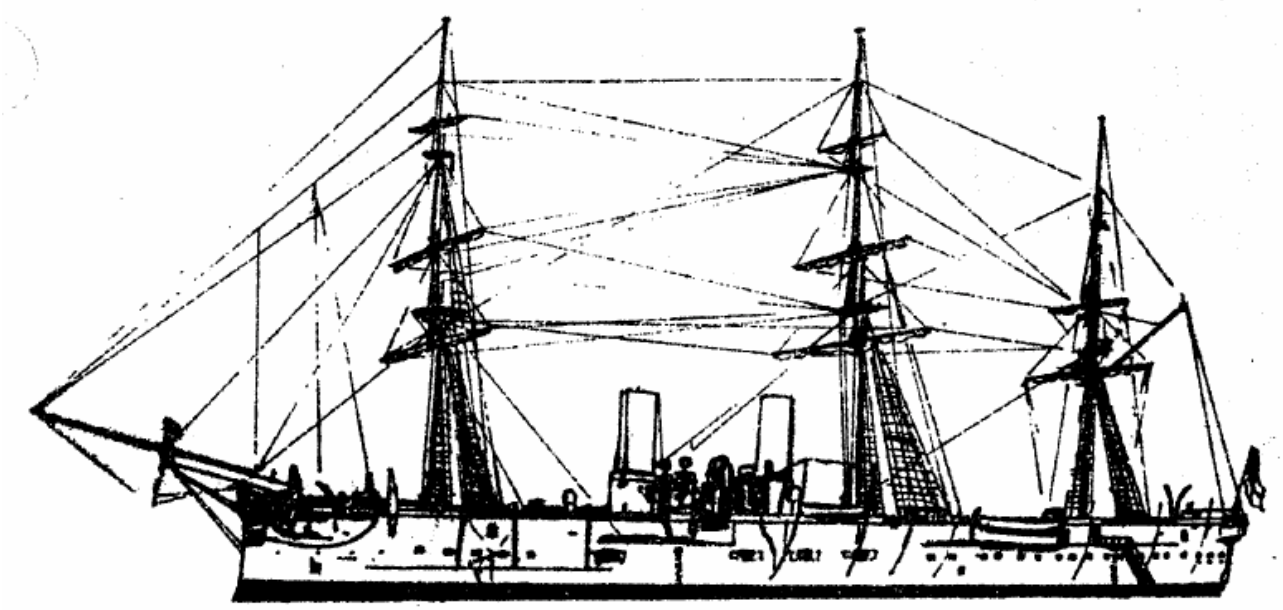
Ironclad and American Civil War Naval Wargames Rules



Naval Wargames Society, 1971, 2004

IRONCLAD & AMERICAN CIVIL WAR
NAVAL WARGAME RULES

NAVAL WARGAMES SOCIETY (U.K.)

By Keith French & John Wallis

Contents

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Cover - H.M.S. Alexandra (1877).

Scales

Ground scale is one inch equals 100 feet.
Time scale is one move equals one minute.
One inch is equal to one knot.

The Move

(For Ratings see "Ship Definitions").

All increases in speed are at the rate of one knot for the first move, two for the second, three for the third,, etc.

All decreases in speed are as follows:

lst Rate vessels 1 knot/move.
2nd Rate vessels 2 knot/move.
3rd Rate vessels 3 knot/move.
4th Rate vessels 4 knot/move.
5th Rate vessels 5 knot/move.

Manoeuvring [Use turning circles]

lst Rate vessels turn up to 45 degrees per 10 knots moved.
2nd Rate vessels turn up to 45 degrees per 6 knots moved.
3rd Rate vessels turn up to 50 degrees per 4 knots moved.
4th Rate vessels turn up to 55 degrees per 2 knots moved.
5th Rate vessels turn up to 55 degrees per 1 knots moved.

Unless a vessel is designed for the purpose, a vessel may only go astern at half its existing speed.

Grounding

Any vessel which enters water less than its draught is immovable for the duration of the game.

Ship Definitions

All ships are defined by a rating (given in number form) and a type (given in letter form).

Rating	[l.b.p]	[Fortifications]
lst rate ships	are of 301' or more in length.	[1000+]
2nd "	" " 201 - 300' " "	[801-1000]
3rd "	" " 101 - 200' " "	[601- 800]
4th "	" " 51 - 100' " "	[401- 600]
5th "	" " up to 50' " "	[up to 400]

Type

T All Ocean-going turret and barbette ships.
eg. G.B. Devastation, Hotspur, etc.
Fr. Ocean, Richlieu.
Russ. Petr Veliky.
C.S. Stonewall.

U All Ocean-going Broadside ships. [Wooden gunboats >175']
eg. G.B. Warrior, Agincourt, etc.
Fr. Alma, Gloire.
Russ. Kreml.
U.S. New lronsides.
C.S. Louisiana, Mississipi. [Arkansas, Virginia]

V All monitors.
eg. G.B. Glatton, Magdala.
Fr. Tonners.
Russ. Novgorod, Ouragan.
U.S. Keokuk plus all turret ships.

W Coastal broadside ships. [Wooden gunboats <176']
eg. Fr. Taureau.
C.S. Manassas plus all rams. [Casemate ironclads]

X River Gunboats (designed).
eg. U.S. Cairo class. [Double-enders]

Y River Gunboats (converted steamers). [Unarmed transports]
eg. U.S. Tyler.
C.S. General Beaureguard. [Ferries]

Z Launches.
eg. U.S. and C.S. torpedo boats.

Armour Values

To find the armour grade, take the thickness of the backing, eg. 24", 16" of wood equals 1" of iron, therefore 24" is equal to 1.5" of iron. Add this figure to the armour thickness and look the result up in the following table.

i.e. 1.5" plus armour thickness 4" equals 5.5" which is grade 'g'.

Value	Thickness
A8	26"-28" inc. armour and backing.
A7	24"-26" inc. armour and backing.
A6	22"-24" inc. armour and backing.
A5	20"-22" inc. armour and backing.
A4	18"-20" inc. armour and backing.
A3	16"-18" inc. armour and backing.
A2	14"-16" inc. armour and backing.
A	12"-l4" inc. armour and backing.
B	10"-12" inc. armour and backing.
C	8"-10" inc. armour and backing.
D	6"- 8" inc. armour and backing.
E	4"- 6" inc. armour and backing.
F	2"- 4" inc. armour and backing.
G	O"- 2" inc. armour and backing.

[Also unarmoured naval ships]
[O = unarmoured conversions]

Inclined armour where applicable adds to the protection the following thicknesses,

[0-32 degrees incline, add 2/3 (.66) thickness.]
[33-38 degrees incline, add 1/2 (.50) thickness.]
[39-45 degrees incline, add 1/4 (.25) thickness.]
[45-60 degrees incline, add 1/10 (.10) thickness.]

Where the figure is such that it may be either of two grades, the LOWER is always taken to apply.

If a Vessel is not armoured but can be proven to have had strengthened and thickened sides it may be classed as grade 'G'.

If the Vessel is a "cotton-clad" it may be classed as grade 'F', BUT must be classed as a wooden vessel for fire risk.

[1" rubber = 1/2" iron (some Union ironclads)]

Ordnance Types

Smooth Bores

Calibre	P.V. of Gun	Rate of Fire
15"	440	1/4 mins.
[11' Brooke	220	1/2 mins.]
[10" Brooke	220	1/2 mins.]
11"	166	1/2 mins.
10"	124	1/2 mins.
9.2"	100	1/2 mins.
9"	90	1/1 mins.
68pdr	68	1/1 mins.
8"	65	1/1 mins.
42pdr	42	1/1 mins.
32pdr	32	1/1 mins.
24pdr	24	1/1 mins.
12pdr	12	1/2 mins.

Rifles

Calibre	P.V. of Gun	Rate of Fire
17" blr	2,240	1/4 mins.
16" blr	1,684	1/2 mins.
12.5"	818	1/2 mins.
12" 35 ton	714	1/2 mins.
12" 25 ton	614	1/2 mins.
11"	546	1/2 mins.
10.5"(300 pdr)	300	1/2 mins.
10"	410	1/2 mins.
9"	256	1/1 mins.
8"	179	1/l mins.
7"	114	1/1 mins.
ll0 pdr blr + USA mlr	110	1/1 mins.
6.3" (100 pdr)	100	1/1 mins.
70 pdr blr	70	1/1 mins.
[60 pdr Parrott	60	1/1 mins.]
30 pdr	30	1/1 mins.
20 pdr mlr + blr	20	1/1 mins.
12 pdr	12	1/1 mins.

pdr. = pounder.
mlr. = muzzle-loading rifle.
blr. = breech-loading rifle.

Armour Penetration: Smooth Bores

Calibre	100	200	300	400	500	600	700	800	900	1000 yds.
	3	6	9	12	15	18	21	24	27	30 ins.
15"	A	B	B	C	C	D	D	D	E	E
11"	D	D	E	E	E	F	F	F	F	F
10"	D	D	E	E	E	E	F	F	F	F
9.2"	C	D	D	D	D	E	E	E	E	E
9"	E	E	E	E	E	F	F	F	F	F
8"	E	E	E	E	F	F	F	F	F	G
68pdr	E	E	E	E	E	F	F	F	F	F
42pdr	E	E	E	F	F	F	F	G	G	G
32pdr	E	F	F	G	G	G	G	G	G	G
24pdr	F	F	G	G	G	G	G	G	G	G
12pdr	F	G	G	G	G	G	G	G	G	G

Calibre	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000 yds.
	33	36	39	42	45	48	51	54	57	60 ins.
15"	E	E	F	F	F	G	G	G	G	G
11"	F	F	F	G	G	G	G	G	G	G
10"	F	F	G	G	G	G	G	G	G	-
9.2"	E	F	F	F	F	G	G	G	-	-
9"	F	G	G	G	G	G	G	-	-	-
8"	G	G	G	G	G	G	-	-	-	-
68pdr	G	G	G	G	G	-	-	-	-	-
42pdr	G	G	G	G	-	-	-	-	-	-
32pdr	G	G	G	-	-	-	-	-	-	-
24pdr	G	G	-	-	-	-	-	-	-	-
12pdr	G	-	-	-	-	-	-	-	-	-

Armour Penetration (continued): Rifled Guns

Calibre	100	200	300	400	500	600	700	800	900	1000 yds.
	3	6	9	12	15	18	21	24	27	30 ins.
17"	A8	A8	A8	A7	A7	A7	A7	A6	A6	A6
16"	A6	A6	A6	A6	A5	A5	A5	A5	A4	A4
12.5"	A4	A4	A4	A3	A3	A3	A3	A2	A2	A2
12" 35ton	A2	A2	A2	A2	A	A	A	A	B	B
12" 25ton	A	A	A	B	B	B	B	B	C	C
11"	A	A	A	A	A	B	B	B	B	C
10.5"(300pdr)	A	A	A	A	B	B	B	B	C	C
10"	A	A	B	B	B	B	B	C	C	C
9"	B	B	B	C	C	C	C	C	D	D
8"	C	C	C	C	D	D	D	E	E	E
7"	D	D	D	D	E	E	E	E	E	E
110pdr,bl,ml	D	D	D	E	E	E	E	E	F	F
6.3"(100pdr)	D	D	E	E	E	E	F	F	F	F
70pdr blr	D	E	E	E	E	E	F	F	F	F
60pdr	E	E	E	E	E	F	F	F	F	G
30pdr	E	E	F	F	F	G	G	G	G	G
20pdr	F	F	F	G	G	G	G	G	G	G
12pdr	F	G	G	G	G	G	G	G	G	G

Calibre	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000 yds.
	33	36	39	42	45	48	51	54	57	60 ins.
17"	A6	A6	A5	A5	A5	A5	A4	A4	A4	A4
16"	A4	A4	A3	A3	A3	A3	A3	A2	A2	A2
12.5"	A2	A	A	A	A	A	B	B	B	B
12" 35ton	B	B	B	C	C	C	C	D	D	D
12"25ton	C	C	D	D	D	D	D	E	E	E
11"	C	C	C	C	D	D	D	D	E	E
10.5"(300pdr)	C	C	C	D	D	D	D	E	E	E
10"	C	C	D	D	D	D	E	E	E	E
9"	D	D	D	E	E	E	F	F	F	F
8"	E	E	E	E	F	F	F	F	G	G
7"	F	F	F	G	G	G	G	G	-	-
110pdr,bl,ml	F	F	G	G	G	G	G	-	-	-
6.3"(100pdr)	F	G	G	G	G	G	-	-	-	-
70pdr	F	F	G	G	G	-	-	-	-	-
60pdr	G	G	G	G	-	-	-	-	-	-
30pdr	G	G	G	-	-	-	-	-	-	-
20pdr	G	G	-	-	-	-	-	-	-	-
12pdr	G	-	-	-	-	-	-	-	-	-

Procedure Of Firing

All firing is done after movement of ships.

Vessels which are raming may fire in the same move, firing must
be done before the effect of ramming is worked out.

1) State target and no. of guns firing if they bear.
2) Measure range (straight unobscured line between gun firing and target).
3) Throw one die per gun and refer to range chart.
4) For every hit throw two dice and refer to damage chart.

RANGE CHART

Target Rate	1	2	3	4	5
Range/Dice:	1.2.3.4.5.6.	2.3.4.5.6.	2.3.4.5.6.	2.3.4.5.6.	5.6.
150yds-4.5"	R.S.S.S.S.S.	R.S.S.S.S.	R.S.S.S.	R.S.S.	R.S.
300yds- 9"	R.S.S.S.S.	R.S.S.S.	R.S.S.	R.S.	R.
600yds- 18"	R.S.S.S.	R.S.S.	R.S.	R.	
1200yds- 36"	R.S.S.	R.S.	S.		
2000yds- 60"	R.S.	R.			

Notes: 'R' represents rifles.
'S' represents smoothbores and rifles.
In rates 2, 3, 4, 5, a 1 is an automatic miss.

DAMAGE CHART
Dies throw

Area of Damage	1.1	1.2	1.3	1.4	1.5	1.6	2.2	2.3	2.4	2.5
Hull B/W For*	All	-	-	-	-	-	-	-	-	-
Hull B/W Amid	-	All	-	-	-	-	-	-	-	-
Hull B/W Aft*	-	-	All	-	-	-	-	-	-	-
Hull A/W For	-	-	-	-	-	-	U	-	-	TUWZ
Hull A/W Amid	-	-	-	-	-	-	-	U.W	-	-
Hull A/W Aft	-	-	-	-	-	-	-	-	U	-
Turret*	-	-	-	-	-	-	V.T	V.T	V.T	-
[Casemate*	-	-	-	-	-	-	W.T	W.T	W.T	-]
Pilot house*	-	-	-	All	-	-	-	-	-	-
Funnel*	-	-	-	-	All	-	-	-	-	-
Paddle wheel Amid*	-	-	-	All	-	-	-	-	-	-
Paddle wheel Aft*	-	-	-	-	All	-	-	-	-	-
Misfire	-	-	-	-	-	All	-	-	-	-

-DICE THROW

	2.6	3.3	3.4	3.5	3.6	4.4	4.5	4.6	5.5	5.6	6.6
Hull A/W For	-	-	TUY	-	-	TUY	-	-	TUY	-	-
Hull A/W Amid	TUY	-	-	TUY	-	-	TUY	-	-	TUY	-
Hull A/W Amid	X.Y	-	-	XYZ	-	-	X.Y	-	-	-	-
Hull A/W Aft	-	TUY	-	-	TUY	-	-	TUY	-	-	-
Hull A/W Aft	-	X	-	X	-	-	-	X.Z	-	-	-
Turret	-	-	V	V	V	-	-	-	-	-	-
[Casemate	-	-	W	W	W	-	-	-	-	-	-]
Fire (Wooden Vessels only)	-	-	-	-	-	-	-	-	-	-	All

[* Additional damage - turn page]

NOTE: B/W is below: waterline, A/W is above waterline.
Letters refer to ship types, All means all rates.
If 1.4 and 1.5 is thrown, throw one further dice;
1-3 is pilot house/funnel;
5-6 is paddle wheel amid/aft if applicable.
If vessel has no wheels, ignore this.

If pilot house is hit once no further damage can be done to it until ship is back under control, a further hit will cause vessel to lose control again.

Damage Effect

All projectiles must penetrate armour (if any) before damage can occur.

Rating	Hits B/W No. of hits to sink
1	5
2	4
3	3
4	2
5	1

Rating	Hits B/W resulting in loss of speed For	Amid & Aft Area
1	l/3	1/4
2	1/2	1/3
3	2/3	1/2
4	All speed	2/3
5	One hit will sink	

ALL HITS B/W AMIDSHIPS:
Throw one die: 3-6 as above.
2. engines wrecked, disabled.
1. magazines hit, ship explodes.

ALL HITS B/W AFT:
Throw one die: 3-6 as above.
1 & 2 steering jammed,for five moves
Throw one die and consult the following table.

Steering Jammed:
1 & 2 Turn to starboard for five moves.
3 & 4 Turn to port for five moves.
5 & 6 Continue ahead for five moves.

If steering is jammed 3 times in the same action, it is considered as wrecked and ship becomes disabled.

HITS ON PILOT HOUSE:
Ship will proceed on same course and speed for five moves after which it is presumed to be back under control.

HITS ON FUNNELS:
Loss of all funnels will result in loss of one third of ORIGINAL speed.

	Hits required
Rate 1	Any projectile of 10" cal. and above, or any two below 10".
Rate 2	As for Rate 1.
Rate 3, 4 & 5	Any projectile.

HITS ON HULL A/W:
A number of guns in the relevant section will be destroyed equal to the points value (P.V.) value of the projectile which has hit. Eg. one 68pdr projectile will destroy 68 points worth of gun on the target it hits.

If target has:	2 gun decks	3 gun decks
Throw one die:	1, 2, 3 top deck.	1, 2 top deck.
	4, 5, 6 lower deck.	3, 4 middle deck.
		5, 6 lower deck.

NOTE: ALL damage is restricted to engaged side (or for. or aft.)

HITS ON TURRETS:
Any projectile which penetrates will put the turret out of action.

A turret may be jammed by a projectile which penetrates half the turret armour, in which case throw one die:

1, 2: turret jammed for rest of game, guns become inoperative unless pointing at a target.
3, 4: turret jammed for five moves after which the crew, is assumed to have cleared it. Guns may not fire during this time.
5, 6: no damage.

All hits on turrets are taken in sequence i.e. 1st hit on for. turret, 2nd on aft. turret. If they are on echelon the engaged turret will take the damage.

Damage effect (continued)

FIRE:
On wooden ships only. Throw one die for each move that fire(s) burn:
1, 2, 3 fire burns on.
4, 5, 6 fire is out.

For every five moves that fire burns, throw a die:
1, 2 fire out.
3, 4 fire burns on.
5 ship abandoned.
6 ship blows up.

For every five moves that ship burns 1 point [1 knot in speed]
is lost from her total needed to sink.
[For every move on fire, ship loses 50 pts A/W.]

TORPEDOES

Mobile Torpedoes:

These are launched from fixed mountings at 90 degrees to the bow. They have a range of 600 yds (18") and a speed of 9 knots. They will travel on the surface and their course must be marked. If a hit is scored throw one die.

1 failure to explode.
2 explodes but only does 1/2 point damage to targets sinkage value.
3, 4, 5, or 6 explodes.

Effect	Rate of target
1.5	1
2	2
2.5	3
sunk	4
sunk	5

Spar Torpedoes:

These must be brought into contact by ship (launches may only be used at night). They may be reloaded if the vessel carrying them is not fired at for three moves. They may not be rerigged under fire. If a hit is scored throw one die effect as above.

If a vessel is hit in the stern or within 1/2" of it she becomes disabled in addition to the effect of the torpedo.

If vessel is a side wheeler and is hit in the wheel the wheel is destroyed and the vessel will turn in that direction until stopped or run aground, in addition to damage suffered.

NB: If spar torpedoes are intended to be used an order must be written two moves in advance for the spar to be lowered or rigged or at the beginning of the game.

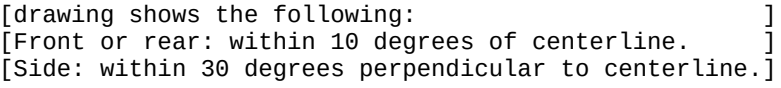
NOTE: Mobile torpedoes require 15 moves to be reloaded and only 2 per tube may be used.

Paddle wheel hits

	Side Wheel	Stern Wheel
1	steering jammed port 3 moves	1-2 power lost 3 moves
2	steering jammed starboard 3 moves	3-5 no damage
3-5	no damage	6 wheel destroyed
6	hit wheel destroyed	no power at all
	use next largest turning circle	
	speed cut 1/2	

Ramming
Only ships designed for the purpose may carry out this operation.
Eg. Ironclad rams and the wooden Ellet rams.
However any ship may run down and sink any opponent which is 3 rates or more smaller.

For any damage to result the attacker must ram its target within the angles as shown below:



Bow To Bow Ramming:

If one ship has ram or armoured bow and the other has not, damage is to ship without. If both, or neither, have ram or armoured bows, then damage is inflicted on ship of lesser rating. If of equal rating then damage is inflicted to both.

Attacker Rating	Target Rating 1	2	3	4	5
1	1	1	1	1	1
2	1	1	1	1	1
3	2	1	1	1	1
4	3	2	1	1	1
5	-	-	3	2	1

Figures denote number of hits needed to sink a particular rate of ship (refer to hits below water-line for extra damage). Blank spaces indicate that ramming would cause little or no damage. After contact both ships must remain in contact for one move in which firing may take place.

Ramming Conditions:

If target is a side wheeler and ram touches the wheel it is destroyed, the ship will turn to which ever side has been destroyed.
Any stern wheeled vessel which is rammed in the stern is completely disabled.
Any ship rammed within the angle shown at the stern will lose its steering and if it is single screwed will be completely disabled. However if it has 2 or more screws it can steer on engines, turning angles must be DOUBLED.
If vessel is rammed on either quarter and within 1/2" of the stern, all screws on that side are put out of action. Ship will then lose half its original speed and can only turn half its original angle per move.

Ramming Amidships:

If a vessel is rammed within the angle shown directly amidships it will lose the engine(s) on that side or if single screw/wheel will become completely disabled.
There may be exceptions to the usual position for the engines in certain ships in which case the same rule will apply to whichever section of the hull they are in.

Shore Batteries & Fortresses (By Elliot James)

Additional Rules for the Ironclad & A.C.W. Rules.

Batteries and forts can be summarised into six types
for firing and target purposes, thus:

Type	Type For Hitting
Open front field battery	X
One deck earth, one deck stone	U
Low fort	U
Two deck stone citadel	U
Sea fortress, e.g. Fort Sumter	U

The rate of a battery or fort may be taken as the length
of its face, e.g. 150 feet is rate 3. Thus a battery or fort
with unequal faces will present different targets from different
angles.

When referring to the firing chart ignore hits on turrets,
funnel, pilot house, paddlewheels and under-water hits which
count as hits above water.

Spacing of Guns:
Guns must have at least 15 feet between them and there
cannot be more than 6 guns per 100 feet. The type of gun is
not taken into account.

Defensive Value:
Protection value will vary depending upon the material of which
the fort is built.

Stone, Masonry	20 points.
Earth	15 points.

The fort/battery defence value is calculated thus:

Defensive points per gun = (Gun points value x Protection value)/4

Defensive value per face = (Def. points per gun) x (No. of guns in battery/face)

Example - 6 x 68 pdrs. in stone battery.

(68 x 20)/4 = 340 pts. = Defensive points per gun.
340 x 6 = 2,040 pts. = Defensive value of battery.

To inflict damage, deduct points value (P.V.) of each
shot hitting from value of target, when gun defensive value is
reached one gun is destroyed. When total defensive value
is reached, battery is destroyed.

+ + +

Notes:
1. The rules presented here are the original 1971 set with subsequent additions marked in [square brackets] made to the rules. (These were marked up on the copy provided by Ken Rice.)

2. John Wallis later noted a major omission in the rules - there are no provisions for damaging casemated ironclads. Such damage should be inserted wherever there is damage to turreted ironclads.