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## ***A & A GAME ENGINEERING PRODUCT SUPPORT***

Product Support sheets come in the following types:

- Clarifications – these are more general clarifications about game play in response to questions from players.
- Corrections and Amendments – these include corrections to errors in game data, typing errors, and mistakes in game play that have come to light. These may come in two alternatives:
  - applicable to the most recent edition.
  - applicable to previous editions. These items will all have been incorporated into the latest edition on sale.
- New Rules – These rules will have been developed in response to requests from players. They may also have been developed from House Rules (see below).
- House Rules and player suggestions. House rules that are tested and work well may be incorporated into the basic rules if the author(s) approve.

The content of the sheets follows the same order as the rules in the book and the first sheet shows a summary of these sections and indicates those that are affected by the current sheet.

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# ***IRON AND FIRE***

## **ADDITIONAL RULES FOR USE WITH IRON AND FIRE EDITION 2.2 ONWARDS**

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## 1—CHANCE CARDS

History is replete with examples of actions that were turned by a single piece of good or bad luck. Most, if not all wargames rules depend on an element of luck to some degree, but only really include effects on firing and morale in general terms. These optional rules offer the naval wargamer a chance to include more events and effects that could turn a battle's outcome. The system also allows for some flexibility and variation in order of battle, unknown to the opposition, once an action is set up. Before the start of the game the players or umpire should generate a set of cards in two decks. The decks are arranged as shown below.

The first set are drawn at the start of the game and generally cover good effects, such as the opportunity to re-roll a particular dice throw, to allow rapid damage control or to cause a lucky hit. Also

included in this deck of cards are a large number of blanks. These have no effect, but add to the suspense. At the start of the game the players take turns to draw 3 cards from the first deck. These cards can be played at any time during the game. Once played they are not replaced.

The second deck is a set of 'bad luck' cards. These are drawn at the discretion of an opposing player who is able to play a "Bad Luck" card from Deck 1, and generally (but not always) inflict a nasty surprise on the drawer. With a few exceptions the effects of these cards are resolved immediately and the cards returned to the deck, which is shuffled after each use.

**DECK 1—This deck consists of 26 cards. Take a normal deck of cards and remove all the black cards.**

<i>Cards in Deck</i>	<i>Playing Card</i>	<i>Event</i>
2	Ace	Good luck! - Repeat the last die roll
2	King	Critical Damage - Play this card when scoring a hit on an enemy vessel and cause one critical hit in addition to any other damage.
2	Queen	Double damage - must be played before dice are rolled for hit location. Damage caused from a hit is doubled. If a Weapon hit is scored then two guns are destroyed. If a Hull hit is scored then the target takes double SP loss. If a Critical Hit is scored then TWO criticals are inflicted.
2	Jack	"Bad luck, old boy"! - Force you opponent to draw from Deck 2
2	10	High morale - Increase crew quality of one ship by one level (e.g. raise a Veteran crew to Elite status)
1	9♥	Superior damage control - Release a jammed turret immediately
1	9♦	Superior damage control - Stop one flood immediately
1	8♥	Superior damage control - Extinguish one fire immediately
1	8♦	Superior damage control - Repair one damaged gun immediately 1d10
1	7♥	Superior damage control - Repair 1d10 SP or BP worth of damage on one ship immediately
1	7♦	Superior manoeuvring - One vessel can use the next smallest turning circle
10	2-6	Blank Card - Hold on to this card and bluff your opponent!

**DECK 2—This is made up of another 26 cards, and can be made by using the black cards not used for deck 1.**

<i>Cards in Deck</i>	<i>Playing Card</i>	<i>Event</i>
4	Ace King	Double Damage - the enemy's next shot will cause double damage to your ship which has just fired. Damage caused from the hit is doubled. If a Weapon hit is scored then two guns are destroyed. If a Hull hit is scored then the target loses double SP. If a Critical Hit is scored then TWO criticals are inflicted.
4	Queen Jack	Low morale - the poor showing of your ship which has just fired has affected crew morale Crew quality is reduced by 1 level - ships with green crews will quit the line of battle and attempt to withdraw.
2	10	Fire! - the ship which has just fired has caught fire.
2	9	Wood rot! - the Chief Shipwright has just discovered a nasty case of rot in the ship's timbers (or unsightly corrosion in iron ships). Reduce current SP by 1d10 immediately
2	8	Burst Gun! - The firing gun has exploded! Lose 1d6 SP from the burst.
2	7	Poor manoeuvring - the vessel in question cannot change course in the following action phase.
2	6	Good luck! - Repeat the last die roll.
2	5	"Bad luck, old boy"! - Force you opponent to draw from Deck 2 (but hold onto this card until they have done so).
6	2-4	Blank Card - No effect. You were lucky

## 2—AMERICAN CIVIL WAR CAMPAIGN RULES

The following rules give some rough guidelines and rules for more general multi player campaigns. They should be read in conjunction with the Red River Blues solo campaign system also available as a separate download sheet. Only the bare bones of the campaign are presented - experience suggests that campaign organisers will tailor the rules to suit their own preferences. In addition I would suggest that anyone organising a campaign should examine as many of the references as possible, particularly memoirs of serving officers, as these often act as a ready source of random events and unusual missions or circumstances for players to deal with. The American Civil War abounds with stories of warships evacuating parties of distressed civilians, transporting 'ladies of the night', surviving fire and flood, encountering dynamite 'accidentally' left in piles of captured coal - the list of unusual, embarrassing and downright dangerous happenings is almost endless! As with most things in life, the more effort that goes into this stage of the campaign the more you and your players will be rewarded.

### 2.1 – Playing Areas and Scales

The conventional campaign is staged on a hex map, using a scale of 5 miles to one hex, and a time scale of 2 hours per turn. The area covered by the playing area should be mapped out by the umpire in advance, or based on historical topography. In particular the umpire should note the location of strong currents, shallows, fords and crossing points, and other items of interest. Sides with 'local knowledge' can be given an advantage by having accurately laid out maps, with their less knowledgeable opponents having maps lacking in detail. Union commanders often planned campaigns on the Western rivers using maps taken from newspapers and journals, whilst charts of the islets and inlets on the Eastern Seaboard were notoriously unreliable. The South, in contrast, was generally well endowed with local boatmen who had grown up on the water and who had unrivalled local knowledge.

### 2.2 Characters

#### State of origin

Roll D20 on the table opposite. This can be particularly interesting, particularly where a character was born in a state which is now on the opposing side (opportunities for role playing here, with smear campaigns against those whose background is not as loyal as it could be!).

### 2.3 – Order of Play

Each turn the players run through the following sequence:

- 1 Refuel and rearm
- 2 Conduct repairs
- 3 Write messages, deciding on method of transmittal
- 4 Telegraphic Transfer 1
- 5 Random event resolution
- 6 Plot movement.
- 7 Execute Movement
- 8 Check for opposing forces in same hex
- 9 Resolve engagements
- 10 Telegraphic Transfer 2
- 11 Written message reception

These phases are discussed in detail below.

Roll	Union	Confederate
1 – 2	Maine	Texas
3 – 4	Massachusetts	Louisiana
5 – 6	New Jersey	Mississippi
7 – 8	New England	Alabama
9	New England	Arkansas
10	Delaware	Georgia
11	Virginia	Florida
12	Pennsylvania	Florida
13	Vermont	South Carolina
14	Ohio	South Carolina
15	Missouri	North Carolina
16	Maryland	North Carolina
17	Florida	Virginia
18	South Carolina	Virginia
19	Virginia	Tennessee
20	North Carolina	Maryland

### Phase 1 – Refuel and Rearming

At the start of the turn players decide whether any of their ships will be refuelling and rearming. Vessels that are doing so must spend that turn at anchor or alongside, and may not move.

All ships use at least 1 point of fuel per turn, unless their boilers are cold. Fuel usage depends on ship size, speed and efficiency of the engines. Refer to the table below to determine fuel usage and typical bunker capacity

Fuel Usage Table						
Size	Cold	Idle	Up to ½ speed	Over ½ Speed	Inefficiency Bonus	Bunker Capacity*
VS	0	1	1	2	+1	30/40
S	0	1	1	2	+1	40/75
M	0	1	2	3	+1	50/100
L	0	1	2	3	+2	60/110
VL	0	2	2	4	+2	80/120
* (Riverine/Open Ocean)						

It will be noted that ocean going ships have proportionally larger bunkers since they were expected to transit greater distances without refuelling. This refers to their maximum capacity - once engaged in operations on the rivers the amount of ready fuel was likely to drop, and so it would be quite realistic to start a riverine campaign with an ocean going vessel's bunkers at 50 to 60% capacity. Transports can carry a number of fuel points equal to their original SP multiplied by 5.

Limitations also exist for ammunition. At the start of the game it is assumed that each gun has 20 to 30 turns worth of ammunition available for each gun. A 'turns worth' (hereafter referred to as a 'round') may be a single 15" shell, or several smaller shells, but represents the amount of ammunition expended in a single game

turn. Transports can carry a number of rounds of ammunition equal to their original SP multiplied by 5, but the type and number of rounds for each type must be specified before the start of the campaign. Space allocated to ammunition storage cannot be used for the carriage of extra fuel.

Players may set up fuel and ammunition depots in their territory. As for ammunition carried on transports the number of rounds for each calibre of gun should be noted. Ammunition and fuel at depots is of course available to the opposition if those depots are captured.

Scavenging of fuel and ammunition from shore batteries, towns or captured ships takes at least one turn to complete, during which the forces involved are immobile. The umpire must determine the local availability of fuel and ammunition (the former depending on the degree of habitation, local woods, etc., the latter usually depending on the presence of enemy batteries or ammunition dumps). In general scavenging should offer up 1d10 fuel points within a particular hex on the first turn it is scavenged, with 1d6 on subsequent turns. Umpires should allow two or more d10 rolls in inhabited areas, but are also free to designate areas as 'sparse', allowing no scavenging rolls at all.

### Phase 2 – Undergoing Repairs

Repairable damage is limited to 50% of any damage inflicted (e.g. if a ship suffers 10 damage points in an engagement, 5 will be repairable. The remaining 5 points is permanently lost, or at least within the confines of the campaign - more permanent repairs would require the services of a dockyard).

Repairs may be conducted if the vessel is hove to. A minimum of three campaign turns must be spent on repairs for progress to be made. A group of three concurrent campaign turns spent making repairs is referred to as a Repair Turn. Each Repair Turn allows:

- SP and BP damage up to 5% of the ship's original points values to be reinstated (or 10% if the vessel is at a dockyard or repair facility).
- Repair rolls to be made for guns and other damage, up to a maximum of 1 roll per 20 original SP or part (e.g. a ship with 25 SP can make 2 rolls).

"Other damage" includes knocked out guns, damaged boilers, funnels, paddle wheels etc. Some damage may be irreparable, other damage may be found to be irreparable as repairs progress. Burst guns and boilers that were penetrated (Critical hits 4 and 16) cannot be repaired by the ship's crew. Repairs to these items requires the services of a dockyard (see below) For other items, roll on the table below, with the numbers shown indicating the scores required for success:

<i>Item</i>	<i>Repairs by Ships Crew</i>	<i>Repairs at a Repair Facility</i>
Guns	1	1-2
Boiler	1	1-3
Boiler valves	1-2	1-4
Other items	1-2	1-3
Items for which repair rolls are shown on the critical hit table	All such damage apart from fire and flood is assumed to be fixed following the end of an action. Rolls for firefighting and flooding continue after the end of the action until they are secured (fires out, flood stemmed) or the ship sinks	

On a roll of 10 the damaged item is found to be irreparable, requiring the services of a dockyard as for burst guns and penetrated boilers, otherwise the item has not been repaired during that repair turn. Note that it is possible for an item to be declared irreparable after more than one attempt to fix it.

Ships may be docked to allow permanent repairs. This requires the services of a dockyard (which may or may not be available, at the discretion of the umpire). Repairs to guns and critical hits are conducted as above (ignoring the effects of a roll of 10) but hull damage is repaired at the rate of 1% of original SP and BP per day. Note that in this case there is no rounding involved - the ship is left in dock for a number of days, on completion of which the proportion of damage repaired is calculated.

*For example, a ship that suffered 45% damage could be returned to service in near-perfect order after 45 days. If a ship is in dock for more than a month it can be assumed that all guns and critical hits have been repaired, to save excessive die rolling.*

### Phase 3 – Write Messages, deciding on method of transmittal

All communication with other players or remote commands is via written orders and reports. These may be as long or as brief as the players wish. Having concocted their reports they must declare how the message is to be delivered. Options are by despatch boat, mounted courier, pigeon, or by telegraph. The telegraph has its own phase; the others are discussed below.

#### Despatch Boat

The message is allocated to a particular vessel, and is delivered to the recipient in the Message Receipt phase of the turn in which the vessel reaches them.

#### Pigeon Post

Pigeons can carry short messages (allow no more than 30 words) back to prepositioned Headquarters which must be located in advance, and which must have been established for some time. Flight time is 1 turn per three hexes. Pigeons were, however, vulnerable to snipers, troops looking for lunch, or the local wildlife - roll a d6 per pigeon despatched. On a roll of 5 or 6 the pigeon has been intercepted, and the message is lost. Note that the supply of pigeons will be limited - say no more than 5 per flotilla, if they are available at all.

#### Mounted Couriers

Mounted couriers travel at a speed of three hexes per turn. There is a chance they will be intercepted by enemy patrols, get lost or are otherwise delayed. Roll a d6 per message:

<i>Roll</i>	<i>Effect</i>
1-3	Message arrives OK
4	Courier intercepted and message lost if enemy patrols are active, otherwise delayed 1 turn
5	Courier gets lost - delayed 1 turn until message is delivered
6	Courier gets lost - delayed 1d6 turns until message is delivered

### **Phase 4 – Telegraphic Transfer 1**

Telegraphic transfer may be used if the wires are available. The umpire should plot the location of wire stations and the routes of the wires themselves. The use of the telegraph may allow multiple messages to be passed, such as queries and replies, but again, delays may be caused. For each message passed along a particular wire, roll a d6. On a roll of 1-5 the message is passed immediately to the recipient, but on a 6+ the message is delayed and is not passed until the start of Phase 10, telegraphic Transfer 2. One is added to the die for each message passed.

### **Phase 5 – Random Event Resolution**

Before the start of play the umpire should generate a random event table. This should be tailored to the specific conditions of the campaign, but Table 11 of the solo campaign rules could be used as is. Rolls for random events should be made once per day for each flotilla.

### **Phase 6 – Plot Movement.**

Movement of each flotilla or individual vessel is plotted on the campaign map. Orders should be accompanied by a note on the fuel used by each vessel and the available fuel remaining after movement.

### **Phase 7 – Execute Movement.**

Movement orders are passed to the umpire who plots the moves on the map.

### **Phase 8 – Check for opposing forces in same hex.**

If the movement of a ship or flotilla takes a vessel into a hex occupied by enemy forces, whether on land or afloat, the umpire should check for the possibility of an encounter. These will usually be automatic unless there is some element of restricted visibility, for example a vessel attempting to pass a battery at night or in fog.

### **Phase 9 – Resolve Engagements.**

Any encounters that lead to combat are transferred to the tabletop and the resulting action fought to a conclusion. Particularly long actions may allow the movement of reinforcements to assist on subsequent campaign turns.

### **Phase 10 – Telegraphic Transfer 2.**

Any telegraphic messages that were waiting to be delivered from Phase 4 are delivered now.

### **Phase 11 – Written Message Reception.**

Written messages that reach their destination are handed to the recipients now. Note that if a message was intercepted or otherwise lost neither the recipient nor the sender are informed of the fact until the game is concluded.

## **2.4 American Civil War Bibliography**

This list of titles also appears in the Blue Steel Grey Thunder supplement.

- Amadon, George F. *Rise of the Ironclads*. Pictorial Histories Publishing, 1988.
- Anderson, Bern. *By Sea and By River: The Naval History of the Civil War*. Da Capo, 1989.
- Baxter, James Phinney III. *The Introduction of the Ironclad Warship*. Harvard University Press, 1933.
- Bearss, Edwin C. *The Fall of Fort Henry*. Eastern National Park and Monument Association, 1989.
- Bearss, Edwin C. *Hardluck Ironclad*. Louisiana State University Press, 1966. Revised edition, 1980.
- Bearss, Edwin C. *River of Lost Opportunities: The Civil War on the James River 1861-1862*. H.E. Howard, 1995.
- Bradford, James C. (ed.) *Captains of the Old Steam Navy: Makers of the American Naval Tradition 1840-1880*. United States Naval Institute, 1986.
- Bradford, Ned (ed.) *Battles and Leaders of the Civil War*. New York: Fairfax Press, 1956.
- Browning, Robert M., Jr. *From Cape Charles to Cape Fear: The North Atlantic Blockading Squadron in the Civil War*. University of Alabama Press, 1993.
- Bulloch, James D. *The Secret Service of the Confederate States in Europe*. Reprint by Thomas Yoseloff, 1959.
- Burton, E. Milby. *The Siege of Charleston 1861-1865*. University of South Carolina Press, 1970.
- Campbell, R. Thomas. *Gray Thunder: Exploits of the Confederate States Navy*. Burd Street Press, 1996.
- Campbell, R. Thomas. *Southern Thunder: Exploits of the Confederate States Navy*. Burd Street Press, 1996.
- Campbell, R. Thomas. *Southern Fire: Exploits of the Confederate States Navy*. Burd Street Press, 1997.
- Canney, Donald L. *The Old Steam Navy, Volume 1: Frigates, Sloops and Gunboats, 1815-1885*. Naval Institute Press, 1990.
- Canney, Donald L. *The Old Steam Navy, Volume 2: The Ironclads, 1842-1885*. Naval Institute Press, 1993.
- Carse, Robert. *Blockade: The Civil War at Sea*. Rinehart & Co., 1958.
- Chaitin, Peter M. *The Coastal War: Chesapeake to Rio Grande*. Time-Life Books, 1984.
- Chesneau, Roger. *Conway's All the World's Fighting Ships 1860-1905*. Conway Maritime Press, 1979.
- Coombe, Jack D. *Thunder Along the Mississippi*. Sarpedon, 1996.
- Cooney, David M. *A Chronology of the U.S. Navy 1775-1965*. Franklin Watts, 1965.
- Coski, John M. *Capital Navy: The Men, Ships and Operations of the James River Squadron*. Savas Woodbury, 1996.
- Davis, George B., et. al. *The Official Military Atlas of the Civil War*. Gramercy Books, 1983.
- Davis, William C. *Duel Between the First Ironclads*. Doubleday, 1975.

- Donovan, Frank R. *Ironclads of the Civil War*. American Heritage Publishing, 1964.
- Durkin, Joseph T. *Confederate Navy Chief: Stephen R. Mallory*. University of South Carolina Press, 1987
- Edmonds, David C. *The Guns of Port Hudson*. Acadiana Press, 1983.
- Elliott, Robert G. *Ironclad of the Roanoke: Gilbert Elliott's Albemarle*. White Mane, 1994.
- Fowler, William M., Jr. *Under Two Flags: The American Navy in the Civil War*. Avon Books, 1990.
- Gibbons, Tony. *Warships and Naval Battles of the U.S. Civil War*. Dragon's World, 1989.
- Gosnell, H. Allen. *Guns on the Western Waters*. Louisiana State University Press, 1993.
- Greene, J & Massignani, A. *Ironclads at War*. Combined Publishing, 1998
- Hearn, Chester G. *Mobile Bay and the Mobile Campaign*. McFarland & Co., 1993.
- Hearn, Chester G. *The Capture of New Orleans, 1862*. Louisiana State University Press, 1995.
- Hoehling, A.A. *Naval Incidents of the Civil War*. John F. Blair, 1989.
- Hoehling, A.A. *Thunder at Hampton Roads*. Prentice Hall, 1976.
- Hunter, Louis C. *Steamboats on the Western Rivers*. Dover Books, 1993.
- Jones, Virgil Carrington. *The Civil War at Sea (3 vols)*. Broadfoot Publishing, 1990.
- Korn, Jerry. *War on the Mississippi: Grant's Vicksburg Campaign*. Time-Life Books, 1985.
- Luraghi, Raimondo. *A History of the Confederate Navy*. Chatham Publishing, London, 1996.
- Macartney, Clarence Edward. *Mr. Lincoln's Admirals*. Funk & Wagnalls, 1956.
- MacBride, Robert. *Civil War Ironclads: The Dawn of Naval Armor*. Chilton Books, 1962.
- Mahan, Alfred T. *The Gulf and Inland Waters*. Broadfoot Publishing, 1989.
- Massignani, Allesandro and Greene, Jack: *Ironclads at War*. Combined Publishing, 1998
- Merrill, James M. *Du Pont: The Making of an Admiral*. Dodd, Meade & Co., 1986.
- Merrill, James M. *The Rebel Shore*. Little, Brown, 1957.
- Miller, Edward M. *USS Monitor: The Ship That Launched a Modern Navy*. Leeward Publications, 1978.
- Miller, Edward Stokes. *Civil War Sea Battles*. Combined Books, 1995.
- Miller, Francis Trevelyan (ed.) *The Photographic History of the Civil War: VI The Navies*. Thomas Yoseloff, 1957.
- Milligan, John D. *Gunboats Down the Mississippi*. United States Naval Institute, 1965.
- Moebs, Thomas Truxtun. *Confederate States Navy Research Guide*. Moebs Publishing Company, 1991.
- Mokin, Arthur. *Ironclad: The Monitor & the Merrimack*. Presidio Press, 1991.
- Musicant, Ivan. *Divided Waters: The Naval History of the Civil War*. Harper Collins, 1995.
- Naval History Division, U.S. Navy. *Civil War Naval Chronology 1861-1865*. U.S. Government Printing Office, 1971.
- Page, Dave. *Ships versus Shore*. Rutledge Hill Press, 1994.
- Parker, William Harwar. *Recollections of a Naval Officer 1841-1865*. Naval Institute Press, 1985.
- Perry, Milton F. *Infernal Machines; The Story of Confederate Submarine and Mine Warfare*. Louisiana State University Press, 1985
- Porter, David D. *The Naval History of the Civil War*. Castle Books, 1984.
- Pratt, Fletcher. *Civil War on Western Waters*. Henry Holt, 1956.
- Pratt, Fletcher. *The Monitor and the Merrimac and Other Naval Battles*. Random House, 1951.
- Reed, Rowena. *Combined Operations in the Civil War*. University of Nebraska Press, 1993.
- Roske, Ralph J. and Charles Van Doren. *Lincoln's Commando: The Biography of Cdr. William B. Cushing*, USN Naval Institute Press, 1995.
- Rye, Scott. *Men & Ships of the Civil War*. Longmeadow Press, 1995.
- Scharf, J. Thomas. *History of the Confederate States Navy*. Fairfax Press, New York, 1977.
- Silverton, Paul H. *Warships of the Civil War Navies*. Naval Institute Press, 1989.
- Soley, James Russell. *The Blockade and the Cruisers*. Broadfoot Publishing, 1989.
- Spencer, Warren F. *The Confederate Navy in Europe*. University of Alabama Press, 1983.
- Stern, Philip Van Doren. *The Confederate Navy: A Pictorial History*. Da Capo Press, 1992.
- Still, William N., Jr. *Iron Afloat: The Story of the Confederate Armorclads*. University of South Carolina, 1985.
- Time-Life Books. *The Blockade: Runners and Raiders*. Time-Life Books, 1983.
- Trotter, William R. *Ironclads and Columbiads: The Civil War in North Carolina*. John F. Blair, 1989.
- Tucker, Spencer. *Arming the Fleet: U.S. Navy Ordnance in the Muzzle-Loading Era*. Naval Institute Press, 1989.
- Walke, Henry. *Naval Scenes and Reminiscences of the Civil War in the United States*. F.R. Reed & Company, 1877.
- Werlich, David P. *Admiral of the Amazon: John Randolph Tucker*. University Press of Virginia, 1990.
- West, Richard S., Jr. *Gideon Welles: Lincoln's Navy Department*. Bobbs-Merrill Company, 1943.
- Wideman, John C. *Civil War Chronicles: Naval Warfare - Courage and Combat on the Water*. Metro Books, 1997
- Williams, Edward F., III. *Confederate Victories at Fort Pillow*. Nathan Bedford Forrest Trail Committee, 1984.

### 3—EUROPEAN (LISSA) CAMPAIGN RULES

The Lissa campaign is sufficiently restricted in its extent to make an almost perfect naval wargames campaign. As well as normal naval sweeps, players may have the opportunity to conduct shore bombardments, land or extract troops and reconnoitre enemy positions.

#### 3.1 – Armament Types

Sources vary as to the exact armament of the various vessels involved in the campaign. This is not surprising, especially as the Italians spent several days installing new guns and switching guns between ships. I have taken the data presented in “Ironclads at War, 1854-1891” by Greene and Massignani as a standard. Feel free to use data from alternate sources if you wish.

Some confusion may be caused by guns of a nominal calibre or poundage that were used to fire heavier or lighter rounds in service. The table below gives what I believe are the equivalents (drawn from “Four Modern Naval Campaigns”, by William Laird Clowes.

<i>Listing in data table (“official” rating of gun)</i>	<i>Alternative Rounds or Designations</i>
<b>Austrian</b>	
12pdr	60pdr Paixhans shell
30pdr	32.5lb ball, 24lb shell
48pdr	55lb ball
60pdr	48pdr shell
<b>Italian</b>	
250mm Armstrong	295lb shell
200mm Armstrong	147lb shell
16cm Rifle	107lb shot, 74lb shell
20cm smoothbore	54lb ball

#### 3.2 – Method of Play

Players may wish to refight a single operation (such as the Italian plans to occupy Lissa), or may wish to play through the whole of the campaign. If the latter option is taken an Operations Phase is conducted at the start of each week in which players plan their activities for the coming week, are issued with directives from their respective governments and are informed of the course of the war on land (the progress of which they can influence through their actions). If the former option is taken the Operations Phase occurs once at the start of the campaign; the campaign runs for the duration of that operation only.

By having to plan operations and movement in advance it is intended that the campaign should be playable without the services of an umpire. Various mechanisms are in place to allow players to benefit from the local intelligence which both sides enjoyed - as in most naval wars fishermen, coastal traders and neutral merchant vessels provided some warning of the presence of enemy vessels. This intelligence was often somewhat out of date, and is reflected in the rules by the delay between sighting and reactive action being taken.

#### 3.3 – Map and Time Scales

The map of the Adriatic which accompanies uses a scale of 20 nautical miles per hex. Each campaign turn is 3 hours (8 turns per day, 56 turns per week).

#### 3.4 – Admirals

Each side as one Fleet Admiral (von Tegetthoff for the Austrians, Persano for the Italians) and one or more vice or rear admirals or commodores (2 Italian - Vacca and Albini, 1 Austrian - Petz). Admirals and subordinates are required to instigate certain actions and to lead certain missions. Admirals and subordinates have different reactions to the activities of the enemy. In addition, an optional rule allows each named admiral and subordinate to be represented by their individual characteristics. If the Fleet Admiral is killed or captured one of his subordinates assumes the role at the start of the following campaign week.

#### 3.5 – Times and Dates

The full campaign starts on Monday 20th June 1866 and ends on Sunday July 24th. Peace negotiations bring a cessation of hostilities at midnight on the 24th/25th, and all operations cease. Ships may still be at sea at the end of the campaign.

#### 3.6 – Operations Phase

This phase occurs at the start of each week (00:00 Monday). Players first roll to see if they have received any Directed Tasks (orders from their respective Admiralties). Roll a d100 and consult the table:

<i>Directed Tasks</i>		
<i>Die Roll</i>	<i>Austrian(A) Italian (I)</i>	<i>Mods (ita.)</i>
1-5	A: Sweep to Ancona I: Occupy Lissa	+3
6-10	A: Sweep to Lissa I: Bombard Lissa	-1
11-15	A: Sweep to Bari I: Sweep to Venice	-1
16-20	A: Sweep to Cattaro I: Sweep to Triest	-1
21-25	A: Escort convoy from Cattaro to Venice I: Sweep to Pola	-1
26-30	A: Escort convoy from Cattaro to Venice I: Sweep to Lissa	-1
31-35	A: Escort colliers from Pola to Venice I: Sweep to Dubrovnik	-1
36-40	A: Escort colliers from Venice to Pola I: Sweep to Cattaro	-1
41-45	A: Escort colliers from Pola to Triest I: Sweep Lissa to Venice	-1
46-50	A: Escort colliers from Triest to Pola I: Sweep Lissa to Venice	-1
51+	A: No Directed Tasks I: No Directed Tasks	

**Mission Requirements:**

Sweep:	At least two ironclads must move to any sea hex adjacent to the port listed and return
Escort convoy:	Escort at the players discretion. Convoy moves along the most direct route between the 2 ports. The convoy consists of 1d6 merchants
Escort colliers:	As above with 2 colliers. If a collier mission to Pola is indicated but the colliers do not arrive the Austrian player may only use 50% of their ships for operations in the following week due to coal shortages.
Occupy Lissa:	The Italians must reduce the defences of Lissa and land troops at Port St. Giorgio
Bombard Lissa:	At least 2 ironclads must bombard one or more forts on Lissa.

**Mission Planning**

In the mission planning phase, players allocate their ships to directed tasks, missions and other tasks which they wish to or have to complete during that week. Ships can be assigned to the following missions:

**i) Convoy**

Warships may be assigned to escort a convoy of from one location to another. Warships may also form their own convoy to transfer from one base to another (reinforcements entering from Naples and Trieste will typically convoy themselves). All movement for convoy from its point of origin to its destination must be plotted in advance. Convoy missions are always run between two friendly locations. Troop convoys with the intention of landing troops on a hostile shore (invasions) are a separate mission type. The need to provide an escort for convoys will generally arise as a result of a directed task, but may be required to supply an anchorage.

**ii) Shore bombardment.**

Warships may be assigned to shore bombardment missions against enemy ports, anchorages or coastal defences. All movement for the bombardment force from its point origin to its objective and back to a friendly port or anchorage must be plotted in advance.

If a bombardment is directed against a port all vessels within the port may sail to engage the attackers. The defending warships are limited to acting within the same hex as the port (i.e. they may not pursue the bombarded vessels) unless an Admiral is present, in which case an impromptu sweep mission may be started (but see limitations on Italian missions above).

**iii) Demonstration**

This is the same as a bombardment, but the objective is to demonstrate one's ability to roam the seas. Demonstrations are directed against enemy ports and anchorages. At least 2 ironclads must enter the objective's hex. Vessels within the objective port may act as if facing a shore bombardment mission.

**iii) Sweep**

Warships assigned to player-instigated sweep missions have their movement plotted two turns in advance. Sweeps ordered as a result of a Directed Task must have their entire movement plotted in advance. Sweeps must be accompanied by an Admiral.

**iv) Patrol**

Warships may be assigned to patrol a particular hex, or to run along a particular route. The patrol hex(s), together with the route to and from the patrol area must be plotted in advance. Patrols are always instigated by players.

**Canceling a Mission**

Missions may be cancelled for various reasons. For example, a convoy may run into enemy vessels, forcing it to turn back. Any mission may be cancelled at any time but, unless the cancellation is due to influence of enemy action on the formation undertaking action, there will be a time delay between passing the order to cancel and the order coming into effect due to the time lag in communications inherent during this period. The time delay will be one turn for each hex that the formation undertaking the mission is away from the closest friendly port, or from a formation containing the Fleet Admiral if he is at sea.

When a cancellation order is received by a formation all its current orders are deleted. Replacement orders are issued to the formation, which must move by the shortest routes to the nearest friendly port.

**Impromptu Missions**

Circumstances may arise when an impromptu mission may be organised. One already mentioned so far is when an enemy bombardment mission is directed against a port containing warships in which case an impromptu sweep mission may be started. Impromptu sweeps may also be started if enemy vessels passed within 3 hexes of a friendly port (the "Observing Port"), as long as an Admiral and available warships are present in the port from which the mission is mounted (which need not be the port past which enemy vessels have sailed). Because of the delay in receiving word of the enemy's activities the start of the sweep is delayed for one turn for each hex between the Observing Port and the enemy formation.

**Mission orders**

As stated above, movement for vessels undertaking missions has to be plotted in advance. Orders for each mission are to include:

- mission type
- point of origin
- turn of departure
- route
- destination

To find the distance a formation may move each turn, refer to the table below, using the cruising speed of the slowest vessel. Note that cruising speed rather than maximum speed is used to determine campaign movement. This is because, when operating maximum speed, the amount of fuel used by a warship could be as much as five times the amount used with cruising speed.

<i>Maximum speed (knots)</i>	<i>Cruising Speed (knots)</i>	<i>Odd turns</i>	<i>Even Turns</i>
up to 7	up to 5	0	1
up to 12	6 to 8	1	1
up to 15	9 to 11	1	2
>15	12+	2	2

**Mission Restrictions**

There are various restrictions on the number missions a ship can conduct during a week, and on when missions can commence. No vessel is allowed to start a new mission within six turns of completing its previous mission (i.e. within one day of arriving port at the conclusion of its previous mission). No mission is allowed to commence during the hours of darkness. No vessel is allowed to be away from a friendly port for more than 5 days. If this limit is exceeded the vessel is assumed to have run out of fuel and can no

longer move. The vessel stays in the same hex until a friendly supply vessel can reach it (a convoy mission). Finally, vessels which have been on missions which were cancelled may not be used for any further missions that week unless the mission is a sweep order to leave from the same port.

### 3.7 – Refuelling and Rearming

Refuelling and re-arming requirements have been generalised by the need for vessels to spend at least one day in port between missions, and for vessels to spend no longer than five days at sea. There is no need to keep track of fuel, stalls and ammunition expenditure

### 3.8 – Undergoing Repairs

Vessels import may undergo repairs. Vessels under repair remain in dockyard hands for a week may not be used for any missions during that week. Each week that a vessel is undergoing repair allows a number of whole points equal to 25% of the ships original Point Value to be reinstated. Some damage will be permanent - 25% of damage inflicted on a ship cannot be repaired. For example, a gunboat with an original SP of 40 suffers severe damage in an action, taking 24 points of damage. Of these 24 points, six are irreparable. Each week that the vessel is under repair allows 10 points of damage to be repaired, noting that the maximum SP now is 34.

### 3.9 – Anchorages

As well as the ports shown on the map, each side may select one friendly coastal area as an Anchorage. Italian friendly hexes are any on the coast of Italy south of hex B4; friendly Austrian hexes are any between Trieste and Cattaro, except O13 (Klek). Anchorages count in every respect as a friendly port, except they have to be resupplied on a regular basis. Each week a convoy must run from the side's base port (Ancona and Trieste) to the anchorage with three colliers and 1 other transport. If the convoy is intercepted and suffers losses, or if no colliers and transports arrive for other reasons the ability of the anchorage to support operations the following week is reduced. One collier allows up to 5 warships to operate from the anchorage. If no coal arrives at the anchorage any ships there may only conduct operations to defend the anchorage hex in the following week.

### 3.10 – Contact

An action is likely to happen if opposing forces enter the same hex. Actions will always occur if formations enter or pass through the same hex in daylight, unless on one side has a speed advantage of more than 25% of its opponents and wishes to avoid action, or unless both sides wish to avoid action. If this happens during darkness they will encounter each other on a roll of 3+ on a d6. There is no option for avoiding contact if formations encounter each other at night.

### 3.11 – Personalities

The personalities and command abilities of von Tegetthoff and Persano were quite distinct and had a significant effect on the outcome of the campaign. This may be simulated as follows. Each Admiral has an initiative rating ranging from 1 to 3. This initiative rating is used to determine of turns ahead for which a sweeping formation has to plot its orders. For example, a fleet commanded by von Tegetthoff would have to plot its movement one turn in advance, whilst the fleet commanded by Persano would have to plot three turns in advance. Each Admiral has a delay number which is added to the number of turns in which it takes a cancellation order to reach a formation.

<i>Admiral</i>	<i>Initiative Rating</i>	<i>Delay Number</i>
von Tegetthoff	1	0
Commodore Petz	2	1
Persano	3	3
Rear Admiral Vacca	2	2
Vice Admiral Albini	3	3
Generic Austrian	2	1
Generic Italian	2	2
Turkish	2	2

“Generic” leaders are listed in case replacements are required. They represent captains or other flag officers who would be appointed if the incumbent officer was killed or captured. Officers would, of course, be promoted: if, for instance Rear Admiral Vacca were to be killed, Vice Admiral Albini would be promoted to Rear Admiral, and a “generic” officer brought in to fill the Vice Admiral’s position.

### 3.12 – Persano’s Reluctance

As has been seen, Persano was extremely reluctant to engage the Austrian fleet until he had achieved what he believed to be an overwhelming superiority and even then it took a severe threat from the King of Italy and the Minister of Marine to get him going. To simulate this, the Italian player must roll to see whether planned operations actually take place. Once the Italian operational plan for the week has been determined roll a d10 for each mission planned, adding the modifier listed directed tasks if applicable, and adding 1 for each week. If the result is 9+ the operation goes ahead, otherwise Persano has managed to cancel it. This rule applies until the *Affondatore* is released for action, after which all Italian operations go ahead as planned, or until Persano is killed, captured or removed. Each time Persano refuses to carry out a directed task roll a d6 and add the Mission Modifier. If the result is 4 or more the Minister’s patience has run out and Persano is replaced by Rear Admiral Vacca.

This rule applies to impromptu sweeps as well as planned missions, although warships in a bombarded port may still sail to defend the port (but must remain within the port hex) without a roll having to be made.

### 3.13 – Availability of Forces

The following vessels are available at the start, or arrive on the dates shown. Unless stated, starting Austrian ships begin at Pola; reinforcements become available at Trieste. Starting Italian ships begin at Taranto; reinforcements become available at Naples on the date shown or (for limited games) at Ancona on the dates in brackets.

#### *Austria*

- At start: *Prinz Eugen, Schwarzenberg, Drache, Donau, Kaiser Max, Adria, Salamander, Radetsky, Don Juan, Erzherog Friedrich, Erzherog Ferdinand Max, Hum, Elisabeth, Dalmat, Greif, Wal, Stadium, Velebich, Andreas Hofer, Reka, Trieste, Streiter, Narenta, Elisabeth, Egitlio* (at Lissa)
- 28th June at Trieste: *Habsburg*
- 3rd July at Trieste: *Novara*
- 9th July at Trieste: *Vulcan*

### Italy

- At Start: *Re de Italia, Re de Portogallo, Ancona, Maria Pia, Castelfidardo, San Martino, Principe Di Carignano, Terribile, Formidabile, Palestro, Varese, Maria Adelaide, Re Galantuomo, Duca de Genova, Italia, Gaeta, Principessa Clotilde, Etna, Fulminante, Costituzione, Guiscardo, Ettore Fieramosca, Archimede, Tancredi, Montebello, Vinzaglio, Etna, Piedemonte, Washington, Flavio Gioia,, Stella d'Italia, Indipendenza, Messaggiere, Esploratore, Giglio*
- 21st June at Naples (28th June at Ancona): *Vittorio Emanuele, San Giovanni, Sirenia*
- 28th June at Naples (5th July at Ancona): *Carlo Alberto, Principe Umberto, Governolo*
- 11th July at Naples (18th July at Ancona): *Garibaldi*
- 12th July at Naples (19th July at Ancona): *Affondatore*

### Turkish Options

The possibility of Turkish involvement has already been raised. The following options for the use of the Turkish squadron are available:

- Available on June 30th at Klek: *Mansur, Kossovo, Hudavandigar, Peyk-I-Zafer, Sinop, Beirut*
- a) Limited involvement - patrol within 5 hexes of Klek only. Do not engage Italian ships unless they fire first. Otherwise do whatever is possible to aid the Austrians
- b) Full support of Austria. Turkish ships can engage Italian ships and support Austrian operations at will.
- c) Hostile neutrality - hostile towards Austria - patrol within 5 hexes of Klek only. Do not engage Austrian ships unless they fire first. Otherwise do whatever is possible to aid the Italians
- d) Full support of Italy. Turkish ships can engage Austrian ships and support Italian operations at will.

### 3.14 – Shore Defences other than Lissa

Both sides have the opportunity to pay visits to their opponent's ports and anchorages. Ships engaged in bombardment missions

Triest	Two medium forts, AT6, elevation 2, each with 6 30pdr rifles, 2 60pdr mortars
Pola	Two medium forts, AT6, elevation 2, each with 6 24pdr rifles, 4 48pdr smoothbores, 2 60pdr mortars
Venice	Three medium forts, AT6, elevation 0, two with 6 30pdr rifles, one with 6 60pdr mortars
Cattaro	Two medium forts, AT6, elevation 2, each with 6 24pdr rifles, 4 48pdr smoothbores, 2 60pdr mortars
Dubrovnik	Two medium forts, AT6, elevation 2, each with 6 24pdr rifles
Klek	One small fort, AT4, elevation 2, with 6 24pdr smoothbores
Antivari	Two medium forts, AT6, elevation 2, with 6 24pdr smoothbores
Ancona	Two medium forts, AT6, elevation 1, each with 6 30pdr rifles, 4 48pdr smoothbores, 2 60pdr mortars
Bari	Two medium forts, AT6, elevation 0, each with 6 30pdr rifles, 4 48pdr smoothbores, 2 60pdr mortars
Taranto	Two medium forts, AT6, elevation 0, each with 6 30pdr rifles, 4 30pdr smoothbores
Anchorages	up to 2 earthwork batteries with 1d6 12pdr smoothbores

will, of necessity, put themselves within range of the port's defending shore batteries. Unfortunately, details of shore batteries other than those at Lissa are sketchy or non-existent. In the absence of any firm data, use the table below on the left.

Use the Lissa gunnery tables for the armament of all shore defences.

### 3.15 – Ground Combat on Lissa

There are a number of ways of resolving an Italian landing on Lissa. Probably the most satisfying would be to fight out the landings and the ensuing actions with a set of period land warfare rules. The basic land warfare rules in section 8.2 could also be used. Alternatively an abstract system may be used to resolve the landings quickly.

Lissa's defending garrison was made up of 1200 troops plus gunners in the various batteries. The troops would be represented using the rules in this supplement by 48 troop stands, plus one battery representing the Reserve mobile guns. The Italian landing force of 1500 troops would be represented by 60 troop stands. These troops were carried by Albini's wooden ships. If an invasion force is embarked the number of troops carried by each ship must be noted when the ships sail. Troop units can transfer between ships in calm coastal waters but even this is dangerous - any time a boat transfer is undertaken roll a d10; a 10 means a boat has capsized and one troop stand is lost.

Because of the nature of Lissa's coastline, landings can only be made in Comisa Bay or in Port St. Giorgio.

#### Abstract System.

If your interests are purely on the naval side and you don't want to fight out the land action the following system may be used instead. At the start of each day determine how many troop stands each side have on the island and divide by 10. Both sides roll d6s equal to this number. Each score of 5 or 6 eliminates 10 enemy stands. If one side outnumbers their opponents by 3 to 1 or greater they claim victory and control the island.

### 3.16 – Lissa Defences

The defensive works on Lissa were as shown below:

Gunnery Tables 1 and 3 for the Lissa defences are given on the following pages. The capabilities and characteristics of the guns were somewhat distinct from the more modern pieces used on the ships of the Austrian fleet.

AT	- Armour Value of battery (all sides)
Lev	- Level (elevation of the battery)

<b>Fort</b>	<b>AT</b>	<b>Lev</b>	<b>Armament</b>
Fort Georg	6	2	2x 60pdr mortar, 6x 48pdr SB, 1x 30pdr mortar, 4x 24pdr rifle, 4x 18pdr SB
Battery Mamula	5	1	1x 30pdr mortar, 4x 30pdr howitzer, 2x 24pdr rifle
Robertson Tower	5	2	1x 12pdr rifle
Battery Zupparina	5	1	4x 24pdr rifle
Bentinck Tower	5	2	2x 30pdr howitzer, 1x 12pdr rifle, 1x 12pdr SB
Battery Schmid	5	0	2x 48pdr SB, 2x 24pdr rifle
Wellington Tower	5	2	2x 60pdr mortar, 2x 30pdr mortar, 1x 10pdr howitzer, 1x 7pdr field howitzer
Battery Madonna	5	1	4x 30pdr shell gun, 4x 24pdr rifle,
Fort Max	6	3	2x 24pdr SB, 2x 7pdr shell gun
Battery Magnaremi	5	3	4x 24pdr rifle, 4x 12pdr rifle,
Battery Nadpostranje	6	3	4x 12pdr rifle
Monte Perlic	5	3	2x 6pdr
Battery Cosmo	5	2	2x 18pdr SB, 2x 6pdr
Battery Andrea	5	2	2x 18pdr SB, 2x 6pdr
Reserve	-	var.	4 6pdr. Mobile guns, count as foot battery.

**Gunnery Table 1 - Hitting the Target (Lissa Defences)**

<b>Mortars</b>	<b>0"- 5"</b>	<b>5"- 10"</b>	<b>10"- 15"</b>	<b>15"- 20"</b>	<b>20"- 25"</b>	<b>25"- 30"</b>	<b>30"- 40"</b>	<b>40"- 50"</b>
30pdr Mortar	see main rules for details of mortars							
60pdr mortar	see main rules for details of mortars							
<b>Howitzers</b>								
7pdr Field Howitzer	8	7	5	}special rules up to 60"				
10pdr Howitzer	8	8	6					
30pdr Howitzer	8	8	6					
<b>Rifles</b>								
7pdr shell gun	8	7	5	3	—	—	—	—
12pdr RBL	8	8	6	5	3	1	—	—
24pdr RBL	8	8	7	6	4	2	—	—
30pdr RML	8	8	7	6	5	3	—	—
<b>Smoothbores</b>								
6pdr	8	7	5	3	—	—	—	—
12pdr SBM	8	8	6	3	1	—	—	—
18pdr SB	8	8	6	3	1	—	—	—
24pdr ML	8	8	6	4	2	—	—	—
48pdr SBM	8	8	6	4	2	—	—	—

**Gunnery Table 3 - Penetration (Lissa Defences)**

<b>Mortars</b>	<b>0"- 5"</b>	<b>5"- 10"</b>	<b>10"- 15"</b>	<b>15"- 20"</b>	<b>20"- 25"</b>	<b>25"- 30"</b>	<b>30"- 40"</b>	<b>40"- 50"</b>	<b>Damage Value</b>
30pdr	see main rules for details of mortars								5
60pdr	see main rules for details of mortars								10
<b>Howitzers</b>									
7pdr Field Howitzer	2	2	2	2	2	2	2	2	1/1
10pdr	2	2	2	2	2	2	2	2	1/1
30pdr	2	2	2	2	2	2	2	2	1/2
<b>Rifles</b>									
7pdr shell	1	1	0	0	—	—	—	—	1/1
12pdr RBL	1	1	1	0	0	0	—	—	1/2
24pdr RBL	5	4	4	4	3	3	—	—	2/3
30pdr RML	5	5	5	4	4	3	—	—	2/4
<b>Smoothbores</b>									
6pdr	3	3	2	1	—	—	—	—	1/1
12pdr SBM	3	3	2	2	1	—	—	—	1/2
18pdr SB	4	4	3	3	2	—	—	—	2/3
24pdr ML	4	4	4	3	3	—	—	—	3/5
48pdr SBM	5	4	4	3	3	—	—	—	2/5

### 3.17 – Victory Conditions

The aim of the players is to secure the best stance for their countries at the French negotiations. A very poor showing by either side will result in a harsher peace. Whilst the transfer of Venice to Italy is a foregone conclusion, the activities of the fleets will affect the terms of the peace.

Players accumulate Victory Points for the activities shown in the following table.

Each enemy wooden ship sunk	Score the ship's SP
Each enemy ironclad sunk	Score twice the ship's SP
Each bombardment mission	Score 200 points
Damage to shore defences	Score 10 points per gun knocked out
Convoys to Venice	Austrian player scores 50 points for each transport that reaches Venice
Lissa Occupied	Italian player scores 500 points
Persano killed in action or captured	Austria scores 30 points
Persano relieved of command	Austria scores 50 points
von Teggethoff killed or captured	Italy scores 30 points
Any other personality killed or captured	Score 25 points

#### Results:

Take the difference in the scores and compare the result with the table below:

<i>Difference</i>	<i>Effect</i>	<i>Points difference benefits Austria</i>	<i>Points difference benefits Italy</i>
0-1250	Narrow victory	An honourable peace. Venice and Venecia are transferred to Italian rule. Lissa, if occupied by the Italians, is returned.	An honourable peace. Venice and Venecia are transferred to Italian rule. Lissa, if occupied by the Italians, is returned.
1251-2500	Clear victory	Peace terms favour Austria. Although Venice and Venecia are transferred to Italian rule, Victor-Emmanuel's hopes of a truly united Italy falter and are not realised for many years. Lissa, if occupied by the Italians, is returned.	Peace terms favour Italy. Venice and Venecia are transferred to Italian rule. Austria must make additional financial and territorial concessions. Lissa, if occupied by the Italians, remains occupied.
2501+	Decisive Victory	Italian morale crumbles. Despite Prussian victories over the Austrians, Italy loses the initiative. The blow to Italian national pride sees Victor-Emmanuel facing riots and possible insurrection. Vigorous negotiation sees Venice remain in Austrian hands. Lissa, if occupied by the Italians, is returned.	Peace terms greatly in favour of Italy. Venice and Venecia are transferred to Italian rule. Austria must make considerable financial and territorial concessions. Lissa is occupied by the Italians if this has not already happened.

<i>Example:</i>	<b>Austrian</b>	<b>Italian</b>
Austria successfully runs 2 troop convoys of 6 transports from Cattaro to Venice	600	
Austria makes a successful Demonstration before Ancona	200	
Italy bombards the island of Lissa		200
In the Bombardment of Lissa 30 defending guns are knocked out		300
A battle is fought off Lissa in which Palestro (SP 104) and Re d'Italia (SP 228) are sunk	664	
Totals	1464	500
Final result: 964 in favour of Austria - a narrow victory.		

### 3.18 Record keeping and Campaign map.

On the following two pages are a campaign record sheet and a campaign map.

The rows where the time index is marked with the letter N on the record sheet are night time turns. No mission is allowed to commence during the hours of darkness, though one in progress continues.

## CAMPAIGN RECORD SHEET

	<i>Planning</i>	<i>Monday</i>	<i>Tuesday</i>	<i>Wednesday</i>	<i>Thursday</i>	<i>Friday</i>	<i>Saturday</i>	<i>Sunday</i>
00:00-03:00 N	<b>Week 1</b>	20th June 1866	21st June 1866	22nd June 1866	23rd June 1866	24th June 1866	25th June 1866	26th June 1866
03:00-06:00 N								
06:00-09:00		War declared	First moves				<i>Battle of Custoza</i>	
09:00-12:00								
12:00-15:00								
15:00-18:00								
18:00-21:00								
21:00-00:00 N								
00:00-03:00 N	<b>Week 2</b>	27th June 1866	28th June 1866	29th June 1866	30th June 1866	1st July 1866	2nd July 1866	3rd July 1866
03:00-06:00 N								
06:00-09:00								<i>Battle of Sadowa</i>
09:00-12:00								
12:00-15:00								
15:00-18:00								
18:00-21:00								
21:00-00:00 N								
00:00-03:00 N	<b>Week 3</b>	4th July 1866	5th July 1866	6th July 1866	7th July 1866	8th July 1866	9th July 1866	10th July 1866
03:00-06:00 N								
06:00-09:00								
09:00-12:00								
12:00-15:00								
15:00-18:00								
18:00-21:00								
21:00-00:00 N								
00:00-03:00 N	<b>Week 4</b>	11th July 1866	12th July 1866	13th July 1866	14th July 1866	15th July 1866	16th July 1866	17th July 1866
03:00-06:00 N								
06:00-09:00								
09:00-12:00								
12:00-15:00								
15:00-18:00								
18:00-21:00								
21:00-00:00 N								
00:00-03:00 N	<b>Week 5</b>	18th July 1866	19th July 1866	20th July 1866	21st July 1866	22nd July 1866	23rd July 1866	24th July 1866
03:00-06:00 N								
06:00-09:00								
09:00-12:00								
12:00-15:00								
15:00-18:00								
18:00-21:00								End hostilities
21:00-00:00 N								

