-piercing

the stock of shells is replenished by 8% every 4 rounds
not enough 80% of supplies

number and caliber of torpedo tubes
maximum stock of torpedoes

the characteristic shows the ability of the ship to float offshore
(coastal) or on the high seas (cruiser)

the characteristic shows the level of training, combat
experience and morale of the crew

the characteristic shows how badly the ship is damaged: 100%
means complete destruction

the characteristic shows the probability of interception by this
ship of an enemy transport ship

how much the supply points will be spent when the ship is in
this slot (compared with the most expensive type of slots)

what type of slots is the ship in now

Scheme of warship info on the tooltip (pop-up)

How to Play in Tactical Mode

Game Goal

Strategic Mode defines the number of warships you control in Tactical Mode; this number cannot be changed during battle for you or your opponent (computer). You can decide what goal you have to reach according to the situation on the global map; it can be total destruction of opponent's squadrons or saving your own squadrons. In both cases, try to deal more damage to enemy warships than you sustain on yours.

Battle Camera Control

You observe the battle map from the camera with a view from above, using a third person control scheme. You can freely move the camera to any position on the map, and rotate it 360 degrees. The camera also has a zoom. If you want to place the camera on your warship, simply left click on the warship or on its icon in the top interface panel. After that the camera will be attached to the selected warship. Move it from the center of the warship to free it up again.

Battle Map

Tactical map borders are marked by buoys. If you or your opponent's warships accidentally cross the borders of the map, they will be automatically turned back to the battle zone. Heavily damaged warships during the battle can be given an order to leave the battle map. In that case, a fire and flooding only stop when the warship crosses the border of the map. After that it returns to the global map. If the warship is not destroyed when the battle is finished, it returns to the global map.

Battle Time

In tactical mode all events occur in real time, and the duration of battle is limited. You can see the time remaining on the right side of the top interface panel (picture 1 №1). When the time is up, the game returns to the global map. All warships destroyed in Tactical Mode will be destroyed in Strategic Mode, and all damage to the warships will be represented equally. For example, a warship with 25% damage on the battle map returns to the global map with 25% damage. If, during battle, a warship receives severe damage from gunfire, flooding, or a fire, it independently leaves the battle. If the battle takes place in the harbor, the warships cannot retreat and will fight until victory or until the end of the battle. You can return to the Strategic Mode at any time (picture 1 №9). The battle will continue on the strategic map in auto mode.

In the game you can control the speed of time - you can choose from real or accelerated time, or you can stop time. The controls for this option are found on the bottom interface panel (picture 1 №2). At any time during battle you can stop time or accelerate it by 4 times. With full acceleration, 5 minutes of real time in game actually uses up 20 minutes of game time. Warships move faster, shoot more projectiles, etc.



Picture 1

Movement of a Single Ship

You can control the direction of warship movement using the control buttons on the right side of the bottom interface panel (picture 1 №3). Use the left button if you want the warship to turn left, and the right button to turn right, and the middle button to set a straight course. If you activate the left or right button, you will keep turning until you change it for a straight course. A warship will be automatically turned back to the battle zone if it crosses the map borders. You can see the compass on the left top side of the screen (picture 1 №4). The blue part of the compass arrow always points north, it helps you see changes of course of your warships and your opponent's.

To change warship speed, you can use the control buttons on the left side of the bottom interface panel (picture 1 №5). The first button on the left represents backward movement at slow speed, the second button stops movement, and the next buttons after stop move the warship forward with low, middle and full speed.

Warships lose speed during a turn if you do not increase it. Use the speed control buttons to increase speed during the turn, if you do not want to slow down. If a warship is moving at full speed, it loses speed while turning regardless. You cannot change speed when maneuvering in action (see below).

You have to remember that the speed of a warship is affected by damage it has sustained. For example, if at the beginning of battle the warship had 10 knots of speed, then it took damage and now it has only 5 knots of speed, the average speed of the warship during battle considering maneuvers fell from 5 to 2,5 knots.

Movement by Squadron

Warship group management in the game uses real naval tactics from the steam navy period of history. Ships are united in squadrons. You and your opponent can only use 2 squadrons of warships in battle, with no more than 4 warships in each squadron.

Squadrons fight in line ahead battle formation. To control speed, movement and direction of the squadron you need only control the flagship (first warship in the column). All astern warships follow the commands given to the flagship. The slowest warship in the squadron restricts the total maximum speed. It is better not to group warships with different speeds in one formation. Also you can separate damaged, slower warships from the squadron to save formation speed. Increasing or decreasing the speed of a squadron is carried out by stages, each stage changes speed by 2 knots. Therefore, a squadron needs time to change speed, it prevents collisions in a formation. You can make a flagship to move backwards if you want to, but a column can only move forward or stop.

Aside from the simple controls of a flagship, you can perform more complex maneuvers in line ahead battle formation. All maneuver controls are located in a special tab in the bottom interface panel (picture 1 №6). To start a maneuver, choose the maneuver type, click on it, then choose from scenarios ahead of the flagship the maneuver you want to perform. The maneuver starts when you click on an object at the end of the trajectory.

You can change your decision to maneuver within 5 seconds (picture 2 №4), before its time ends no actions will be taken. Also you can stop the maneuver at any time by using the stop button in the panel, but breaking the maneuver could break the line ahead formation and it'll take time to restore it. You cannot start a new maneuver while other maneuvers are in action.

You can change the course of line ahead formation to 15, 45, 90, and 180 degrees. Also, the column can make a swing around maneuver, where each warship turns 180 degrees to the left or right side, and each warship ends the maneuver on an opposite course (picture 2 №3). ATTENTION: you can start the swing around maneuver only when each warship in the formation has the same speed and all warships are moving in one direction.



Picture 2

In some situations, it is necessary to change the distance to the enemy column. You can order a parallel side shift on half or one cable (picture 2 №2). Also, you can change the distance between warships in the formation (picture 2 №10).

Usually, the most dangerous place in the column is at the head and the safest at the back, so you can send the most damaged warship in the squadron to the back of the column (picture 2 №5).

You can separate warships into a new column, and the action starts from selected warship to the last one in the formation. To issue the order, use the special control button (picture 2 №7). The selected warship will be the flagship of a new line ahead battle formation. To unite all separated columns back into the initial formation, you will need to order each warship to return.

During the battle you can temporarily separate a warship from the battle formation (to repair it, for example) and then return it back to the formation (picture 2 №6 and 8). If a warship is heavily damaged, you can order it to leave the battle (picture 2 №9). After that warship leaves squadron and starts to move out of battle zone.

Guns & Armor

You can manage the artillery of your selected warship by using the special tab on the bottom interface panel (picture 1 №7). By default, each warship shoots at your opponent's warships automatically. The priority target for shooting in auto mode (picture 3 №1) is the nearest enemy warship within the guns arcs of fire, and the guns start shooting when accuracy is higher than 5%. You can cease gunfire in auto mode if you don't want to waste ammo (picture 3 №2, 3). To manually select or deselect a warship as a target in auto gunfire mode, move the mouse cursor above the enemy warship and click the left mouse button.

A projectile hit is a danger from any distance for warships unprotected by armor, but if you want to damage an ironclad warship, you need to land a hit where there is no armor, or pierce it. So shooting at ironclads from far distances is ineffective. To pierce armor you need to shoot from short distances. You can get information about armor piercing if you place the mouse cursor above enemy warships. This information is based on armor piercing from a loaded projectile in the main gun of your selected warship.

There are three types of projectiles: solid, common and armor piercing (AP) (picture 3 №4). Solid projectiles deal average damage and in some cases could pierce armor. Common projectiles deal the most damage, and they have the greatest chance of setting fire to a warship but are almost useless against armor. AP projectiles make holes in armored and unarmored targets, but deal a small amount of damage.

Commonly, the armor piercing of smoothbore guns is lower than the armor piercing of rifle guns. The larger the caliber of the gun, the more damage it deals and the thicker the armor it can pierce. You can see the number of projectiles for each type of main caliber in the pop-up info dialog of your warship (by placing the mouse cursor above the warship). The type of loaded projectile for each gun is shown in the pop-up info dialog which appears when you place the mouse cursor above the gun.

There is a probability factor in the armor piercing process. Projectiles can pierce armor from a distance if the armor piercing of the projectile is greater than half the armor thickness. The higher the armor piercing, the greater the chance to pierce the enemy armor.

You can manually control the artillery of each of your warships. Manual management starts by switching from artillery mode to manual mode (picture 3 №6). Once in Manual Mode, you need to determine the distance from the current warship to the target. If the distance is less than 1,5 cables, then it is preferable to use direct fire (picture 3 №7). If the distance is greater than 1,5 cables, then it is necessary to use indirect fire (picture 3 №8).

The danger zone (picture 3 №11) shows the accuracy with which the enemy ship will fire at your ship at different distances. The gray part of the line shows the distance at which the enemy cannot hit the target. Green - low accuracy of enemy shooting. Yellow - medium accuracy. Red - high accuracy (picture 4.1.1 №1).



Picture 3

In direct fire mode (picture 4.1 №1), you can shoot at any target within the red circle (picture 4.1 №2). This red circle is the maximum distance of fire in direct fire mode (picture 4.1 №3). Remember that guns can shoot only in enabled state and inside the arc of fire.

In indirect fire mode, nearest to the warship, the red circle (picture 4.2 №1) radiates outward 1,5 cables from the center of the warship (the maximum firing distance in direct fire mode). The far orange circle (picture 4.2 №2) shows the maximal distance of fire. The maximal distance of fire is the distance with minimal probability to hit the target. It means that the distance between the first and second circles shows not a real distance but the scale as in the radar screen. For example, if with a minimal elevation angle a projectile flight distance is equal to 1,5 cables, and with maximum elevation angle a projectile's flight distance is equal to 12 cables, then the first circle shows 1,5 cables and the second shows a distance of 12 cables. The distance between these two circles is equal to 5,25 cables.

You can check the distance to the target by the first shot, then you can correct this distance with splashes from projectiles. Also, keep in mind the ballistics ellipse of dispersion (picture 4.2 №3).

All warship guns are gathered in groups, which can be turret or battery. Each group consists of closely spaced guns of one caliber; groups can only shoot at one target in automatic mode. Each gun in manual fire mode is represented by a small colored box (picture 4.1 №5); groups of guns are represented by a large colored box (picture 4.1 №4). When this box is green, it means that the turret or battery has been selected, and a grey box indicates an unselected group. If a grouped gun box has a red color, the aim point of the group is out of the fire arc of the guns. The color of the gun box shows green when the gun is ready to fire, yellow when in reload state, and red when disabled or gun crews are off for repair or other damage control actions.



Picture 4.1



Picture 4.1.1



Picture 4.2

To control a gun group in direct fire control mode you need to:

1. Place the mouse cursor above the group control (big gray box).
2. Click the left mouse button.
3. Make sure the control has changed color to green.
4. Find the line which shows the direction of fire.
5. Place the mouse cursor above the aim point (small red circle) at the end of the line. The circle changes color to yellow when the mouse cursor is above it.
6. Hold down the left mouse button.
7. Move the mouse cursor and point to aim at the target. Make sure the group control is not red (it means the aim point is out of the fire arc).
8. Place the mouse cursor on the firing button (picture 3 №10).
9. Click the left mouse button or Spacebar.

To control a gun group in indirect fire control mode you need to:

1. Place the mouse cursor above the group control (big gray box).
2. Click the left mouse button.
3. Make sure control has changed color to green (picture 4.2 №5).
4. Find the line which shows the direction of fire.
5. Place the mouse cursor above the red marker (picture 4.2 №7) at the end of the line. The marker changes color to yellow when the mouse cursor is above it.
6. Hold down the left mouse button.
7. Move the mouse cursor and the marker to set the direction of fire.
8. Release the left mouse button.
9. Place the mouse cursor above the aim point (small red circle) in the direction of the firing line. The circle changes color to yellow when the mouse cursor is above it.
10. Move the mouse cursor and the point of aim to set fire distance.
11. Place the mouse cursor on the firing button (picture 3 №10).
12. Click the left mouse button or Spacebar.

You can see the vertical and horizontal dispersion for the chosen fire distance in the pop-up info dialog (picture 4.2 №3). You can use arc of fire (picture 3 №5) for guns in both auto and manual fire control modes. In manual mode all selected guns on your warship can shoot one by one with a delay or all together (salvo) (picture 3 №9).

Shooting accuracy in both auto fire and manual fire modes is dependent on the weather. The higher the waves, the lower the accuracy. However, the warship with high board loses less accuracy than a warship with low board. For example, a 4000 ton cruiser shoots more accurately than a 250 ton gunboat in the same sea state. When you shoot in manual mode, you have to wait for a moment when the

warship is on an even vertical keel, special control helps you with this task (picture 4.2 №10). Both marks are aligned on both sides of a warship in a vertical keel state.

In automatic fire mode, shooting accuracy increases with stable direction and speed of movement. If you or your enemy warships move a long time with constant speed and direction, it makes it easier to hit opposing warships.

Torpedoes

You can manage the torpedoes of your selected warship by using the special tab on the bottom interface panel (picture 1 №9). By default, each warship armed with torpedoes shoots at your opponent's warships automatically. The priority target for shooting in auto mode (picture 4.3 №1) is the nearest enemy warship within the arcs of fire. You can cease torpedo launch in auto mode if you don't want to waste ammo (picture 4.3 №2). To manually select or deselect a warship as a target in auto mode, move the mouse cursor above the enemy warship and click the left mouse button.



Picture 4.3

Armor cannot protect the ship from an underwater explosion after the torpedo hits. You can manually control the torpedo tubes of each of your warships (if they are on these ships). Manual management starts by switching from auto mode to manual mode (picture 4.3 №3). Torpedoes can be launched to the target sequentially or simultaneously (picture 4.3 №4). Torpedo tubes (torpedo launchers) can be movable and fixed. The moving torpedo tube can be directed to the target within its arcs of fire.

Each torpedo launcher in manual fire mode is represented by a large colored box (picture 4.3 №4). When this box is green, it means that the torpedo launcher has been selected, and a grey box indicates an unselected torpedo launcher. If a box has a red color, the aim point of the torpedo launcher is out of the fire arc. The color of the box shows green when the torpedo launcher is ready to fire, yellow when in reload state, and red when disabled or gun crews are off.



Picture 4.4

To control a torpedo launcher in manual mode you need to:

1. Place the mouse cursor above the torpedo launcher control - big gray box.
2. Click the left mouse button.
3. Make sure control has changed color to green (picture 4.4 №1).
4. Find the line which shows the direction of fire (picture 4.4 №2).
5. Place the mouse cursor above the red marker (picture 4.4 №3) at the end of the line. The marker changes color to yellow when the mouse cursor is above it.
6. Hold down the left mouse button.
7. Move the mouse cursor and the marker to set the direction of fire.
8. Release the left mouse button.
9. Place the mouse cursor above the range selector (small red circle - picture 4.4 №4) in the direction of the firing line. The circle changes color to yellow when the mouse cursor is above it.
10. Move the mouse cursor and the range selector to set fire distance. The further the target the lower the speed of the torpedo (picture 4.4 №5).
11. Place the mouse cursor on the fire/launch button (picture 4.4 №6).
12. Click the left mouse button or Spacebar.

The torpedo is not an ideal weapon. The torpedo moves much slower than the artillery shell. Therefore, you need to try to aim at the place where the target will move after a while. For example, if a torpedo needs 2 minutes to reach the target, then you need to aim it at the point where the target will be in 2 minutes.

It is necessary to know that the torpedo can deviate from the correct course. Even if the torpedo hits the target, the fuse may not work.

Damage Control

During a battle, shells fired at a target may hit above the water line or below the water line. A successful hit above the water line may cause a fire. A successful hit below the water line may cause flooding. As the warship takes fire from the enemy or is on fire, the percentage of damage will increase. Eventually, the damage will cause the warship to sink. During the battle the warship can repair part of the damages, seal the holes, pump water out, and fight the fire. All these actions during the battle are carried by damage control divisions. The effectiveness of this division depends on warship damage, and the number of living crew. You don't need to do anything to manage the damage control divisions, but for serious damage, fire, and flooding there is a special damage control mode. It is accessed by a special tab on the bottom interface panel (picture 1 №8). You can see the parameters of the damage control divisions in first column of this tab (picture 5 №1).

Damage control divisions in automatic mode only repair holes above the waterline of the warship. Holes are represented by boxes of different sizes around the warship hull when the damage control tab of the interface is active. The color of the hole box shows the state of the hole. A blue box means the hole is below the water line and water is leaking inside the hull, a gray box means the hole is above water line. Once a hole is fully repaired, the box disappears. The repairing of holes needs emergency equipment, and this equipment (picture 5 №6) limits the number of holes the damage control divisions can repair. There is a column that shows how much time is needed to repair, fight the fire or pump out the water (picture 5 №4). This time takes into account all the resources the damage control divisions have. You cannot save your warship every time. Sometimes the damages can be too high, the volume of incoming water (picture 5 №8) can be too great, and the strength of the fire can be too strong to fight (picture 5 №7).

If the danger of warship destruction is critical, you can activate damage control mode (picture 5 №9). Activation and deactivation of this mode requires time, and when it is activated a special timer shows the time spent in this mode. In damage control mode all crew members help the damage control divisions (picture 3 №2), therefore warship artillery does not work while this mode is active. It is possible to repair not only holes, but also the durability of the warship if it has enough materials (picture 5 №5). When you think the warship is in good enough shape to return to battle, you can deactivate damage control mode (picture 5 №10).



Picture 5

In damage control mode, auxiliary machinery helps the damage control divisions fight the fire and pump out the water (picture 5 №3). The efficiency of this work depends on speed of the warship; you can increase the efficiency of the auxiliary machinery if you bring the warship to a full stop.

Shells pierce the holes in the hull of the ship. Through these holes water can enter the ship. If the water already enters the hull of the ship, the hole looks like a dark blue box. If the hole is not in contact with water, the water does not enter the hull of the ship, and the hole looks like a light blue box. The larger size of the hole in the ship's hull is shown by the larger size of the box. The damage control divisions can repair a hole. After such repairs, the box that marks the hole will disappear.

Ramming Attacks

The collision of warships can lead to hull damage, and the damage is calculated for each warship individually depending on the thickness of the wood, the resistance of the materials and the position of the contact. A warship sustains the greatest damage if it is hit by the bow of the opposing warship. This type of collision is called a ram attack. Not all ram attacks lead to heavy damage or open up a hole in the hull. A successful ram attack requires enough speed and warship mass to overcome the resistance of hull material. If the attacker can maneuver his ship so that it strikes the target ship at an angle between 45 and 135 degrees off the keel of the target, then the ram attack will be successful. If the attacking ship's angle of attack is not within the required arc then the two ships will scrape sides and no ram damage is made. The attacker can sustain damage too, but it is unlikely at low speed.

You can see the information about necessary warship speed for a successful ram attack in the pop-up information dialog. It appears when you place the mouse cursor above the enemy warship. When a successful ram attack requires too much speed, the ram attack is considered impossible.


















You can see the information about the dangers of ram attacks for your selected warship in the pop-up information dialog. It appears when you place the mouse cursor above your warship. The dialog shows how much speed is required for the nearest enemy warship on a collision course to make a successful ram attack.

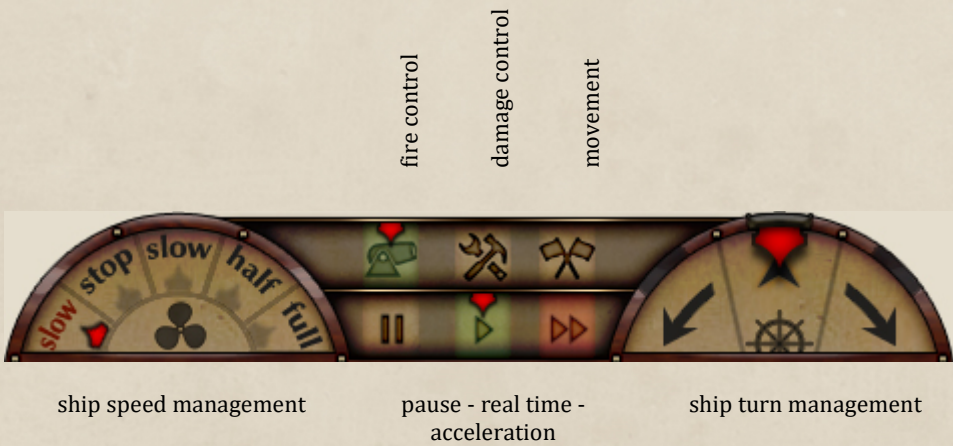
Sea State

The state of the sea affects the accuracy of shooting guns of the ship. The higher the wave height, the more the ship swings on the sea wave. This prevents sight and accuracy decreases. Waves can be so high that small ships like gunboats can only shoot very close to the target. The larger the ship's size (displacement), the lower the high wave prevents it from shooting well, so in bad weather large ships shoot better than small ships. The state of the sea can be seen on the upper interface panel (picture 6 №1), and the accuracy of the shooting and the penalty of bad weather can be seen on the information panel above the enemy ship (picture 6 №2).



Picture 6

	displacement		damage
	main / second. battery		starboard damage
	iron armor		portside damage
	max / current speed		hit accuracy
	flooding		armor penetration
	fire		experience level
	common shells (CP)		armor-piercing shells (AP)
	high explosive shells (HE)		ramming info
	approximate distance to the target in cables and meters (deviation 10%)		



Common Shell (common pointed)	CP	rifle low explosive (black powder) projectile, low damage, average armor penetration, large supply.
High Explosive Shell	HE	rifle high explosive (smokeless powder) projectile, high damage, low armor penetration, limited supply.
Armor-Piercing Shell	AP	is a type of ammunition designed to penetrate armor, critical damage, high armor penetration, very limited.

Endurance	the number of damage to the complete destruction of the warship
Firepower	"weight" of the broadside per minute in damage points
Accuracy	external ballistic characteristics, excluding the experience of the crew
Penetration	maximum thickness of iron armor that can be pierced by a shell
Propulsion	maximum speed and acceleration characteristics
Battery	type of main armament

To receive information about the type of ammo loaded, reloading state or activity of an individual gun, place the mouse cursor the over the gun:



Naval Artillery Database

type & caliber	Common Shell (CP)				Armor-Piercing Shell (AP)	
	reload	range	penetration	damage	penetration**	damage
BL 5in/20	35 sec	2250 m	40 mm	75		
BL 6in/20	45 sec	2250 m	60 mm	130	220 mm	80
BL 8in/20	80 sec	2250 m	80 mm	260	289 mm	130
BL 5in/30	30 sec	2800 m	45 mm	80	280 mm	60
BL 6in/30	40 sec	2800 m	65 mm	160	310 mm	95
BL 8in/30	80 sec	2800 m	90 mm	320	442 mm	180
QF 3pdr	5 sec	2500 m	43 mm	6	-	-
QF 6pdr	8 sec	2500 m	88 mm	12	-	-
QF 3in	8 sec	2700 m	40 mm	45	155 mm	27
QF 4in	12 sec	2800 m	45mm	110	292 mm	65
QF 5in	18 sec	3200 m	54 mm	190	337 mm	115

* all specs are shown for warship crews with a 100% experience level

** for a solid iron armor made in the Great Britain in the 1860s

How to understand data on artillery:

4 x BL 8in/35 = 4 (number of guns) x BL (rifled breech loader) 8 (caliber in inches) /35 (length of the barrel)

They are 8 inches in diameter and the barrel is 280 inches long (8 × 35 = 280)

BL rifled breech loader
QF quick-firing gun (rapid-firing)

Reload	the time required to reload the gun. Lower is better.
Range	maximum range of effective firing. The longer the better.
Penetration	penetration of iron armor at a distance of zero meters (increase in distance = decreases in penetration). The larger the better.
Damage	the level of damage necessary for the total destruction of the ship. To destroy a ship with a displacement of 500 tons you must inflict 500 points of damage. Armor reduces or fully protects it from damage. The higher the better.