IRONCLADS: 1850-1890

An attempt at a set of wargame rules for the ironclad period 1850 to 1890

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(Exodus 20:15 - "Thou shall not steal.")

One thing that I have noticed is that the authors of naval wargame rulesets seem to have the need to incorporate every tiny little detail that they can think of into their rules.

I have found this to be especially true for this ironclad period where ships regularly carried a variety of different size and types of guns, and those guns were sometimes arranged in unusual layouts. Movement rules are usually more complicated than necessary, firing procedures are invariably fiddly and time consuming, and the procedures to determine where and how damage is actually to be applied to a ship are always unnecessarily complex.

This may be all well and good for very small actions, or if you have lots of time, or if you love lots of bookkeeping, but such rulesets with their inclination for every minute detail I find somewhat tedious and time-consuming.

Therefore, when starting out to develop these rules for our group, I decided to see if a broader approach could work. As a result, you will find that in these rules movement, firing, and damage determination can all be done reasonably quickly allowing for larger actions to be played in a reasonable amount of time, and with a minimum amount of bookkeeping.

So, if you are curious to see how I have approached the ironclad period, then please read on…

BASICS

- First, and to state the obvious, 1 Ship = 1 Ship.

A ship is regularly referred to as a *casting* which refers to the ship's actual casting (or model) on the table.

- Ship casting scale = 1:1200 is recommended.

These rules were developed with this scale in mind simply because there is a large variety of ships commercially available in this scale. ***However, these rules can be easily adapted to any scale***.

Most players normally glue their ships onto a small rectangular base which usually has the ship's name on it. These rules make use of these rectangular bases, and so the bases are required.

The game uses standard six-sided dice (D6) always reading 1 to 6; 1D6 means one standard six-sided dice; 2D6 means two standard six-sided dice; etc.

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The game also makes use of the term 1D3. If you are unfamiliar with this term, it means that one standard six-sided dice is rolled, with the outcome being that:
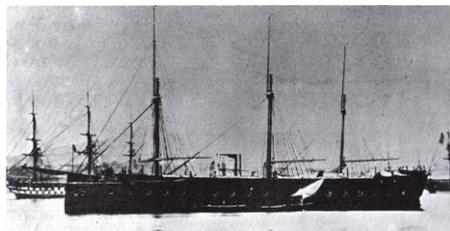
> If a 1 or 2 is rolled, then the result is 1.
> If a 3 or 4 is rolled, then the result is 2.
> If a 5 or 6 is rolled, then the result is 3.

You will also need to make at least one simple Turn Device to regulate the turning of a ship (see Appendix B) and one simple Arc Device for firing (see Appendix C).

Ship Data Cards:

Well before the game commences, players must prepare a simple *Data Card* for *each* of the ships involved (see Appendix A for how to prepare a ship's Data Card, and Appendix E for blank Data Cards to copy).

For example, the Data Card for this French ship **GLOIRE**, would look like this at the start of a game:

Name: GLOIRE   **French, 1859-1879**

Sister Ships: **INVINCIBLE, NORMANDIE**

Guns:

Forward Arc: 01 02 03 04 05 06 07 08 09 10

Port Broadside Arc: **01 02 03 04 05 06 07 08 09 10 11 12 13** 14 15 16 17 18 19 20 21 22 23 24 25

Starb Broadside Arc: **01 02 03 04 05 06 07 08 09 10 11 12 13** 14 15 16 17 18 19 20 21 22 23 24 25

Rear Arc: 01 02 03 04 05 06 07 08 09 10

Forward Turret: 01 02 03 04 05 06 07 08 09 10   Fwd/Port/Starboard/Rear

Centre Turret: 01 02 03 04 05 06 07 08 09 10   Fwd/Port/Starboard/Rear

Rear Turret: 01 02 03 04 05 06 07 08 09 10   Fwd/Port/Starboard/Rear

Armour: **01 02 03 04 05 06 07**

Propulsion: **01 02 03 04 05 06 07 08 09 10 11 12 13** 14 15 16 17 18 19 20

Hull: **01 02 03 04 05 06** 07 08 09 10 11 12

Current Speed:

Hits:

Notes:

Placing Fleets:

Players may use whatever method that they can all agree on to place their ships on the table.

Sea State:

Immediately before starting the game, players roll to determine the *sea state*. To do this, one player from each side simply rolls 1D6. If *both* of these dice rolls are a 1, then the sea state is *rough*, and it remains rough for the entire game. Otherwise, the sea state is relatively calm, and so the sea state has no effect on the game.

When the players have deployed their ships on the table and determined the sea state, the game commences.

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SEQUENCE OF PLAY

A full *Game Turn* then consists of four *Phases* thus:

1) The Determine Initiative Phase:

Players determine which side has the Initiative for the Game Turn.

2) The Movement Phase:

The side *without* the Initiative chooses one of its ships that has not yet been chosen during this phase, and then conducts movement on the table with that ship.

The side *with* the Initiative then chooses one of its ships that has not yet been chosen during this phase, and then conducts movement on the table with that ship.

Players keep choosing and moving their ships in this alternating fashion, one ship at a time, until all ships on the table have been moved.

3) The Firing Phase:

Both sides then resolve all of their gunfire thus:

A. Players fire their guns noting hits.
B. Players then resolve the above noted gunfire hits.

4) The End Phase:

A. Players check for ships sunk.
B. Players then decide whether to continue the game or not.

All phases and all steps are done in the order as noted above.

PHASE 1: THE DETERMINE INITIATIVE PHASE

One player from each side rolls 1D6; re-roll on a tie. The side rolling the *lowest* dice roll has the *Initiative* for the full Game Turn*.*

PHASE 2: THE MOVEMENT PHASE

Before discussing movement in detail, we need to discuss *speed* in detail.

For the purpose of the game, a ship has two *speeds* thus:

a) **Maximum speed**, that is, the maximum speed that a ship can achieve.

A ship's maximum speed (in knots) is usually found in any good reference source. A ship starts the game with this maximum speed as found in such references.

For game purposes, the maximum speed achievable for a ship at the time is shown by the *Propulsion* stats on the ship's Data Card.

The maximum speed of a ship will be reduced during the game as the result of the ship losing Propulsion stats.

b) **Current speed**, that is, the speed that you actually want the ship to go, set anywhere between zero and whatever the maximum speed is that the ship can currently attain.

The ship's current speed is set each Game Turn by the player controlling the ship, and it is noted on the ship's Data Card. The current speed *must always be in whole numbers*.

Regardless of what speed a ship can actually attain, all ships are limited to a maximum current speed of 6 or less if the sea state is *rough*.

A ship with its current speed set to zero is deemed to be stopped, and so that ship does not move or turn for the entire Game Turn. It just sits there. It can still fire its guns (if able).

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Changing a Ship's Current Speed:

There are some restrictions by how much you can change the speed of a ship by each Game Turn. The player controlling the ship can opt to either:

a) Increase the ship's current speed by one per Game Turn, or,
b) Maintain the ship's current speed at its present setting for the Game Turn, or,
c) Decrease the ship's current speed by one per Game Turn, or by two per Game Turn.

The current speed selected for the ship is then noted on the ship's Data Card. For example, the ship below has a current maximum speed of 12 (refer to the ship's Propulsion stats), and the ship's current speed is set at (say) 10 thus:

Propulsion: **01 02 03 04 05 06 07 08 09 10 11 12** ~~13 14 15 16 17 18 19 20~~

Current Speed: **10**

Now, and only at the required time, the player controlling this ship can opt to either:

a) Increase the ship's current speed by one from 10 to 11, or,
b) Maintain the ship's current speed at 10, or,
c) Decrease the ship's current speed by one to 9, or by two to 8.

Now, (let's say) this ship takes some damage which results in a Propulsion stat loss of 3 stats. Therefore, and again only at the required time, the ship's maximum Propulsion stat of 12 is reduced by 3 to the new maximum Propulsion stat of 9 thus:

Propulsion: **01 02 03 04 05 06 07 08 09** ~~10 11 12 13 14 15 16 17 18 19 20~~

Current Speed: **10**

- **Throughout the game, when crossing off any stats on a ship's Data Card, the player must always cross them off from *right to left* (as shown in all the examples), and to state the obvious, a player can only cross off stats that have not already been crossed off**.

Continuing the example: Now, because the ship's current speed of 10 is now greater than the ship's maximum speed of 9, the player *must decrease its present current speed by two each Game Turn* until its current speed is less than or equal to its current maximum speed achievable (its Propulsion stats).

Therefore, and again only at the required time on the next Game Turn, the player controlling the ship must decrease the ship's current speed of 10 by two to a speed of 8 thus...

Propulsion: **01 02 03 04 05 06 07 08 09** ~~10 11 12 13 14 15 16 17 18 19 20~~

Current Speed: ~~10~~ **8**

Now, and again only at the required time on a subsequent Game Turn, (let's say) the player controlling the ship decides to increase the ship's current speed of 8 by one to its maximum speed of 9 thus...

Propulsion: **01 02 03 04 05 06 07 08 09** ~~10 11 12 13 14 15 16 17 18 19 20~~

Current Speed: ~~10~~ ~~8~~ **9**

Now, (let's say) the ship takes some more damage which results in a further Propulsion loss of 4 stats (ouch). Therefore, and only at the required time, the ship's maximum Propulsion stat of 9 is reduced by 4 to the new maximum Propulsion stat of 5 thus:

Propulsion: **01 02 03 04 05** ~~06 07 08 09 10 11 12 13 14 15 16 17 18 19 20~~

Current Speed: ~~10~~ ~~8~~ **9**

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Again, because the ship's current speed of 9 is greater than its maximum Propulsion stat (now 5), the ship *must*, and only at the required time, decrease its present current speed *by two each Game Turn* until its current speed is less than or equal its maximum Propulsion stat. Therefore, and only at the required time, the player proceeds to cut the ship's current speed by two to 7 thus…

Propulsion: **01 02 03 04 05** 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20

Current Speed: 10 8 9 **7**

…and then on the following Game Turn by another two to 5 thus…

Propulsion: **01 02 03 04 05** 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20

Current Speed: 10 8 6 7 **5**

Moving a Ship:

A ship receives a ***movement allowance of 1 cm per current speed noted on its Data Card***. For example, if a ship's current speed is set at 6, then that ship has a movement allowance of 6 cm.

A ship *must* use all of its movement allowance. For example, if a ship has a movement allowance of 6 cm, then that ship must be moved that 6 cm on the table. Always be careful not to move a ship any further than it should be moved, or less than it should be moved.

Ships are manoeuvred on the table by moving the ship directly forward in a straight line and by turning. Regardless of a ship's size or its current speed, a ship always turns using the simple *Turn Device* (see Appendix B for the Turn Device).

However, ***a ship can only conduct one turn per Game Turn using the Turn Device***, but this turn can be done at any time while manoeuvring the ship on the table.

A ship can pass through any gap large enough to allow the moving ship's *rectangular base* to pass through. However, in doing so, the moving ship's rectangular base must not touch any other ship *casting* (be it friend or foe), or any land feature (such as an island or reef). The rectangular bases can overlap with each other, but rectangular bases and ship castings (or land features) cannot touch or overlap with each other. If they do, then a *Collision* occurs (see the Collisions section below).

- Throughout the game, always ignore overhanging items such as bowsprits, sails, and the like on the ship's model. Only ever consider the main hull of the ship's casting or model.

While moving and/or turning on the table, if any part of a ship's rectangular base ***leaves the table***, then that ship is deemed to be ***Breaking Off***, and so is immediately removed from the table. It plays no further part in the game.

Can a ship be moved backwards?

Yes. Should a ship need to move backwards for some reason, then that ship must first come to a complete stop (and to state the obvious, that is when the ship's current speed reaches zero). Then on a *subsequent* Game Turn, the ship may move backwards at a maximum current speed of no more than 1, but it can turn normally.

To go forward again, the ship must again come to a complete stop (again, that is, when its current speed reaches zero). Then on a *subsequent* Game Turn, the ship may move forward again and turn normally.

COLLISIONS

The commander of a ship always tries to avoid colliding with another ship (or land feature such as an island or reef) simply because such a collision would do just about as much damage to his own ship as his ship would do to the other ship. Therefore:

- **A player MUST always manoeuvre a ship on the table in such a way as to avoid a collision if at all possible**.

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However, should a ship simply not be able to avoid a *collision* (and remember, that is where the rectangular base of the moving ship touches another ship's casting), then both of those ships *collide*, and so the following *collision sequence* is performed.

1) First, the ship that is moving is moved as far as it can go until the ship's *rectangular base* just touches the other ship's *casting*. The moving ship is then moved 1 cm backwards. It remains at that position and does no more this Movement Phase.

2) Next, both ships involved in the collision immediately suffer some stat losses depending on the *moving* ship's current speed. If the moving ship has a current speed of:

   1 to 4, then 2 Propulsion stats and 1 Hull stat are immediately crossed off on both ships.
   5 to 8, then 3 Propulsion stats and 1 Hull stat are immediately crossed off on both ships.
   9 or more, then 5 Propulsion stats and 2 Hull stats are immediately crossed off on both ships.

3) Next, the *current speed* of both ships involved is set to zero.

4) Last, neither ship involved can fire any guns during the upcoming Firing Phase (the crews on both ships are too busy bracing for the collision, performing damage control, etc, etc).

For example, say a ship with a current speed of 8 cannot be manoeuvred in such a way as to avoid a collision with another ship (be it friend or foe), and so a collision takes place. The moving ship is first moved forward till its rectangular base just touches the other ship's casting. The moving ship is then moved 1 cm directly backwards and it ends its Movement Phase there.

Then, because the moving ship has a current speed of 8, *both* of the ships involved have 3 Propulsion stats and 1 Hull stat immediately crossed off their respective Data Cards. Both ships then have their current speeds reduced to zero, and so this is also noted on their respective ship Data Cards. Play then moves on to the next ship.

Both ships, having been involved in a collision, cannot fire any of their guns during the upcoming Firing Phase. However, on a subsequent Game Turn, both ships may begin to move again (if able), and fire again (if able).

PHASE 3: THE FIRING PHASE

As already noted, all ships are to be based on small rectangular bases. These rectangular bases are then used to determine the various *arcs* used for firing purposes.

The forward gun arc, the broadside gun arcs, and the rear gun arc are those areas between two straight lines projected from the corners of the ship's rectangular base as shown in the diagram below:
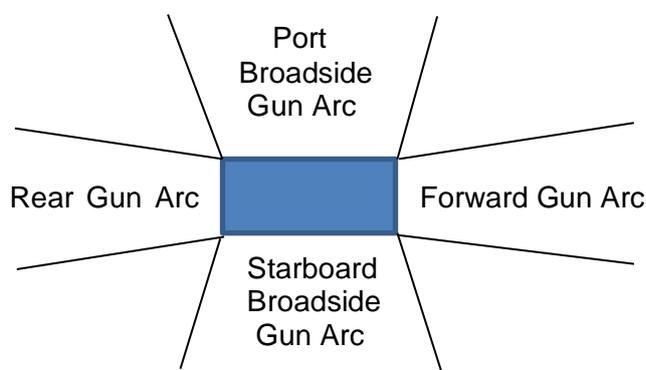

Players use the simple *Arc Device* (see Appendix C) to help determine if a ship is in arc or not. The device is simply placed against the ship's rectangular base pointing in the direction required thus:

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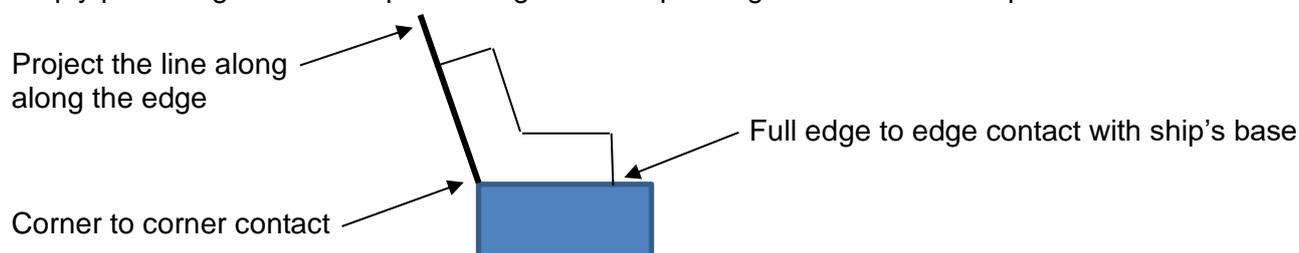
The arc that another ship is in relative to your ship is then determined thus:

- The other ship is in your *broadside arc* if that ship's casting is *partially or wholly in* one of your ship's broadside arcs.

- The other ship is in your *forward arc* if that ship's casting is *partially or wholly in* your ship's forward arc.

- The other ship is in your *rear arc* if that ship's casting is *partially or wholly in* your ship's rear arc.

For rotating turrets, it is a little different. The four arcs are the areas between two straight lines projected diagonally from opposite corners of your ship's rectangular base thus:
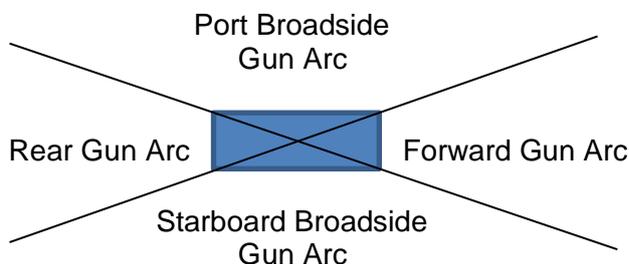

The arc that another ship is in relative to your ship is then determined thus (and note the subtle difference):

- The other ship is in your *broadside arc* if that ship's casting is *wholly in* one of your ship's broadside arcs.

- The other ship is in your *forward arc* if that ship's casting is *partially or wholly in* your ship's forward arc.

- The other ship is in your *rear arc* if that ship's casting is *partially or wholly in* your ship's rear arc.

PHASE 3A: RESOLVING GUNFIRE

To fire, a ship must first have a clear *Zone of Fire* between it and the intended target. The Zone of Fire is defined as the area between two straight lines projected from the extreme corners of the firing ship's *base* to the extreme corners of the intended target ship's *base* (thus maximising the area in-between) thus:

The Zone of Fire is this area between the two straight lines.
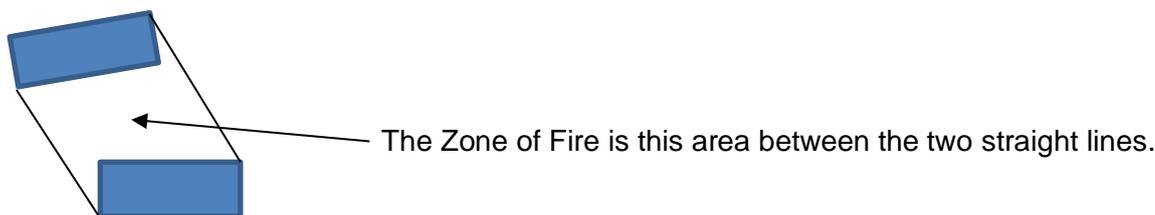
Now, if there are no ship *castings* (friend or foe) and no land features (such as islands, etc) in or partially in a ship's Zone of Fire, then the Zone of Fire is *clear* and that ship may be able to fire at that target ship. If the ship's Zone of fire is *not clear*, then that ship *cannot fire at that target ship*.

Next, the only guns that can fire at the target ship are those guns from the same gun arc that the target ship is in, that is, forward, port, starboard, or rear gun arcs (see the ship's Data Card).

For rotating turrets, players must agree before the game as to which arcs that the rotating turrets can fire into. For example, a ship's turret may be able to fire all round thus:

Centre Turret:	**01 02 03 04** 05 06 07 08 09 10	**Fwd/Port/Starboard/Rear**

A ship with a forward mounted turret may have a blind spot into the rear arc thus:

Forward Turret:	**01 02 03 04** 05 06 07 08 09 10	**Fwd/Port/Starboard**/Rear

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A ship with a centrally mounted turret may have a blind spot both into the forward arc and into the rear arc, and so can only fire into the broadsides thus:

Centre Turret: **01 02 03 04** 05 06 07 08 09 10   Fwd/**Port/Starboard**/Rear

The maximum *effective gun range* for all guns is set at *100 cm*. To measure the *range* or *distance* between any two ships at any time during the course of play, simply measure the shortest distance between the two ship's *castings* regardless of anything between.

All gunfire is by the *salvo*. This means that all of the stats for a particular gun arc fire at one target as one salvo. All of the stats from individual turrets that are firing at the same target are added up, and are then fired at that target as one salvo. However, although an individual turret cannot split its fire to fire at different targets, the individual turrets on a ship can each separately target and fire at different enemy ships (if able).

So, to fire a salvo, the player controlling the ship first refers to the ship's Data Card and determines the number of *stats* remaining for the gun arc firing (or the total number of stats remaining for the particular turrets firing).

Now, if a particular gun arc or turret has no stats remaining, then to state the obvious, that gun arc or turret cannot fire.

Otherwise, the player starts with *1D6 for each stat* as determined above. This basic number of dice is then *modified thus*:

- If firing at a ship with *3 or more* Armour stats remaining, then the player *halves* this basic number of dice (round fractions up).

Then:

- If the *sea state is rough*, then the player *halves* the number of dice again (round fractions up).

For example: A ship fires its port broadside gun arc guns at an enemy ship that is 33 cm away. A quick check shows that the enemy ship has 4 Armour stats remaining thus:

Armour: **01 02 03 04** 05 06 07

The player firing starts with 1D6 for each remaining port broadside gun arc stat on his ship, which in this example is (say) 11 thus:

Port Broadside Arc: **01 02 03 04 05 06 07 08 09 10 11** 12 13 14 15 16 17 18 19 20 21 22 23 24 25

This basic 11D6 is then halved to 5½ D6 (round up) = 6D6 because the target ship has 3 or more Armour stats remaining. The result is that 6D6 are to be rolled. If the sea state was rough, then this 6D6 would be halved again to 3D6.

The player then rolls the final number of dice as determined above. Now:

- If the range is over 50 cm, then each 5 or 6 rolled scores one hit.

- If the range is between 25 cm and 50 cm, then each 4 rolled scores one critical hit, and each 5 or 6 rolled scores one hit.

- If the range is under 25 cm, then each 3 or 4 rolled scores one critical hit, and each 5 or 6 rolled scores one hit.

Continuing the example: With the range being between 25 cm and 50 cm, the player needs 4's, 5's and 6's. The player rolls the 6D6, the number of dice as determined above, with the result of the roll being (say) that one 4 is rolled and one 5 is rolled. The other dice rolls are less than 4, and so are misses.

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Armour Saves:

The player controlling the target ship then immediately rolls that ship's armour save *for each individual salvo*. For example, if a ship was fired at by a broadside salvo and then by a turret salvo from the same ship, then the player rolls separately for each of these two salvoes.

To roll an armour save, the player controlling the target ship first determines the number of *Armour* stats that the target ship still has. The player controlling the target ship then rolls 1D6 for each of the remaining Armour stats on that ship.

Continuing the example: As noted, the target ship has four Armour stats remaining thus:

Armour: **01 02 03 04** 05 06 07

Therefore, the player controlling the target ship rolls 4D6, the result being that:

- If the range is over 50 cm, then for each 3, 4, 5 or 6 rolled, one hit is saved by the armour.

- If the range is between 25 cm and 50 cm, then for each 5 or 6 rolled, one hit is saved by the armour.

- If the range is under 25 cm, then for each 6 rolled, one hit is saved by the armour.

Continuing the example: The range is between 25 cm and 50 cm, and so the player needs 5's and 6's for saves. The player controlling the target ship rolls the 4D6, and the result of the roll is that (say) only one 5 is rolled, with all of the other dice rolls being less than 5. As a result, only one hit is saved by the armour.

- The player controlling the target ship then decides which hits are to be saved. Saved hits become *misses.*

Continuing the example: The enemy ship has taken two hits, but the enemy player's armour save roll has only managed to save one of those hits. The enemy player chooses to save the critical hit, and so the critical hit becomes a *miss*. Therefore, the enemy ship takes one unsaved non-critical hit with the 5.

For each unsaved hit, the type of unsaved hit is immediately noted on the target ship's Data Card thus:

For unsaved hits: **H**   For unsaved critical hits: **C**

Continuing the example: The player controlling the target ship then notes one H on the ship's Data Card thus:

Hits: H

When all of the players have finished all of their firing, and finished noting all of their unsaved hits and all of their unsaved critical hits on the Data Cards, players then proceed to Phase 3B.

PHASE 3B: DAMAGE RESOLUTION

During this phase, players resolve all of the unsaved hits and all of the unsaved critical hits that have been noted on their ship's Data Cards.

The player controlling the ship proceeds to resolve all of the ***unsaved critical hits on the ship first***, and then, when all of these critical hits have been resolved, the player then resolves all of the unsaved non-critical hits on the ship.

Now, and to state the obvious, if a ship has no unsaved hits and no unsaved critical hits noted on the ship's Data Card, then the player simply ignores this phase for that ship, and if there are no unsaved critical hits noted on the ship's Data Card, then the player simply proceeds to resolve all of the unsaved non-critical hits on the ship.

To resolve a hit on the ship, players cross off stats on their ship's Data Card as set out below.

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Resolving an unsaved critical hit (C):

To resolve an unsaved critical hit on a ship, the player controlling the ship first rolls a *1D3* to determine how many stats that the player has to cross off on that ship's Data Card for that critical hit.

When crossing off these stats, the player simply chooses one stat type (*any stat type*), and then the player simply crosses off the required number of stats.

To be clear, this means that even if the enemy ship that is firing at your ship is in your ship's port broadside arc, then for critical hits, gun stat loses could be crossed off from your ship's starboard broadside gun arc stats or even from a turret that can't fire into your ship's port broadside arc for example. (Think of unsaved critical hits as shots that hit and penetrated deep into the target ship resulting in the loses that have been crossed off).

For example: To resolve an unsaved critical hit on a ship, the player controlling the ship would first roll 1D6 and (let's say) the player rolls a 5. Now, for a 1D3 roll, a roll of a 5 translates to a 3 (see page 2). Therefore, 3 stats will need to be crossed off.

As noted, for unsaved critical hits, the player controlling the ship then chooses any *one of that ship's stat types*, and then crosses off the number of stats of that stat type on that ship's Data Card as determined by the 1D3 dice roll (see above).

Continuing the example: The player is required to cross off 3 stats. The player studies his ship's Data Card and decides to (let's say) take these 3 stats off the ship's Propulsion stats thus:

Propulsion: (**Before**)	**01 02 03 04 05 06** ~~07 08 09 10 11 12 13 14 15 16 17 18 19 20~~
Propulsion: (**After**)	**01 02 03** ~~04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20~~

Now, in the case where there are insufficient stats to cross off from the stat type chosen, then the remainder required to be crossed off from that stat type automatically become *misses* instead and *do no further damage.* (Players should think of these misses as the result of damage to non-vital areas, etc.)

For example: A ship takes an unsaved critical hit, and because of it is required to (say) cross off 3 stats. The player controlling the ship studies the ship's Data Card and decides to (let's say) cross off the stats from the ship's Rear Arc gun stats thus:

Rear Arc: (**Before**)	**01 02** ~~03 04 05 06 07 08 09 10~~
Rear Arc: (**After**)	~~01 02 03 04 05 06 07 08 09 10~~

As noted above, the player has crossed off the last two remaining stats from the Rear Arc gun stats. Having no more Rear Arc gun stats to cross off, the third stat required to be crossed off becomes a *miss* instead, and so does no further damage to the ship.

The C as noted on the ship's Data Card has now been resolved, and so it is crossed off as well thus:

Hits: ~~C~~

When all of the unsaved critical hits on the ship have been resolved, the player then proceeds to resolve all of the unsaved non-critical hits on the ship.

Resolving an unsaved non-critical hit (H):

To resolve an unsaved non-critical hit on a ship, the player controlling that ship simply chooses *any stat type* on that ship's Data Card, and then simply crosses off *one stat* of that type.

However, if crossing off *gun arc stats* for non-critical hits, then unlike critical hits, the stats being crossed off *must be from the arc that is being fired at first*. Only when there are no more stats left to be crossed off from the gun arc that is being fired at can the player cross off stats from *any* other gun arcs. Likewise, when crossing off stats from *turrets*, the stats being crossed off must be from a turret that can actually fire

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into the arc being fired at. Only when there are no more stats left to be crossed off from *all* of the turrets that can fire into that arc can the player cross stats off from *any* other turrets.

So, and to be clear, this means that if the enemy ship that is firing at your ship is in your ship's port broadside arc, then for non-critical hits, gun stat loses are to be crossed off from your ship's port broadside gun arc before any other gun arcs (or crossed off from a turret that can fire into the port broadside arc). If your ship has no stats remaining on the ship's port broadside gun arc, then gun stat loses can be taken from any other of your ship's gun arcs or turrets. (Think of ordinary hits as shots that hit but don't penetrate very far).

For example: Say a ship has two unsaved non-critical hits noted on its Data Card. The player controlling the ship studies the ship's Data Card and decides to (let's say) take one stat off the ship's Propulsion stats thus…

Propulsion: (**Before**)   **01 02 03 04 05 06** ~~07 08 09 10 11 12 13 14 15 16 17 18 19 20~~

Propulsion: (**After**)   **01 02 03 04 05** ~~06 07 08 09 10 11 12 13 14 15 16 17 18 19 20~~

… and take the other stat off the ship's forward gun arc stats thus:

Forward Arc: (**Before**)   **01 02** ~~03 04 05 06 07 08 09 10~~

Forward Arc: (**After**)   **01** ~~02 03 04 05 06 07 08 09 10~~

The two H's as noted on the ship's Data Card have now been resolved, and so they are crossed off as well thus:

Hits: ~~H H~~

Then, when ALL of the unsaved hits on the ship have been resolved (both critical and non-critical), the player determines if any of those hits caused any ***problems*** by rolling ***2D6*** once only. Now:

If the total of the roll is 2, then the ship suffered a penetrating hit resulting in ***steering problems***. Therefore, and for the rest of the game, the ship can only turn upto 4 cm around the Turn Device. If the ship suffers a second penetrating hit resulting in steering problems, then that second hit causes major steering problems that result in the ship not being able to turn at all for the rest of the game.

If the total of the roll is 3, then the ship suffered some serious damage to the ***smokestacks***. This seriously affects the ship's ability to produce enough steam. Therefore, and for the rest of the game, the ship must limit its current speed to 6 or less.

If the total of the roll is 9 or 10, and if the ship has less than 3 Armour stats remaining, then the ship suffered a penetrating hit that resulted in small explosion and a ***fire*** breaking out. Much of the crew is immediately tasked to firefighting duties, and they do manage to extinguish the fire in due course. However, because of the smoke, confusion and the firefighting activities, the ship's gunfire is affected for a number of Game Turns.

Therefore, the player rolls a 1D3 to determine the number of Game Turns that the ship's gunfire is affected. For the ***next 1D3 Game Turns***, whenever the ship fires any salvo from the ship, the player halves the final number of dice that the player would normally roll for that salvo (round fractions up).

If the total of the roll is 11 or 12, then the ship suffered a hit very close to the ***bridge***. While the damage and the resulting chaos is being sorted out, no new orders are issued by the ship's commander. Therefore, and for the next Game Turn only, the player controlling the ship cannot opt to change the ship's current speed, and the player cannot conduct a turn with the ship.

No problems occur with any other rolls. When all players have resolved all of their damage and problems, they proceed to Phase 4.

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PHASE 4: THE END PHASE

PHASE 4A: Check for Ships Sunk

Players check all of their ship's data cards to see if any ships have been sunk.

- Any ship that has **zero Hull stats remaining** is in a very bad way. Despite the crew's valiant efforts, they are unable to stop the flooding from a number of waterline hits, and as a result, the ship finally succumbs to this damage and **sinks**. Remove any such ship from play.

PHASE 4B: Ending the Game

The game immediately ends when one side or the other is found to have no ships left on the table in this phase. The other side (that is, the one with ships still on the table) is declared the *victor*.

However, in that rare circumstance where both sides are found to have no ships left on the table at the same time in this phase, then the engagement it is considered to be a *loss* for both sides.

Otherwise, the players must decide between themselves whether to continue the game and conduct another full Game Turn, or whether to end the game by declaring one side or the other the *victor*. The players can, of course, decide to end the game in a *draw*.

If the players cannot agree to end the game, then players proceed to conduct another full Game Turn.

FINALLY

I hope all of this makes sense.

Please remember that **it's just a game!** Try to have fun and sort out any problems that you may have thus:

- A player from each side rolls 1D6; re-roll on a tie.
- The side rolling the *lowest* dice roll gets to decide.

However, be careful because the decision made for the particular situation by the side with the lowest dice roll will then apply to *both* sides for that same situation for *remainder* of the game.

APPENDIX A: PREPARING A SHIP'S DATA CARD

Each ship requires a simple Data Card showing the ship's basic *statistics* (hereafter referred to as *stats,* and see Appendix E for blank Data Cards to copy).

To generate a ship's stats, good reference books and other reliable resources should be referred to.

First, some notes about guns and Gun Classes:

Some common sense is required to determine which guns can fire into which arc, and which arcs that rotating turrets can fire into. Any ship with an unusual layout should have its capabilities agreed to well before the game.

Guns are classified into one of six basic classes. The *Gun Class* that a gun is in is determined by using one of two methods. The player can use *either* the gun's weight of shot, or use the gun's calibre as per the table below:

Gun Class	Weight of Shot	Smoothbore	Rifled
Very Light	12 lbs or less	5" or less	3.5" or less
Light	Over 12lbs up to 64 lbs	Over 5" up to 7.5"	Over 3.5" up to 5"
Medium	Over 64lbs up to 90 lbs	Over 7.5" up to 9.5"	Over 5" up to 6.5"
Heavy	Over 90lbs up to 170 lbs	Over 9.5" up to 13"	Over 6.5" up to 9"
Very Heavy	Over 170lbs up to 220 lbs	Over 13" up to 15"	Over 9" up to 10.5"
Monster	Over 220 lbs	Over 15"	Over 10.5"

If you don't know whether a gun is smoothbore or rifled, then smoothbore is to be used. If there is a conflict between the weight of shot and the gun's calibre, then use the heavier Gun Class of the two.

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Next, some notes about armour:

A ship that has no iron armour starts the game with zero Armour stats. Otherwise, the ship's maximum belt armour thickness, plus the thickness of any wood backing the iron, are then used to determine the *effective* armour thickness thus:

For iron: One inch of *effective* armour for every inch of iron
For wood backing: For the iron equivalent, divide the inches of wood backing by 10

For example, say a ship has belt armour consisting of 2.5" of iron backed by 24" of wood. Its total effective armour would be:

For iron: 2.5" iron = 2.5" of effective armour
For wood backing: 24" divided by 10 = 2.4" of iron = 2.4" of effective armour

Therefore, the total effective armour of the ship is 2.5" + 2.4" = 4.9" (round fractions up) = 5".

Where a ship is known to have wood backing for its iron armour, but the thickness of the wood backing cannot be found, then simply use 6" as the wood measurement.

DETERMINING A SHIP'S STATS

For Guns:

The *stats* for a particular gun arc are determined by what the ship can actually fire into that gun arc (see the worked examples). The *stats* for an individual turret are determined by what guns are actually in the turret.

So, first you determine the Gun Class of each of the guns firing into the particular gun arc or from the particular turret (see page 12, and see the worked examples). Then, for:

Very Light Guns the arc or turret gets **0.2** stats per gun.
Light Guns the arc or turret gets **0.4** stats per gun.
Medium Guns the arc or turret gets **0.7** stats per gun.
Heavy Guns the arc or turret gets **1.2** stats per gun.
Very Heavy Guns the arc or turret gets **2.0** stats per gun.
Monster Guns the arc or turret gets **3.3** stats per gun.

When the total for the gun arc or turret has been determined, you round any fractions up.

The maximum stat value that a broadside gun arc can have is 25 stats. The maximum stat value that the forward gun arc can have is 10 stats. The maximum stat value that the rear gun arc can have is 10 stats. The maximum stat value that any individual turret can have is 10 stats.

For Armour:

The ship gets 1 Armour stat per inch of *effective* armour up to a maximum of 7 stats (see the section about armour above).

A ship that *starts* the game with zero Armour stats is referred to as a ***wooden screw*** ship. A ship that *starts* the game with just 1 or 2 Armour stats is referred to as a ***tinclad***. A ship that *starts* the game with 3 or more Armour stats is referred to as an ***ironclad***.

For Propulsion:

The ship gets 1 Propulsion stat per knot of maximum speed (round fractions up).

For Hull:

The ship gets one Hull stat for every 1,000 tons of its displacement (or part thereof) up to a maximum of 12 stats.

Then, any ship that has a ***very low freeboard*** (that is, only monitor styles of ships) has these Hull stats doubled (up to the above limit of 12 stats).

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For example: The French ship GLOIRE
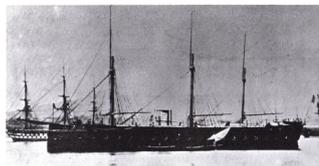
The forward gun arc and the rear gun arc have no guns, and it has no turrets.

Broadside gun arcs: It has 18 x 6.4" rifled muzzle loaders in each broadside. A 6.4" RML is a Medium gun. Medium guns get 0.7 stats per gun. Therefore, 18 guns x 0.7 = 12.6 (round fractions up) = 13 stats.

Its belt armour is 4.75" iron backed by 26" of wood. For iron, the effective armour is 4.75". For the wood, the effective armour is 26"/10 = 2.6". Its total effective armour then is 4.75" + 2.6" = 7.35" (round fractions up) = 8. However, the Armour stat limit is 7 (see page 13), therefore the Gloire gets 7 Armour stats.

The Gloire had a speed of 13 knots, and so gets 13 Propulsion stats.

The Gloire displaced 5,630 tons. It is not a monitor style of ship, and so does not have a very low profile. Therefore, the Gloire gets 6 Hull stats (see page 13).

As a result, the Gloire's Data Card stats at the start of the game would look like this:

Guns:

Forward Arc: ~~01 02 03 04 05 06 07 08 09 10~~

Port Broadside Arc: **01 02 03 04 05 06 07 08 09 10 11 12 13** ~~14 15 16 17 18 19 20 21 22 23 24 25~~

Starb Broadside Arc: **01 02 03 04 05 06 07 08 09 10 11 12 13** ~~14 15 16 17 18 19 20 21 22 23 24 25~~

Rear Arc: ~~01 02 03 04 05 06 07 08 09 10~~

Forward Turret: ~~01 02 03 04 05 06 07 08 09 10~~   ~~Fwd/Port/Starboard/Rear~~

Centre Turret: ~~01 02 03 04 05 06 07 08 09 10~~   ~~Fwd/Port/Starboard/Rear~~

Rear Turret: ~~01 02 03 04 05 06 07 08 09 10~~   ~~Fwd/Port/Starboard/Rear~~

Armour: **01 02 03 04 05 06 07**

Propulsion: **01 02 03 04 05 06 07 08 09 10 11 12 13** ~~14 15 16 17 18 19 20~~

Hull: **01 02 03 04 05 06** ~~07 08 09 10 11 12~~

Another example: The British ship WARRIOR

The forward gun arc and rear gun arc have no guns, and it has no turrets. Armament varied over its life, so this example will use this armament: 10 x 110lb breach loading rifled, 4 x 70lb breach loaded smoothbores, and 26 x 68lb smoothbores.

Broadside gun arcs: 110lb BLR are Heavy guns. Heavy guns get 1.2 stats per gun. 70lb BLS are Medium guns. Medium guns get 0.7 stats per gun, and the 68lb smoothbores are also Medium guns. Therefore, 5 Heavy guns x 1.2 = 6 stats, plus 15 Medium guns x 0.7 = 10.5 stats, totalling 16.5 stats (round up) = 17 stats.

Its belt armour is 4.5" iron backed by 18" of wood. For iron, the effective armour is 4.5". For wood, the effective armour is 18"/10 = 1.8". Its total effective armour therefore is 4.5" + 1.8" = 6.3" (round fractions up) = 7. Therefore, the Warrior gets 7 Armour stats.

The Warrior had a speed of 14 knots, and so gets 14 Propulsion stats.

The Warrior displaced 9,137 tons. It is not a monitor style of ship, and so does not have a very low profile. Therefore, the Warrior gets 10 Hull stats.

As a result, the Warrior's Data Card stats at the start of the game would look like this:

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Guns:

Forward Arc:	~~01 02 03 04 05 06 07 08 09 10~~
Port Broadside Arc:	**01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17** ~~18 19 20 21 22 23 24 25~~
Starb Broadside Arc:	**01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17** ~~18 19 20 21 22 23 24 25~~
Rear Arc:	~~01 02 03 04 05 06 07 08 09 10~~
Forward Turret:	~~01 02 03 04 05 06 07 08 09 10~~ ~~Fwd/Port/Starboard/Rear~~
Centre Turret:	~~01 02 03 04 05 06 07 08 09 10~~ ~~Fwd/Port/Starboard/Rear~~
Rear Turret:	~~01 02 03 04 05 06 07 08 09 10~~ ~~Fwd/Port/Starboard/Rear~~
Armour:	**01 02 03 04 05 06 07**
Propulsion:	**01 02 03 04 05 06 07 08 09 10 11 12 13 14** ~~15 16 17 18 19 20~~
Hull:	**01 02 03 04 05 06 07 08 09 10** ~~11 12~~

Another example: The small German turret ship ARMINIUS
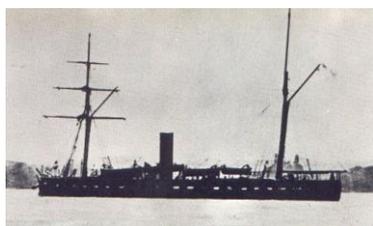
The forward, broadside and rear gun arcs have no guns. It has two turrets, but those two turrets can only fire into the broadside.

The Forward Turret: It has two 8.2" breach loading smoothbores. An 8.2" BLS is a Medium gun. Medium guns get 0.7 stats per gun. Therefore, 2 guns x 0.7 = 1.4 (round fractions up) = 2 stats. The Rear Turret is the same, and so it also gets 2 stats.

Its belt armour is 4.5" iron. For iron, the effective armour is 4.5" (round up) = 5. Therefore, Arminius gets 5 Armour stats.

The Arminius had a speed of 11.2 knots (round fractions up) = 12. Therefore, Arminius gets 12 Propulsion stats.

The Arminius only displaced 1,887 tons. It is not a monitor style of ship, and so does not have a very low profile. Therefore, the Arminius only gets 2 Hull stats.

As a result, the Arminius' Data Card at the start of the game would look like this:

Guns:

Forward Arc:	~~01 02 03 04 05 06 07 08 09 10~~
Port Broadside Arc:	~~01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25~~
Starb Broadside Arc:	~~01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25~~
Rear Arc:	~~01 02 03 04 05 06 07 08 09 10~~
Forward Turret:	**01 02** ~~03 04 05 06 07 08 09 10~~ ~~Fwd~~/**Port/Starboard**/~~Rear~~
Centre Turret:	~~01 02 03 04 05 06 07 08 09 10~~ ~~Fwd/Port/Starboard/Rear~~
Rear Turret:	**01 02** ~~03 04 05 06 07 08 09 10~~ ~~Fwd~~/**Port/Starboard**/~~Rear~~
Armour:	**01 02 03 04 05** ~~06 07~~
Propulsion:	**01 02 03 04 05 06 07 08 09 10 11 12** ~~13 14 15 16 17 18 19 20~~
Hull:	**01 02** ~~03 04 05 06 07 08 09 10 11 12~~

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Another example: The French ship COLBERT

The forward gun arc has no guns. The rear gun arc has one gun. The broadside gun arcs have three guns and one pivoting gun that cannot fire forward or aft.

Rear gun arc: It has 1 x 9.4" muzzle loading smoothbore. A 9.4" MLS is a Medium gun. A Medium gun gets 0.7 stats per gun (round fractions up) = 1 stat.

Broadside gun arcs: Each broadside has 4 x 10.8" muzzle loading smoothbores. A 10.8" MLS is a Heavy gun. Heavy guns get 1.2 stats per gun. Therefore, 4 guns x 1.2 = 4.8 (round up) = 5 stats.

Its belt armour is 8.7" iron. For iron, the effective armour is 8.7" (round up) = 9. However, the armour stat limit is 7, therefore the Colbert gets 7 Armour stats.

The Colbert had a speed of 14 knots, and so gets 14 Propulsion stats.

The Colbert displaced 8,750 tons. It is not a monitor style of ship, and so does not have a very low profile. Therefore, the Colbert gets 9 Hull stats.

As a result, the Colbert's Data Card at the start of the game would look like this:

Guns:

Forward Arc: ~~01 02 03 04 05 06 07 08 09 10~~

Port Broadside Arc: **01 02 03 04 05** ~~06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25~~

Starb Broadside Arc: **01 02 03 04 05** ~~06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25~~

Rear Arc: **01** ~~02 03 04 05 06 07 08 09 10~~

Forward Turret: ~~01 02 03 04 05 06 07 08 09 10   Fwd/Port/Starboard/Rear~~

Centre Turret: ~~01 02 03 04 05 06 07 08 09 10   Fwd/Port/Starboard/Rear~~

Rear Turret: ~~01 02 03 04 05 06 07 08 09 10   Fwd/Port/Starboard/Rear~~

Armour: **01 02 03 04 05 06 07**

Propulsion: **01 02 03 04 05 06 07 08 09 10 11 12 13 14** ~~15 16 17 18 19 20~~

Hull: **01 02 03 04 05 06 07 08 09** ~~10 11 12~~

Another example: The British ship MONARCH

The forward gun arc has two 7" muzzle loading rifled. The rear gun arc has one 7" muzzle loading rifled. It also has two turrets, each with two 12" muzzle loading rifled.

Forward gun arc: A 7" MLR is a Heavy gun. A Heavy gun gets 1.2 stat per gun. Therefore, 2 guns x 1.2 = 2.4 (round up) = 3 stats.

Rear gun arc: A 7" MLR is a Heavy gun. A Heavy gun gets 1.2 stat per gun (round up) = 2 stats.

Forward Turret: 12" MLR are Monster guns. Monster guns get 3.3 stats per gun. Therefore, 2 guns x 3.3 = 6.6 (round up) = 7 stats. The Rear Turret is the same, and so it also gets 7 stats.

Its belt armour is 7" iron. Therefore, Monarch gets 7 armour stats.

The Monarch had a speed of 14.9 knots (round fractions up) = 15. Therefore, Monarch gets 15 propulsion stats.

The Monarch displaced 8,322 tons. It is not a monitor style of ship, and so does not have a very low profile. Therefore, the Monarch gets 9 Hull stats.

Therefore, the Monarch's Data Card stats at the start of the game would look like this:

IRONCLADS 1850-1890 – **Version 3**

Guns:

Forward Arc: **01 02 03** ~~04 05 06 07 08 09 10~~

Port Broadside Arc: ~~01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25~~

Starb Broadside Arc: ~~01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25~~

Rear Arc: **01 02** ~~03 04 05 06 07 08 09 10~~

Forward Turret: **01 02 03 04 05 06 07** ~~08 09 10~~   ~~Fwd~~/**Port/Starboard**/~~Rear~~

Centre Turret: ~~01 02 03 04 05 06 07 08 09 10~~   ~~Fwd/Port/Starboard/Rear~~

Rear Turret: **01 02 03 04 05 06 07** ~~08 09 10~~   ~~Fwd~~/**Port/Starboard**/~~Rear~~

Armour: **01 02 03 04 05 06 07**

Propulsion: **01 02 03 04 05 06 07 08 09 10 11 12 13 14 15** ~~16 17 18 19 20~~

Hull: **01 02 03 04 05 06 07 08 09** ~~10 11 12~~

Another example: The US monitor ROANOKE

The ship has three turrets. The forward turret had one 15" smoothbore and one 150lb rifled. The centre turret one 15" smoothbore and one 11" smoothbore. The rear turret had one 11" smoothbore and one 150lb smoothbore.

Forward Turret: A 15" smoothbore is a Very Heavy gun. A Very Heavy gun gets 2.0 stat per gun. A 150lb smoothbore is a Heavy gun. A Heavy gun gets 1.2 stat per gun. Therefore, the turret gets 2.0 + 1.2 = 3.2 stats (round fractions up) = 4 stats.

Centre Turret: A 15" smoothbore is a Very Heavy gun. A Very Heavy gun gets 2.0 stats per gun. An 11" smoothbore is a Heavy gun. A Heavy gun gets 1.0 stat per gun. Therefore, the turret gets 2.0 + 1.0 = 3 stats.

Rear Turret: An 11" smoothbore is a Heavy gun. A Heavy gun gets 1.2 stat per gun. A 150lb smoothbore is also a Heavy gun. A Heavy gun gets 1.2 stat per gun. Therefore, the turret gets 1.2 + 1.2 = 2.4 (round up) = 3 stats.

Its belt armour is 4.5" iron. For iron, the effective armour is 4.5" (round fractions up) = 5. Therefore, Roanoke gets 5 Armour stats.

The Roanoke had a maximum speed of only 6 knots, and so only gets 6 Propulsion stats.

The Roanoke displaced about 6,300 tons, but being a monitor style of ship, it does have a very low profile. Therefore, the Roanoke gets 7 Hull stats which is then doubled to 14 stats, but the Hull stat limit is 12 stats (see page 13).

Therefore, Roanoke's Data Card at the start of the game would look like this:

Guns:

Forward Arc: ~~01 02 03 04 05 06 07 08 09 10~~

Port Broadside Arc: ~~01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25~~

Starb Broadside Arc: ~~01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25~~

Rear Arc: ~~01 02 03 04 05 06 07 08 09 10~~

Forward Turret: **01 02 03 04** ~~05 06 07 08 09 10~~   **Fwd/Port/Starboard**/~~Rear~~

Centre Turret: **01 02 03** ~~04 05 06 07 08 09 10~~   ~~Fwd~~/**Port/Starboard**/~~Rear~~

Rear Turret: **01 02 03** ~~04 05 06 07 08 09 10~~   ~~Fwd~~/**Port/Starboard/Rear**

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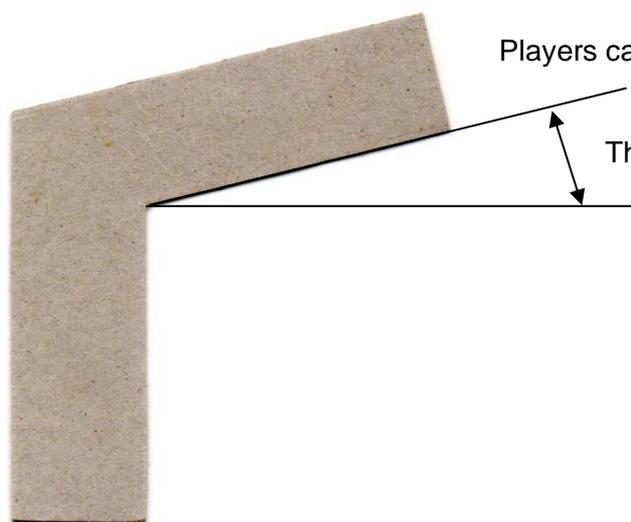| **Armour:** | **01 02 03 04 05** ~~06 07~~ |
| **Propulsion:** | **01 02 03 04 05 06** ~~07 08 09 10 11 12 13 14 15 16 17 18 19 20~~ |
| **Hull:** | **01 02 03 04 05 06 07 08 09 10 11 12** |

APPENDIX B: THE TURN DEVICE
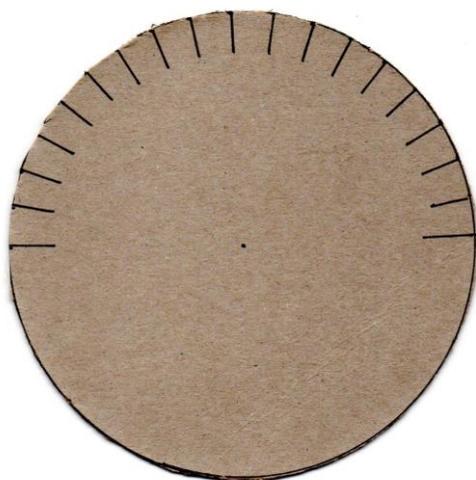
Players can make their own Turn Devices.

The Turn Device is 120 mm in diameter, and is marked off in 1 cm increments.

Note: A standard CD is 120 mm in diameter.

APPENDIX C: THE GUNNERY ARC DEVICE

Players can make their own Arc Devices.

This angle is 15 degrees.

APPENDIX D: USING FORMATIONS

To avoid the spectacle of having independent ships going here, there, and everywhere, players may wish to use these rules for *formations*.

- **Their use is optional but is strongly recommended**.

Ok. For game purposes, ships are to operate in *squadrons* of one to four ships.

If a squadron contains (or ends up containing) just one ship, then to state the obvious, that ship is *in formation* with itself by default. Otherwise, where a squadron contains more than one ship, then to determine if a ship of that squadron is *in formation* or not, the player controlling that particular squadron proceeds as set out below.

- **First, players only determine whether their ships are in formation or not at the start of the Movement Phase before any ships from either side are moved on the table**.

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Next, when determining if a ship is in formation or not, players need only consider the ships from the same squadron. Therefore, and for this section on formations only, players simply ignore the ships from other friendly squadrons, all enemy ships, and land features (such as an island or reef) as if they are not there.

Next, the ships of a squadron normally tried to maintain a *line abreast* formation or a *line astern* formation.

In **line abreast** formation, the ships tried to stay in a line side by side. When manoeuvring in a line abreast formation, the ships normally all turn at about the same *time*, by about the same amount, and in about the same direction.

In **line astern** formation, the ships followed the *leader*. When manoeuvring in a line astern formation, the ships all turn at about the same *position* on the table as where the leading ship turned. This point is referred to in this formations section as the **turn point**, and the player must place a small yellow marker to indicate where lead ship started its turn. When manoeuvring in a line astern formation, the ships normally all turn at about the turn point, by about the same amount, and in about the same direction as the lead ship.

Next, and by default, a squadron has a ship at each end (at the extremities) of such linear formations. These two ships are called the **end ships** for the purposes of this formations section, and both of these end ships are deemed to be *in formation*.

So, to determine if the other ships of a squadron are in formation, the player controlling the squadron simply proceeds to project a *straight line* from any point on one of the *end ship castings* to any point on the other *end ship's casting*.

However, for the ships in a *line astern* formation that are in the process of turning, the player controlling the squadron projects a *straight line* from any point on one of the *end ship castings* to the *turn point* marker, and then a *straight line* from the *turn point* marker to any point on the other *end ship's casting*.

Now:

- **If these straight lines do not pass over** a ship's casting from the same squadron, then that particular ship is said to be **out of formation**, and so the player places a small **red marker** adjacent to that ship to indicate that it is currently out of formation.

- **If these straight lines do pass over** a ship's casting from the same squadron, then that particular ship is said to be **in formation**. If such a ship currently has a red marker adjacent to it, then that red marker is removed.

What happens if a ship is out of formation?

The player controlling a ship that is out of formation *must* manoeuvre that ship on the table in such a way as to get the ship back into formation with its own squadron, and this *must* be done as quickly as possible.

What happens if a ship is in formation?

The player controlling a ship that is in formation can manoeuvre that ship on the table as the player wishes.

Breaking-Off:

A ship in a squadron can be ordered to *Break Off*. The player controlling the ship simply announces to all players that the ship is breaking off just before moving that ship on the table.

A ship breaking off is no longer considered to be part of the squadron that it came from. It operates as *independent* ship, and as a single independent ship, it is *in formation* by default. Therefore, the ship can be manoeuvred on the table as the player controlling it wishes.

However, a ship breaking off *must* be manoeuvred away from the enemy as quickly as possible, and must keep doing so until the ship leaves the table. A ship breaking off can still fire its guns until it leaves the table (if able).

Evasive Manoeuvres:

Finally, and regardless of all of the above formation requirements, if there are any enemy ships **within 25 cm** of a friendly ship when that friendly ship begins its movement on the table, then that friendly ship, whether it is in formation or not, **can be manoeuvred on the table as the player controlling it wishes**.

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APPENDIX E: BLANK SHIP DATA CARDS

Name:

Sister Ships:

Guns:

Forward Arc: 01 02 03 04 05 06 07 08 09 10

Port   Broadside Arc: 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

Starb Broadside Arc: 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

Rear Arc: 01 02 03 04 05 06 07 08 09 10

Forward Turret: 01 02 03 04 05 06 07 08 09 10   Fwd/Port/Starboard/Rear

Centre Turret: 01 02 03 04 05 06 07 08 09 10   Fwd/Port/Starboard/Rear

Rear Turret: 01 02 03 04 05 06 07 08 09 10   Fwd/Port/Starboard/Rear

Armour: 01 02 03 04 05 06 07

Propulsion: 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20

Hull: 01 02 03 04 05 06 07 08 09 10 11 12

Current Speed:

Hits:

Notes:

Name:

Sister Ships:

Guns:

Forward Arc: 01 02 03 04 05 06 07 08 09 10

Port   Broadside Arc: 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

Starb Broadside Arc: 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

Rear Arc: 01 02 03 04 05 06 07 08 09 10

Forward Turret: 01 02 03 04 05 06 07 08 09 10   Fwd/Port/Starboard/Rear

Centre Turret: 01 02 03 04 05 06 07 08 09 10   Fwd/Port/Starboard/Rear

Rear Turret: 01 02 03 04 05 06 07 08 09 10   Fwd/Port/Starboard/Rear

Armour: 01 02 03 04 05 06 07

Propulsion: 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20

Hull: 01 02 03 04 05 06 07 08 09 10 11 12

Current Speed:

Hits:

Notes:

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IRONCLADS: 1850-1890	QUICK REFERENCE

1) **Determine which side has the Tactical Advantage:**

2) **The Movement Phase:** For Collisions, see page 5.

3) **The Firing Phase:**

  A. Players fire their guns noting hits.
  B. Players then resolve the above noted hits.

4) **The End Phase:**

  A. Players check for ships sunk.
  B. Players then decide whether to continue the game or not.

Resolving Gunfire: Refer to page 6 for more details.

In or partially in the arc as required. Then, must have a clear Zone of Fire. The maximum *effective* gun range is 100 cm. Get 1D6 per stat.

- If firing at a ship that has 3 or more Armour stats remaining, then halve the number of dice (round fractions up).

- If the sea state is rough, then halve the number of dice again (round fractions up).

- If on fire/smoke, then halve the number of dice (round fractions up).

- If the range is over 50 cm, then each 5 or 6 rolled scores one hit.

- If the range is between 25 cm and 50 cm, then each 4 rolled scores one critical hit, and each 5 or 6 rolled scores one hit.

- If the range is under 25 cm, then each 3 or 4 rolled scores one critical hit, and each 5 or 6 rolled scores one hit.

Armour Saves: Refer to page 9 for more details.

- If the range is over 50 cm, then for each 3, 4, 5 or 6 rolled one hit is saved by the armour.

- If the range is over 25 cm but under 50 cm, then for each 5 or 6 rolled one hit is saved by the armour.

- If the range is under 25 cm, then for each 6 rolled one hit is saved by the armour.

- Saved hits simply become misses.

Damage Resolution: Refer to page 9 for more details.

Unsaved critical hits first, then unsaved non-critical hits.

| For an unsaved critical hit | **C** | 1D3 stats are crossed off from one stat type |
| For an unsaved non-critical hit | **H** | 1 stat is crossed off |

Then, when ALL of the unsaved hits on the ship have been resolved, the player then rolls **2D6**, and adds them together the result being thus (refer to page 11 for more details):

On a 2, the ship suffers steering problems. Maximum 4 cm around the Turn Device.

On a 3 or 4, the ship's smokestack was hit and is wrecked. Maximum Current Speed 6.

On a 9 or 10, and less than 3 Armour stats, a fire breaks out. For 1D3 Game Turns, half final number of firing dice.

On a 11 or 12, the bridge area is hit. No change of speed or no turning next Game Turn.

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