

IRONCLADS

AMERICAN II CIVIL WAR



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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: 1024 MB
Videocard: 128 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: 2048 MB or above
Videocard: 256 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)
Screenshot	(Key - F5)
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 C:\Program Files\Ironclads2\Info.exe).
2. Follow program instructions.
3. Send both files (Totem3Log.log and DxDiag.txt) to the support@totemgames.ru

This game is about naval actions during of historical conflict between two hostile sides. In *Ironclads 2 American Civil War* Union fleets fight against Confederate fleets to dominate the Gulf of Mexico. The game takes place during the American Civil War. Players can take control of either the Union or the Confederacy. The game begins in January 1862 and continues to December 1865.

How to Play in Strategic Mode

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.

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



❶ blockade station (blockade)

❷ harbor area (attack)

❸ siege area (siege)

Income and Expenses.

Every turn, harbors and trade ships (completed structures in trade slots) earn money. You can see this income and all money in the left side of info panel in top of a screen. You can spend money for ships repair, construction of new ships or structures. 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.

Slots for Warships.

There are two pairs of slots in harbors, blockade stations and trade routes for each side. For example, there are two slots at some point of a trade route: one for Union (USA flag symbol) and one for Confederates (CSA flag symbol).

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 ships.

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

US screw sloop-of-war

US armed steamer

US screw steam frigate

CS commerce raider

CS cruiser corvette

Coastal (Blockade) - all slots near the coast.

CS screw gun vessel

US screw gunboat

US single-turret monitor

US double turret monitor

CS 1100t armored gunboat

CS 1600t casemate ironclad

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.

Slots for Infantry and Artillery Units.

There are two pairs of infantry slots in harbors and siege areas for each side of a conflict: one group for Union (USA flag symbol) and one group for Confederates (CSA flag symbol).

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.

Infantry unit and siege artillery can landing only before an enemy port (in the siege area). Amphibian unit as the Marines could land in enemy harbor area. More information about infantry and artillery you can get from pop-up dialog if you place mouse above unit.

Heavy siege artillery used to bombard infantry in the besieged city or external siege lines and not used in the battle between the infantry. Siege artillery shells each enemy infantry unit once per round. The shelling is only possible from the harbor area to the siege area, and vice versa. Artillery moves on to the same rules as the infantry.

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 (for example US Regular Infantry Brigade).
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.

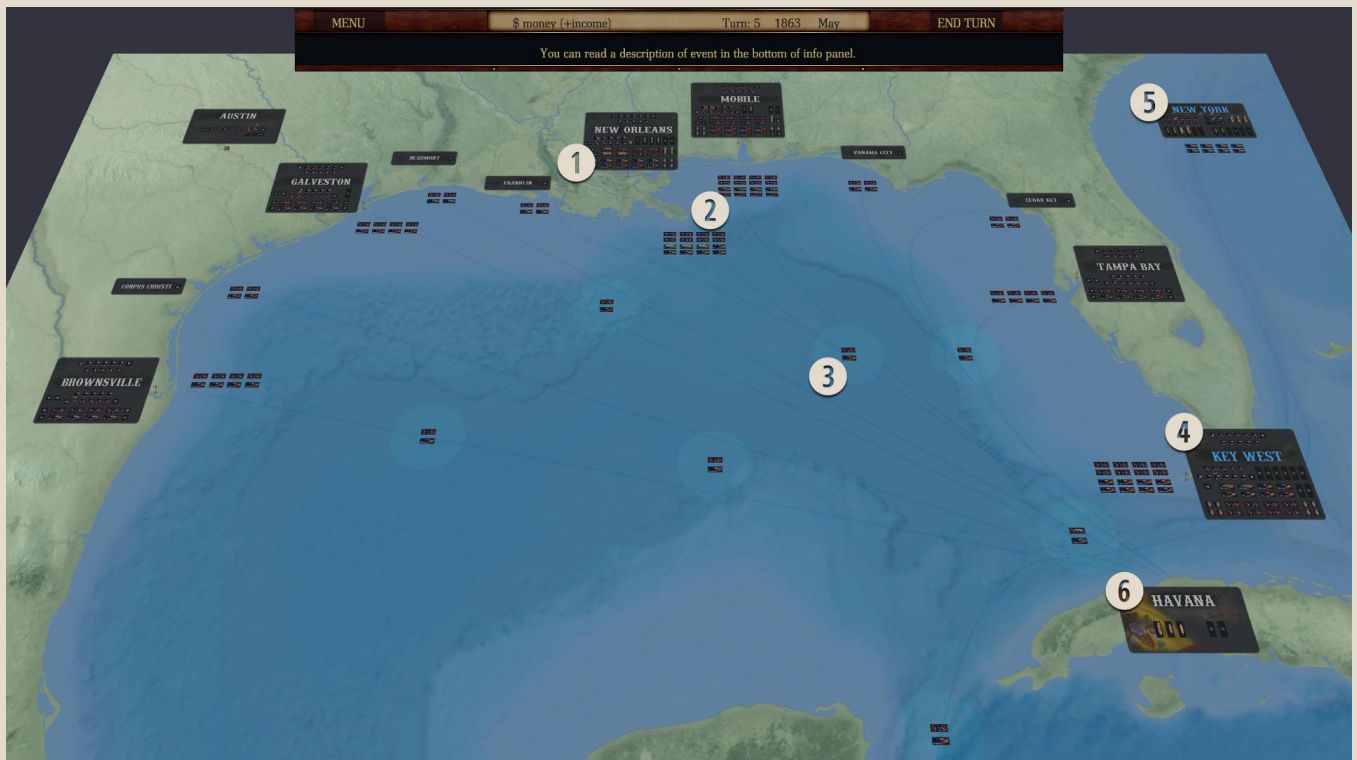
When the turn ends player's opponent (computer) makes his own moves. In results of it infantry units of each side can be in one area what lead to battle. The player can not control his infantry units in the battle manually (auto battle mode on strategic map only). Battle consist of rounds, each round 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 Infantry and Artillery movement



Scheme of Marines movement



- | | |
|----------------------|---|
| ① Confederate Harbor | ④ Union Harbor |
| ② Blockade Station | ⑤ Union Naval Base (unavailable to capture) |
| ③ Trade Route | ⑥ Neutral Port (CSA Shipbuilding and Trade with Europe) |



- | | |
|----------------------------|-------------------------|
| ① Heavy Siege Artillery | ⑦ CS Slots for Warships |
| ② US and CS Infantry Slots | ⑧ Merchantman Slot |
| ③ US Siege Fortification | ⑨ Torpedo Boat Station |
| ④ Warship Project Slot | ⑩ Harbor Minefield |
| ⑤ Shipbuilding Slot | ⑪ Coastal Battery |
| ⑥ Training Camp Slot | ⑫ US Slots for Warships |

Harbors and Structures.

Harbors are the most important elements of the strategic map. The main purpose of the game is to control all harbors. 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 traders 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 yours infantry unit and there is no enemy infantry, the city is considered taken.

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

Harbors belong to only one side of conflict but each side can take control of a harbor. This is mean that Union can take control of New Orleans but this harbor still belongs to the Confederates. 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 on strategic map.

If a harbor belongs to a player and the player controls it, then the harbor earns money for the player every turn. Each harbor earns different amounts of money depending on city population. Captured harbors don't earn money. 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 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 warships stay more than two turns inside the harbor.

As was said, the color of harbor name shows who controls a harbor. Gray is used for Confederates cities and blue for Union cities. Colors change 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, Union can't construct coastal batteries or repair ships in New Orleans.

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, Confederates can't begin construction of coastal batteries in Galveston if Union controls it.

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 money.
3. Click on a slot with the left mouse button.

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.

Shipbuilding Structures:

To build a new warship, you need to:

1. Find a warship project in the harbor.
2. When you place the mouse cursor on a project, you can get information about the warship. To get the cost of construction, you need to click on a project then place the mouse above the shipbuilding slot to see the pop-up info dialog.
3. You need only to click on the shipbuilding slot to begin construction of new ship. A warship project can be built only in a shipbuilding slot of the same harbor as the project.

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 money.
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.

Merchantman.

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

Training Camp (Barrack):

To recruit a new unit (infantry and artillery) you need to do next:

1. Find warship project in harbor.
2. When you place mouse cursor on project you can get information about unit to recruit. To get cost of recruitment you need to click on project to select it, then place mouse above training camp slot to see pop-up info dialog.
3. You need only click on training slot to begin recruitment of new unit. Unit project can be only trained in training slot of the same harbor as project.

To reinforce 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 money.
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.

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.

Trade Routes.

Merchantmen use trade routes to operate. In a turn, a merchantman leaves a harbor with cargo, makes his way to a destination point on the trade route, and goes back with money. To destroy hostile merchantmen, you need to place a warship on trade route. It can be in blockade stations or the high seas.

The probability of intercept depends on the number of warships placed on a trade route. You can see this number in the pop-up info dialog of the merchantman. Interception of merchantmen yields money so you need to protect your trade routes and blockade stations from hostile warships.

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.

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).



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 4.2

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 frigate 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.

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.

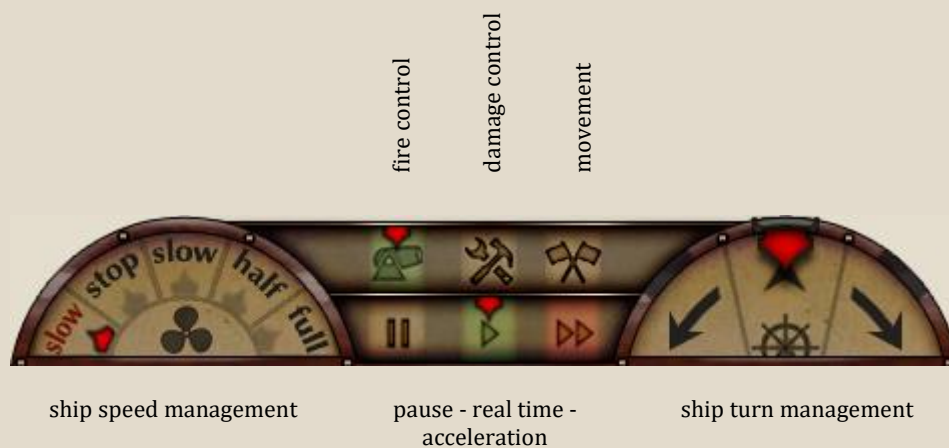
Ramming Attacks.

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.

	displacement		damage
	main / second. battery		starboard damage
	iron armor		portside damage
	max / current speed		hit accuracy
	flooding		armor penetration
	fire		experience level
	solid shots		armor-piercing shots
	bomb shells		ramming info



Solid Shot - solid smoothbore cannonball or hollow rifle projectile: low damage, average armor penetration, large supply.
Bomb Shell - smoothbore or rifle low explosive (black powder) projectile: high damage, low armor penetration, limited supply.
Armor-Piercing Shot - is a type of ammunition designed to penetrate armor: critical damage, high armor penetration, very limited.

Confederate Warships



Union Navy Warships



Warship Database

	endurance	firepower	accuracy	penetration	propulsion	battery
CS 1100t armored gunboat	65% (3930)	13% (250)	100% (43)	80% (193)	80% (10kts)	MLR 6in
CS 1600t casemate ironclad	53% (3200)	13% (250)	100% (43)	80% (193)	41% (5kts)	MLR 6in
CS 2200t cruiser corvette	38% (2320)	45% (875)	100% (43)	80% (193)	100% (12kts)	MLR 6in
CS 1200t commerce raider	19% (1176)	14% (280)	30% (13)	20% (49)	80% (10kts)	SB 32pdr
CS 550t screw gunvessel	8,5% (415)	7% (140)	35% (14)	30% (67)	65% (8kts)	SB 64pdr
US 2100t single-turret monitor	100% (6000)	29% (560)	30% (14)	100% (231)	58% (7kts)	SB 440pdr
US 1100t double-turret monitor	60% (3600)	25% (480)	35% (14)	60% (133)	75% (9kts)	SB 166pdr
US 4500t steam screw frigate	65% (4000)	100% (1920)	35% (14)	60% (133)	65% (8kts)	SB 166pdr
US 2500t screw sloop-of-war	40% (2400)	63% (1220)	35% (14)	30% (67)	90% (11kts)	SB 64pdr
US 1200t armed steamer	20% (1200)	12% (240)	30% (13)	20% (49)	80% (10kts)	SB 32pdr
US 550t screw gunboat	10% (670)	11% (214)	60% (27)	25% (52)	80% (10kts)	MLR 4in

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 on your ship:



Naval Artillery Database

type & caliber	SB solid shot / MLR solid bolt (SL)				SB bomb shell / MLR common shell (CP)				SB steel shot / MLR steel bolt (AP)			
	reload	range	penetration	damage	reload	range	penetration	damage	reload	range	penetration	damage
SB 32pdr	30 sec	1600 m	15 mm	20	60 sec	1100 m	7 mm	40				
SB 64pdr	45 sec	1600 m	30 mm	30	60 sec	1100 m	10 mm	70	55 sec	1500 m	148 mm	40
SB 166pdr	80 sec	1500 m	40 mm	50	120 sec	900 m	12 mm	120	80 sec	1500 m	172 mm	80
SB 440pdr	200 sec	1500 m	65 mm	170	300 sec	700 m	25 mm	280	200 sec	1500 m	299 mm	180
MLR 4in	35 sec	1900 m	25 mm	20	50 sec	1500 m	12 mm	60				
MLR 6in	60 sec	2000 m	45 mm	40	60 sec	1600 m	20 mm	125	60 sec	2500 m	222 mm	70
MLR 8in	120 sec	2000 m	50 mm	90	120 sec	1600 m	25 mm	220	120 sec	2500 m	256 mm	130
BL 5in					25 sec	3700 m	40 mm	85				
BL 6in					45 sec	3700 m	60 mm	165	45 sec	3700 m	280 mm	165
BL 8in					65 sec	3700 m	80 mm	360	65 sec	3700 m	416 mm	250
QF 2in					8 sec	1850 m	56 mm	18				

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

How to understand data on artillery:

4 x MLR 8in = 4 (number of guns) x MLR (rifle) 8 (caliber in inches)

SB smoothbore cannon
MLR muzzle-loading rifle
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	maximum thickness of the iron casing that can pierce the hull of a ship 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.