Keyboard Commands for Sailing

COMMAND	APPLE II & II+		APPLE IIe		ATARI		C-64	
	SHIP 1 (Violet)	SHIP 2 (Green)	SHIP 1 (Violet)	SHIP 2 (Green)	SHIP 1 (Dark)	SHIP 2 (Light)	SHIP 1 (Dark)	SHIP 2 (Light)
Display next lower numbered command	D	<–	D	;	D	←	D	;
Display next higher numbered command	F	–>	F	'	F	→	F	=
Execute displayed command	S	;	S	L	S	;	S	:

Boarding Phase Commands

COMMAND	APPLE II & II+		APPLE IIe		ATARI		C-64	
	SHIP 1 (Violet)	SHIP 2 (Green)	SHIP 1 (Violet)	SHIP 2 (Green)	SHIP 1 (Dark)	SHIP 2 (Light)	SHIP 1 (Dark)	SHIP 2 (Light)
SWORDFIGHTER MOVEMENTS:								
Move right	F	–>	F	,	F	→	F	=
Move left	D	<–	D	;	D	←	D	;
Counter-thrust	1	0	1	0	1	8	1	8
Thrust	2	:	2	–	2	9	2	9
Hack	3	–	3	=	3	0	3	0
SNIPER AIM AND FIRE AT:								
Other snipers	1	0	1	0	1	8	1	8
Enemy on other deck	2	:	2	–	2	9	2	9
Enemy on own deck	3	–	3	=	3	0	3	0

SPECIAL NOTES: • *BROADSIDES™ is compatible with the Mockingboard™ in slot #4.*

• *Certain hardware items (such as a Z-80 card) placed in slot #4 will prevent the BROADSIDES game from functioning properly. If your disk will not run and you have a card in slot #4, remove the card and the game will load correctly.*

Mockingboard is a trademark of Sweet Micro Systems.

PLAYER MANUAL (ALL VERSIONS)

BROADSIDES™

SSI

STRATEGIC SIMULATIONS INC

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1.0 Introduction

Broadsides is a tactical simulation of ship-to-ship combat betweeen sailing ships of the Napoleonic era (late 18th and early 19th century). Taking the helm of the sailing ship of your choice, you will match yourself against another ship commanded by the computer or by a human opponent. To be victorious you may use various types of ammunition for your cannons, or you may attempt to board the other ship and engage in close combat using swords and muskets.

1.1 LOADING THE PROGRAM

Put the disk in your disk drive and turn your computer on *(remove all cartridges on the Atari®; for the Commodore 64™, type LOAD"*",8 and press RETURN. When READY appears, type RUN and press RETURN.*

1.2 STOPPING THE GAME TEMPORARILY AND RESTARTING THE GAME

Hit the escape key, ESC *(f1 key on the C-64)*, to temporarily stop the game while playing. Hit the escape key again *(f1 key on the C-64)* to resume play. Hit ctrl-R (hold the control key and hit the 'R' key) to restart the game.

1.3 SOUND ON AND SOUND OFF

During a game, players may turn the sound on or off by typing ctrl-S.

1.4 ARCADE VS. TACTICAL LEVELS OF PLAY

Two very different types of games can be played using the Broadsides disk. The 'arcade' type of game offers fast and exciting action, with fewer decisions to make. Those preferring a more thoughtful game with more options should choose the 'tactical' type of game. If you are playing the 'arcade' game against the computer and you win, you can choose to continue the game with the computer receiving a new ship *(this option not available in the Atari or C-64 versions)*, or you can accept your victory and start a new game. The choice of arcade vs. tactical is made on the first selection page after the game is loaded. In the arcade game, only solid shot is used for ammunition, and your guns will always do double damage against the enemy.

1.5 TALKING TO THE COMPUTER WHILE SAILING

The command line for each ship appears directly below the name of the ship on the right third of the screen. Commands are displayed in the following order: (1) **TURN TO PORT**, (2) **FASTER SPEED**, (3) **STEADY SPEED**, (4) **SLOWER SPEED**, (5) **BACK SAIL**, (6) **BATTLE SAIL**, (7) **FULL SAIL**, (8) **SOLID SHOT**, (9) **CHAIN SHOT**, (10) **GRAPE SHOT**, (11) **AIM AT SAILS**, (12) **AIM AT HULL**, (13) **FIRE XXXX YARDS** (low range), (14) **FIRE XXXX YARDS** (mid range), (15) **FIRE XXXX YARDS** (high range), and (16) **TURN TO STRB**. (Fewer commands are available for the arcade game.) When a command is accepted, the computer will respond by flashing the message **'AYE, AYE, SIR'** on the command line.

USING THE PADDLES (Apple version only)

Paddle number 1 refers to the violet ship, on the top right third of the screen. Paddle number 2 refers to the green ship, which is displayed on the bottom right third of the screen. On the left two-thirds of the screen, the ships are distinguished by their colors, green and violet. Different commands are displayed on the command line by turning the paddle to the right or to the left. The first command (**TURN TO PORT**) is displayed when the paddle is turned all the way to the left, and the last command (**TURN TO STRB**) is displayed when the paddle is turned all the way to the right. A command is executed by first displaying it on the command line and then pressing the paddle button.

The program will have you 'set' the paddles to allow for paddles that are not calibrated exactly. If the paddles are too much in error, the program will continue to ask you to set the paddles.

USING THE JOYPORT (Apple version only)

This game can be played using the Sirius Joyport together with an Atari Joystick. Push the joystick to the left to display a lower numbered command (see section 1.4). Push the joystick to the right to display a higher numbered command. Press the button to execute the displayed command.

USING THE JOYSTICK (Atari and C-64 versions only)

Joystick number 1 refers to the dark ship, on the top right third of the screen. Joystick number 2 refers to the light ship, which is displayed on the bottom right third of the screen. On the left two-thirds of the screen, the ships are distinguished by their respective shades, dark and light. Ship 1 is dark and ship 2 is light. Different commands are displayed on the command line by pushing the joystick right, left, up or down (right: **PORT**; left: **STARBOARD**; up and down: commands 2-15). A command is executed by first displaying it on the command line and then pressing the joystick button.

USING THE KEYBOARD

The keys below are used to select commands with the keyboard option:

COMMAND	APPLE II & II+		APPLE IIe		ATARI		C-64	
	SHIP 1 (Violet)	SHIP 2 (Green)	SHIP 1 (Violet)	SHIP 2 (Green)	SHIP 1 (Dark)	SHIP 2 (Light)	SHIP 1 (Dark)	SHIP 2 (Light)
Display next lower numbered command	D	<–	D	;	D	←	D	;
Display next higher numbered command	F	–>	F	'	F	→	F	=
Execute displayed command	S	;	S	L	S	;	S	:

1.6 TALKING TO THE COMPUTER WHILE BOARDING

Only the keyboard can be used to give commands during the boarding phase. A summary of the commands follows:

COMMAND	APPLE II & II+		APPLE IIe		ATARI		C-64	
	SHIP 1 (Violet)	SHIP 2 (Green)	SHIP 1 (Violet)	SHIP 2 (Green)	SHIP 1 (Dark)	SHIP 2 (Light)	SHIP 1 (Dark)	SHIP 2 (Light)
SWORDFIGHTER MOVEMENTS:								
Move right	F	–>	F	,	F	→	F	=
Move left	D	<–	D	;	D	←	D	;
Counter-thrust	1	0	1	0	1	8	1	8
Thrust	2	:	2	–	2	9	2	9
Hack	3	–	3	=	3	0	3	0
SNIPER AIM AND FIRE AT:								
Other snipers	1	0	1	0	1	8	1	8
Enemy on other deck	2	:	2	–	2	9	2	9
Enemy on own deck	3	–	3	=	3	0	3	0

1.7 DESCRIPTION OF ACTION

Game time is displayed at the bottom of the screen. Since this is a simulation, you will notice that time moves faster than reality. The game starts at 6:00:00 AM. The game automatically ends in a draw at 6 PM if neither player has achieved a victory by that time. Use the clock to estimate when your ship will turn or load its cannons after you have given the command. (A certain amount of time is needed to carry out a load command or a turn command. This time delay can be adjusted on the variables pages.)

The play of the game is real-time. As soon as the space bar *(START key on the Atari; f7 key on the C-64)* is hit to start the game, be ready to start playing. The play is not turn-oriented, and both players can issue commands at the same time. Play starts on the sailing screen, and if the ships collide, play will switch to the boarding screen. To disengage from boarding, and resume on the sailing screen, your sword-fighting character must be positioned behind the grating on his ship. (See boarding screen picture and explanation.) You will then see the grapples between the ships being cut. Shortly after the last one is cut, the ships will disengage and return to the sailing screen.

1.8 SETTING THE PACE

Players may adjust the speed of the game. The computer will ask you to set the pace of the game just prior to the start of each game. Enter a value between 0 and 9, with low numbers (0, 1, 2) representing the fastest paces and high numbers (7, 8, 9) representing the slowest paces. Players are advised to begin with slow paced games (this will allow you more time to think about your plan of action) and progress to faster paced games as you become familiar with the game. Players may change the pace setting during a game by first typing ctrl-Q *(ESCAPE on the Atari; f1 on the C-64)* and then entering the new pace level (0–9, or space bar to keep the current setting). On the Atari, hit the ESCAPE key again *(f1 on the C-64)* to restart the game. Players may wish to use the ability to change the pace during a game as a valid tactic (if both players agree).

1.9 CHANGING MODES

Players may switch back and forth between their paddles, joyport, and keyboard while a game is in progress. The ctrl-K key will activate the keyboard, ctrl-P will activate the paddles *(Apple only)*, shift-ctrl-P will activate the joyport *(Apple only)*, and ctrl-J will activate the joystick *(Atari and C-64)*.

2.0 The Options Page and Variables Page

The options page is used to select the general type of game you would like to play. The three variables pages are optional and allow you to control the characteristics of the ships you use in the game (these three pages are available if you select the change variables option). Examples of controllable variables are ship crew size and loading time for guns.

2.1 THE OPTIONS PAGE

There are six groups of options: (1) game controller, (2) number of players, (3) arcade or tactical type of game, (4) regular game or boarding screen only, (5) difficulty of game and player options (ships to be used), and (6) selection of the variables pages. As the screen is displayed, a cursor will appear next to each option group indicating which option is currently selected. Options can be chosen in any order. You will remain on this page until you hit the space bar. If you select **NO CHANGE** for option 6, the game will start when you hit the space bar.* Otherwise, if you select **CHANGE VARIABLES**, you will go to the first variables page (see below) when you hit the space bar.*

1. Hitting the '1' number key selects game controller **PADDLES**, **JOYPORT** or **KEYBOARD**. The paddles are recommended for the Apple version, the joystick for the Atari and C-64 versions.
2. The number '2' key selects **SOLITAIRE** (you play the computer) or **TWO PLAYER** (you play another person).
3. Hitting the number '3' key selects the **ARCADE** or **TACTICAL** types of games. (See section 1.3 above for an explanation of arcade and tactical types of games.)
4. The '4' number key selects a regular sailing game, or a game with the boarding screen only.
5. Hitting the number '5' key selects the difficulty of the game. Also available are player options A through L if previously saved (see section 2.5). The level of play is merely a reflection of the abilities of the two ships (i.e. in Level 1 play the computer's ship is inferior to that of the player, whereas in Level 3 the computer's ship is superior to that of the player).
6. The '6' number key gives you the option to **CHANGE VARIABLES**. If you select it, you will see the first variables page (see below) after you hit the space bar.* Otherwise, the game will start after you hit the space bar.* If you want to see the initial settings for the current game's ships, select the change variables option.
7. After you have selected all of your options, hitting the space bar* starts the game, or goes to the first variables page, depending on whether you selected **CHANGE VARIABLES** in option 6.

**START key on the Atari; f7 on the C-64*

2.2 VARIABLES PAGES (SHIP CHARACTERISTICS)

The variables pages enable you to change the settings for the ship variables from the standard settings for Level 1, Level 2, Level 3, or Player Options A through L. The original settings displayed on the variables pages are set by the level of play chosen on the options page. If level 1 was chosen, the ship characteristics for level 1 play will display initially on the variables pages. If a player option was chosen, the variables values will initially be set to the values for that player option (players will have the ability to save onto the disk new player options A through L).

Use the escape key *(option key on the Atari; f3 key on the C-64)* to go from one variables page to another (there are 3 pages altogether). When the variables pages are completed, hit the space bar* to start the game.

2.3 VARIABLES PAGE 1

Variables page 1 is used to name your ship and to select the numbers and types of cannons on that ship. You will also select the nationality of the ship (this only affects the music played at the end). If you want, the computer can calculate a typical ship according to the cannon selections that you have made.

1. To name ship 1, hit the '1' key, type the name of the ship, and hit return.
2. Hitting the '2' number key moves you between the four different gun choices for ship 1. The cursor shows which choice you are at now. After you have selected the number and type of guns for your first choice, hit the '2' key to go to the second choice. Up to four types of guns are allowed.
3. Hitting the '3' key allows you to change the number of guns for the line the cursor is on, for ship 1. Hitting '3' adds 1 to the number each time you hit the key. The number goes up to 22 and then back to 0 (you see a blank on the screen, not 0).
4. Hit the '4' key to choose the type of gun you would like for that choice, for ship 1. The poundage for each gun will be shown, and a 'C' if the gun is a carronade. If there is no 'C',

the gun is a cannon. The order of the guns is: 12 lb carronade, 18 lb carronade, 24 lb carronade, 32 lb carronade, 42 lb carronade, 6 lb, 8 lb, 9 lb, 12 lb, 18 lb, 24 lb, 32 lb, 36 lb, and 42 lb cannons. After each gun type is displayed the maximum range of that type of gun. You will note that carronades have a much shorter range than cannons. The most effective range of the guns is at ranges under one third of the guns' maximum range. The accuracy of the guns is very poor beyond one half of their maximum range.

5. You may hit the '5' key to calculate a typical ship for those cannon choices, after you have made all the cannon choices for ship 1. Warning — calculating a typical ship will change all the variable settings for ship 1 on the next two variables pages to those 'typical' settings!

6–0. The keys 6, 7, 8, 9, 0 have the same effects on ship 2 as the keys 1, 2, 3, 4, 5 have on ship 1.

2.4 VARIABLES PAGE 2

Variables page 2 is used to change the variables: (1) and (2) firing (loading) time, (3) and (4) turning time, (5) and (6) speed, (7) and (8) shot damage, and (9) and (0) hull points. Hitting one of the keys 1 through 0 will increase the value for that variable. Hitting that key repeatedly will increase the variable to its maximum value, and then begin again at its minimum value.

1. Hit '1' to change the firing (loading) time for ship 1. Hitting the '1' key adds 10 seconds to the firing time. When it reaches 8 minutes (the maximum for firing time), it will start over at 10 seconds (the minimum for firing time).
2. Hit '2' to change the firing (loading) time for ship 2. Firing time represents how long it takes the crew of your ship to reload the cannons after they have been fired. You can only fire again after the cannons have been reloaded. Firing time can be adjusted from 10 seconds to 8 minutes. Historically, the very best crews could reload their guns in one and one-half minutes; poor crews took four minutes or more. During the play of the game, you will notice that actual loading time will increase 10 seconds for every 30 casualties among the crew.
3. Hit '3' to change the turning time for ship 1.
4. Hit '4' to change the turning time for ship 2. Turning time is the delay before a turn is executed after the command is given. One turn is a change of 30 degrees (12 turns to a circle). Turning time can be varied from 10 seconds to 8 minutes.
5. Hit '5' to change the starting speed for ship 1.
6. Hit '6' to change the starting speed for ship 2. The starting speed indicates the ship's speed in relation to that of other ships. The higher the starting speed, the faster that ship is in all directions to the wind. The ship's speed can be varied from 1.2 knots to 4.8 knots *(.5 to 4.4 knots on the Atari and C-64)*. This speed will be the speed of the ship as the game starts. It is not the maximum speed of the ship. It is the speed of the ship with the wind directly behind it. The ship is somewhat faster when the wind is 30 degrees from directly behind it.
7. Hit the '7' key to change the shot damage inflicted by ship 1 on ship 2.
8. Hit the '8' key to change the amount of damage inflicted by the cannons of ship 2. Shot damage is a measure of the number of hits inflicted by the guns. When shot damage is set to 1.00 × standard, the number of hits inflicted is an accurate reflection of the number of cannons firing and the range they are firing at. If for example shot damage is set to 2.00 × standard, then if a broadside would normally inflict 12 hits, the number of hits is increased to 24. Shot damage can be varied from .5 times (50 percent of) to 3 times (300 percent of) standard.
9. Hit the '9' key to change the hull points for ship 1.
0. Hit '0' to change the hull points for ship 2. Hull points are a measure of how sturdy the hull is. Your ship will sink after your hull points reach zero. Hull points can be varied from 30 points to 200 points.

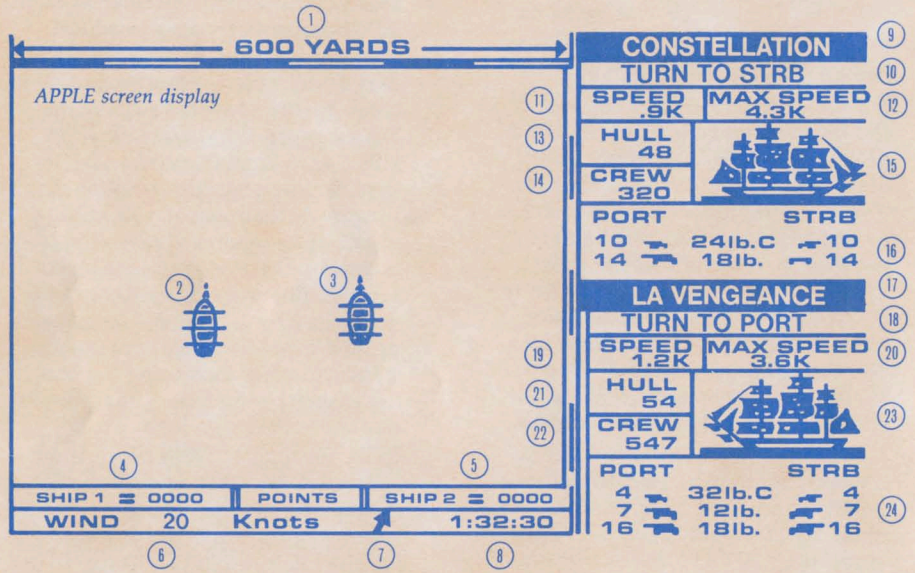
2.5 VARIABLES PAGE 3

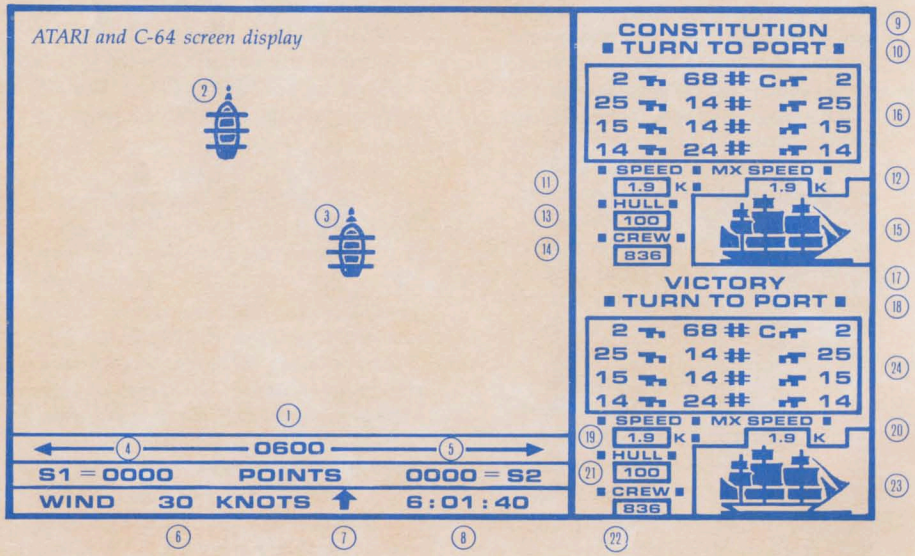
The third variables page is used to change (1) and (2) sniper fire hit percentage, (3) and (4) crew size, (5) and (6) boarding casualties, and (ctrl-A through ctrl-L) to save the values of the variables on the three variables pages as Player Options A through L.

1. Hit the '1' key to change the sniper fire hit percentage for ship 1.
2. Hit the '2' key to change the sniper fire hit percentage for ship 2. Sniper fire is the percentage chance that each sniper hits his intended target. This variable can be used to increase or decrease the effect that snipers have on the outcome of the game. Sniper fire percentages can be set to 8% of hits effective, 15%, 30% and 60%. To represent larger ships, set the sniper fire to 15% or 30% to represent more snipers. For smaller ships, an accurate percentage is 8%.
3. Hit '3' to add 50 men to the size of the crew for ship 1. The maximum possible crew size is 1279. After that point the crew size starts over again at 120 men.
4. Hit '4' to add 50 men to the size of the crew for ship 2. Keep hitting '4' until you reach the crew size you'd like. The minimum size is 120 men; the maximum is 1279 men. The size of your crew is very important during the boarding phase.
5. Hit the '5' number key to change the boarding casualties inflicted by ship 1 on ship 2.
6. Hit the '6' key to increase the boarding casualties inflicted by the crew of ship 2 on the crew of ship 1. Boarding casualty ratio reflects a modification of the standard casualty values. On the boarding screen, when a man is killed by a sword fighter or by a sniper, that death represents a certain number of men killed depending partly on the method used to kill. A ratio greater than 1 will raise the number of men killed by the specified percentage. For example, if the crew of ship 1 kills 4 ship 2 crew members when the boarding casualties ratio for ship 1 is set to 1, then ship 1 will kill 12 ship 2 crew members when the boarding casualties ratio for ship 1 is set to 3. Boarding casualties can be multiplied by 1, 2, 3 or 4 to produce up to 4 times as many casualties as standard. After increasing the boarding casualty ratio to 4, hitting the key one more time sets it back to 1.

CTRL-A through L: Hold down the control (CTRL) key and hit the 'A' through 'L' keys to save the current settings of the variables as Player Options A through L. Hitting ctrl-A through ctrl-L will erase any previously saved Player Option variables. When playing another game later, recall all the variable values you have saved by specifying Player Option A through L on the options page.

3.0 Sailing Screen

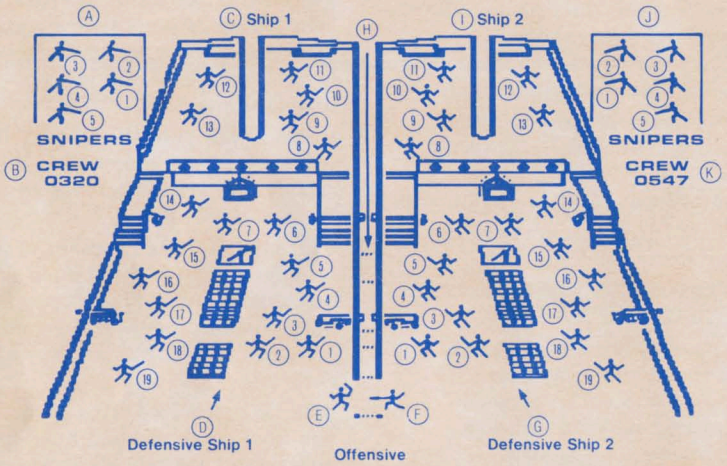




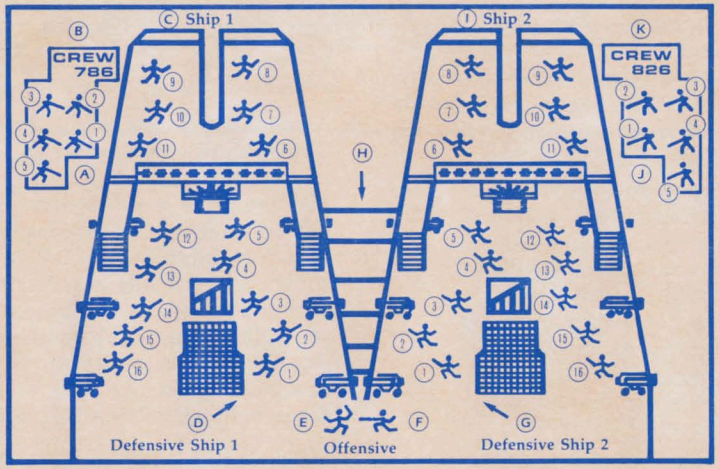
The following is a description of all of the items you will find on the sailing screen.

1. Current scaled distance between arrows. There are three different scales in the game: 600, 1200, and 2400 yards. On the Atari and C-64, only the 600 and 2400 are available. (The top views of the ships change size when the scale changes.) The scale changes to keep both ships on the screen as they move farther apart.
2. Top view picture of ship 1 *(Apple: violet; Atari & C-64: dark)* at the 600 yard scale. Ship 1 (violet or dark) may start on the right or left of ship 2 at various ranges determined randomly.
3. Top view picture of ship 2 *(Apple: green; Atari & C-64: light)* at the 600 yard scale.
4. Current point value earned by the captain of ship 1. Points are earned for damage to ship 2.
5. Total points earned by the captain of ship 2 for damage to ship 1.
6. Current speed of the wind in knots. The wind speed will vary from 10 knots to 30 knots. The game will always start with the wind at 25 knots.
7. Current wind direction. The wind can blow in the same 12 directions that the ships can move in. The wind will tend most often to blow 'up' the screen (the arrow will point up). When the wind direction changes the speaker will sound.
8. Current time in the format HH:MM:SS, where HH is hours, MM is minutes, and SS is seconds. The game starts at 6 A.M. (6:00:00) and can continue until 6 P.M. (6:00:00). If neither side has won by this time, the game will be declared a draw. Note that game time will move several times faster than real time.
9. Name of ship 1 (violet or dark).
10. Command display line for ship 1. Each command can be displayed here one at a time. Executing a command will cause the message **AYE, AYE, SIR** to be displayed. In other words, your Lieutenant has understood your order and has passed the command on to the crew.
11. Current speed in knots for ship 1. This is the speed your ship is currently moving at. It is affected by sail damage, wind speed, wind direction, and commands you give to increase or decrease speed or go to battle or full sail.
12. Current maximum speed in knots for ship 1. It is affected by sail damage, wind speed, wind direction, and whether battle sail or full sail is in effect. The maximum speed will decrease as your sails are shot out. When most of your sails are gone, your maximum speed will decrease to zero and your ship will be unable to move.
13. Current hull points for ship 1. This will decrease as your hull is shot away. Soon after it reaches zero, your ship will sink.
14. Current crew size (number of men) for ship 1. This will decrease as casualties in your crew occur. Firing time (loading time) for the cannons increases 10 seconds for every 30 crew lost.
15. Side view of ship 1. This picture tells you how much sail and how many masts you have left. Hull damage is also shown on this picture (see also [13], hull points). A different type of hull is pictured depending on what size of ship you are using.
16. Cannon display for ship 1. This display shows the number and types of guns currently functional. As you play the game some of your guns will be hit by the broadsides from ship 2. Number of guns left is shown for each side of the ship, port and starboard. The type of gun according to its poundage is also shown. '**C**' indicates the gun is a carronade (primarily used for short range fighting, 600 yards or less).
17. Name of ship 2 (green or light).
18. Same as 10 but pertaining to ship 2.
19. Same as 11 but pertaining to ship 2.
20. Same as 12 but pertaining to ship 2.
21. Same as 13 but pertaining to ship 2.
22. Same as 14 but pertaining to ship 2.
23. Same as 15 but pertaining to ship 2.
24. Same as 16 but pertaining to ship 2.

4.0 Boarding Screen



APPLE screen display



ATARI & C-64 screen display

You can tell which ship each crew member belongs to by the direction he is facing. (Crew members are shown on the picture in the numbered positions.) Ship 1's crew will always face right, whether currently on ship 1 or boarding ship 2. Ship 2's crew will always face left.

A. Sniper box for ship 1. The figures in the sniper box represent snipers up in the rigging firing at the enemy with muskets. Each sniper represents 10 men. The accuracy of the snipers can be set on the variables page (see section 2.5, Variables Page 3). Each ship starts with 5 snipers. Snipers can be killed when other crew is lost during sailing, or they can be killed by the other snipers during boarding.

B. Current number of crew on ship 1. This number changes each time you lose men from swordfighting or sniper fire.

C. Ship 1. Ship 1 is displayed on the left half of the screen. The mast is violet *(the color of ship 1 in the Apple version only)*. There are 19 crew boarding positions on the ship *(16 on the Atari and C-64)* in order as shown in the picture.

D. Grating on ship 1. If ship 1's swordfighter is to left of the right side of the grating, he is fighting defensively. In other words, if ship 2's swordfighter drops dead (see explanation of 'dropping dead' in section 6.1) while ship 1's swordfighter is to the left of the grating, then one of the enemy that is currently on ship 1 will be removed from the ship, and one of the grappling lines will be cut (will be erased from the screen). If ship 1's swordfighter is to the right of the grating, then he is fighting offensively. When fighting offensively, if the enemy swordfighter drops dead, one of ship 1's crew will board ship 2 at the lowest numbered position in which a live ship 2 crew member currently stands.

E. Swordfighting figure for ship 1. Commands are given to the swordfighter by using the keyboard (see section 6.2).

F. Swordfighting figure for ship 2. Note that in this position, both swordfighters are on the offensive.

G. Grating on ship 2. If ship 2's swordfighter is to the right of G (the left side of the grating), he is fighting defensively. If ship 2's swordfighter is to the left of the grating, then he is fighting offensively.

H. Grappling lines between the two ships. These can be cut by certain player actions (see section 6.1). When a grappling line is cut, you will see it erased from the screen. If all the grappling lines are cut (erased) the game will end in a draw if playing the Boarding Only version. Otherwise, you will go back to the sailing phase of the game. When you return, both ships will be completely stopped, facing the same direction as before but moved farther apart. (The men cutting the grappling lines pushed the ships apart after all the lines were cut.) At this time new point totals will be calculated taking into account the crew losses sustained during boarding.

I. Ship 2. Ship 2 is displayed on the right half of the screen. The mast is green *(the color of ship 2 in the Apple version only)*.There are 19 crew boarding positions on the ship *(16 on the Atari and C-64)* in order as shown in the picture.

J. Sniper box for ship 2.

K. Current number of crew on ship 2. This number changes each time you lose men from swordfighting or sniper fire.

5.0 Sailing and Cannon Fire

5.1 TIME

All references to time in the rule book refer to game time (see the clock at the bottom of the sailing area). The clock is incremented 10 SECONDS at a time during the sailing portion of the game. By looking at the game clock when you give a **TURN** or **FIRE** command you can figure out when your ship will

turn or when the guns will be reloaded. See the **TURN** and **FIRE** commands for specific information about the time delays associated with those commands.

5.2 DISENGAGEMENT

Whenever the two ships sail approximately 1500-2000 yards away from each other the ships will disengage. Upon disengagement one hour of time will elapse on the game clock. During this time the ships will attempt to repair any damage that has been sustained. Hull and sail damage may be repaired. You will see more hull points if your hull was repaired, and an increased speed if your sails were repaired, but no new sails or masts will appear on your ship. Repaired damage will be subtracted from each player's victory point total (see section 7.0 for details on victory points). Next, play will resume with the ships being placed back within 1500 yards of each other. Ships may continue to disengage several times in succession (determined randomly), allowing the ships additional time to repair.

5.3 TURNING

Turning to port or starboard takes place 30 degrees at a time. After a **TURN** command is given there will be a time delay before the ship turns. During this delay if you attempt to display either **TURN TO PORT** or **TURN TO STRB** you will see a **TURNING** message instead of the **TURN** command. While **TURNING** is displayed neither **TURN** command will be accepted by the computer. There is a delay before a turn is executed, to represent the actual time it would take a ship of the period to complete a turn of 30 degrees. The time delay between giving a **TURN** command and the execution of the turn can be set by the player by selecting **CHANGE VARIABLES** on the options page.

5.4 SPEED

All speeds in game are expressed in knots.

5.5 PORT AND STARBOARD

If you are facing toward the bow (front) of the ship, then Port is on your left side and Starboard is on your right side.

5.6 BROADSIDES

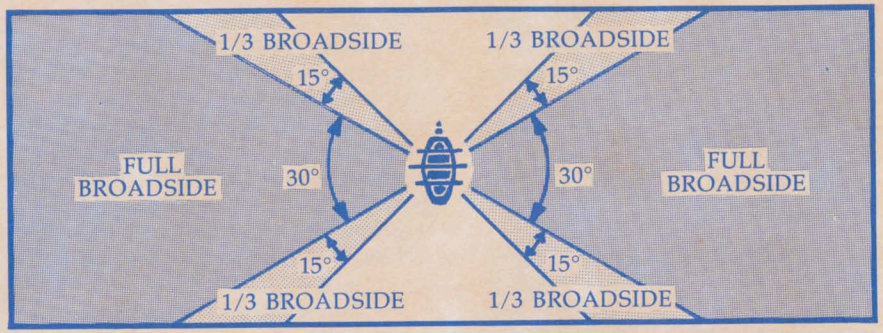
The computer will automatically select which broadside is closer to the enemy ship. This selection applies during **SHOT**, **AIM**, and **FIRE** commands. For example, if the enemy ship is on your port side when you select a **SHOT** command, whatever type of **SHOT** you selected will be loaded into the port broadside. If the ship is on your starboard side when you select **AIM** the starboard broadside will be aimed according to your selection. The port broadside would still be aimed where they were last aimed. It is possible then to have the port and starboard broadsides loaded with different types of **SHOT** and to **AIM** one broadside at the sails and **AIM** one broadside at the hull. When you fire a broadside what type o **SHOT** is fired and where it is aimed depends on the last commands given for **SHOT** and **AIM** when the enemy ship was on the side of your ship that you are now firing from. Once a **SHOT** or **AIM** command is given for a particular broadside it remains in effect until you give a different command for that broadside. For example, if you select **CHAIN SHOT** while the other ship is on your port side then your port broadside will continue to be loaded with **CHAIN SHOT** until you give a different **SHOT** command while the enemy ship is on your port side. In the arcade game, your guns will always be loaded with solid shot, and double damage will always result from broadsides.

5.7 LINE OF SIGHT

A ship's broadside may only fire at full effect within a 30 degree arc as shown in the diagram at the top of the next page. A ship may fire a further 15 degrees on each side of the main arc, but at only ⅓ effect (see exception in section 5.8).

5.8 POINT BLANK FIRE

Fire at point blank range (defined as fire at 125 yards or less) causes double damage. A ship cannot miss when it is firing at point blank range (i.e. the range selected by the player



will not affect the broadside). A ship at point blank range which can sight the target with at least a third of its guns (see section 5.7) will automatically be able to have its full broadside sight the target. Also, point blank fire is automatically considered to be fire directed at the hull, even if **AIM AT SAILS** has been selected. Note that chain shot is extremely ineffective against the hull.

5.9 RAKES

A broadside which is judged to be raking an enemy ship will cause double damage. A rake occurs whenever the two ships are moving along perpendicular courses as shown below.

5.10 COMMANDS (Arcade and Tactical)

Each command below specifies what types of games (arcade and tactical) that command can be used in. Not all commands are available in the arcade game.

TURN TO PORT (Arcade and Tactical)

Ship turns to port after a delay of 10 seconds to 8 minutes of game time. For the Arcade version the delay is 50 seconds. For the Tactical version the standard delay can be set anywhere between 10 seconds and 8 minutes. See sections 5.3 and 2.4 for more information. Excessive damage to the rigging or hull will slow a ship's turning speed (over 50 hull points lost or 50% rigging damage). Additional damage will continue to slow a ship's turn rate.

FASTER SPEED (Arcade and Tactical)

Continues to increase speed until **MAX SPEED** is reached. Stays in effect until one of the other **SPEED** commands is given (**STEADY SPEED** or **SLOWER SPEED**).

STEADY SPEED (Arcade and Tactical)

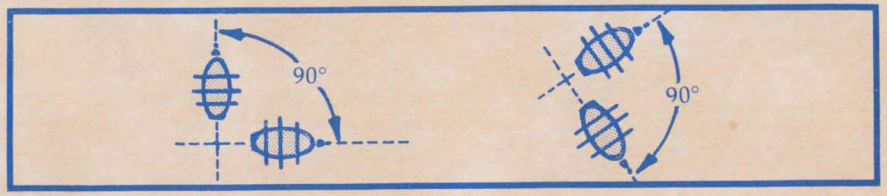
Cancels either of the other **SPEED** commands (**FASTER SPEED** or **SLOWER SPEED**) and continues the ship at its current speed.

SLOWER SPEED (Arcade and Tactical)

Continues to decrease speed until the speed is 0 knots. Stays in effect until one of the other **SPEED** commands is given (**STEADY SPEED** or **FASTER SPEED**).

BACK SAIL (Tactical only)

Ship reduces current speed to ½ of its present value, 30 seconds after the command is given. During this 30 second interval, you may not give another back sail command. Backing sail was accomplished by temporarily turning sails into the wind. This command will not affect any of the other **SPEED** commands; for example, if **FASTER SPEED** is in effect



when you give the **BACK SAIL** command, it will still be in effect after the **BACK SAIL** command has been executed.

BATTLE SAIL (Tactical only)

Standard rigging for ships entering battle. The game starts with both ships at **BATTLE SAIL**. This command also cancels the **FULL SAIL** command. There is a delay of 2 minutes 40 seconds before the **FULL SAIL** command is canceled and you are at **BATTLE SAIL**. The 'F' next to the maximum speed display is erased when **BATTLE SAIL** takes effect. See **FULL SAIL** command for more information.

FULL SAIL (Tactical only)

This command takes effect after a delay of 2 minutes 40 seconds. An 'F' is placed to the right of the maximum speed display when the **FULL SAIL** command is in effect. While at **FULL SAIL** there are two consequences. First, your **MAX SPEED** is doubled, allowing you to sail faster if you so desire. Second, if you suffer sail damage while at **FULL SAIL** the amount of damage will be one and a half to two times the damage you would suffer at **BATTLE SAIL**. Both the faster speed and the greater damage effects apply only while the 'F' is displayed. Once you have lost approximately a third of your sails, you cannot go to **FULL SAIL** for the remainder of the game. If you are at **FULL SAIL** when this occurs your ship will switch to **BATTLE SAIL**.

SOLID SHOT (Tactical only)

Your standard cannonball. This shot can be fired both at sails and hull. It does standard damage against both sails and hull. **SOLID SHOT** is the only shot that can inflict hull damage (see **CHAIN SHOT** for one minor exception). It is also the most effective shot for destroying enemy guns. Solid shot is automatically loaded into each broadside at the beginning of the game, and during the arcade game.

CHAIN SHOT (Tactical only)

This shot is for destroying sails (sail damage in this game represents damage to both sails and rigging). Several types of shot were actually used to destroy sails and the term **CHAIN SHOT** in this game represents all of them. This shot can only be fired at sails. **CHAIN SHOT** does two times as much damage against sails as **SOLID SHOT** does. Guns are destroyed less frequently when you aim at the sails. The maximum range of chain shot is roughly 700 yards.

GRAPE SHOT (Tactical only)

This shot was used for killing crew. It can only be fired at the hull and only kills crew. This is by far the most effective shot against the crew (crew casualties can also cause casualties to your snipers). The maximum range of **GRAPE SHOT** is roughly 400 yards. If you are planning to board this is a good shot to use to prepare the way.

AIM AT SAILS (Arcade and Tactical)

Aims either port or starboard broadside at sails. This command will be ignored if **GRAPE SHOT** is currently loaded in the appropriate broadside (however, loading Grape Shot will not change the aim of your guns for future firings of solid shot). Aiming at sails is not as effective as aiming at hull for destroying the enemy's guns. This is the default target at the beginning of each game.

AIM AT HULL (Arcade and Tactical)

Aims either port or starboard broadside at hull. This command will be ignored if **CHAIN SHOT** is currently loaded in the appropriate broadside (however, loading Chain Shot will not change the aim of your guns for future firings of solid shot).

FIRE, RANGE XXXX YARDS (Arcade and Tactical)

This command fires either a port or starboard broadside at the range XXXX (XXXX stands for whatever range is displayed for this command). Players have the option of either guessing the correct range or having the correct range automatically given. The option of guessing ranges gives you three ranges, each 100 yards apart, one of which is correct. The other option allows you to fire automatically at the correct range. The Arcade game begins with the correct range option and the Tactical game begins with the guessing range option. You may switch from one option to the other while playing the game by hitting ESCAPE, R, and then ESCAPE again.* If you guess the correct range or have the correct range given to you, the computer will next calculate and display the amount of damage done to the enemy ship in the display area. See section 3.0, Sailing Screen for an explanation of damage. After firing there is a time delay before you can fire again, to represent the time it took to reload the guns. In the Arcade version the standard delay is 30 seconds in game time. The delay can be set by the player by selecting **CHANGE VARIABLES** on the options page. If you turn to the **FIRE** command before the delay is over, a **STILL LOADING** message will be displayed instead of range. While this message is displayed a **FIRE** command will not be accepted. Loading time is increased due to crew losses as follows: each time a ship loses a number of crew equal to the number of guns on its initial broadside its loading time will be increased by 10 seconds. *Example:* A ship which starts the game with 27 guns on each broadside will have its loading time increased by 30 seconds if it loses 81 crew. There are three ways you can miss the other ship. First, if you are playing the Tactical version you can select the wrong range. Second, the distance to the other ship might be farther away than the maximum range of the type of shot you are using. Third, the other ship might not be in the line of sight of your guns. If your broadside misses, then you will see a splash where the shot hit the water. Sometimes the range you select is beyond the displayed playing area, in which case there will be no splash.

New feature in Apple 2.0 version. On the C-64, hit f1, R, and then f1 again.

TURN TO STRB (Arcade and Tactical)

STRB is short for starboard. This turns the ship 30 degrees to starboard with all of the same restrictions that apply to **TURN TO PORT**.

6.0 Boarding

Whenever ships sail into each other boarding will occur. This entails the use of hand-to-hand combat in an attempt to capture the enemy ship.

6.1 EXPLANATION OF BOARDING

GRAPPLING. Boarding continues as long as at least one grappling line keeps the two ships together (see explanation of boarding screen). Shortly after all 6 grappling lines have been cut and no longer show on the screen, the game will transfer back to the sailing screen with one hour of time elapsed, or if playing the Boarding Only game, the game will end in a draw. One grapple will be cut for every 12 rounds of swordfighting in which no one drops dead (while at least one of the swordfighters is behind his own grating). One grapple will also be cut whenever a swordfighter behind his own grating causes the other swordfighter to drop dead (see explanation of boarding screen). For example, if the ship 1

swordfighter is to the left of the grating on ship 1 when the ship 2 swordfighter drops dead, then one of the grapples will be cut. Whenever a swordfighter fighting offensively causes the other swordfighter to drop dead, a grapple will be replaced (if at least one has been cut).

OFFENSIVE VS DEFENSIVE. Each player is either on the offensive or defensive. If you are engaged in offensive boarding then you are trying to get as many men on the enemy's deck as possible to take over his ship. In addition to this you are trying to tie the ships together with grappling lines, so the enemy can't escape. If you are fighting defensively you have commanded your men to repel boarders and cut the grappling lines holding the ships together. Whether or not you are fighting defensively or offensively is determined by where your swordfighter is. Refer to section 4.0, Boarding Screen, for a complete explanation; especially explanations of letters 'D', 'E', 'F', 'G', and 'H'.

DROPPING DEAD. The swordfighter dropping dead will occur whenever a total of ten crew members are killed. Each time a sniper hits, ten enemy crew are killed and a figure will drop dead. Whenever accumulated casualties due to swordfighting amount to ten, a swordfighter will drop dead.

SWORDFIGHTING ROUNDS. Swordfighting is played in rounds. A round consists of a swordfighting movement of a thrust, counter-thrust or hack. The thrust, if it kills, kills 4 men, the counter-thrust 2 men, and the hack 6 men, if boarding casualties is set to 1 times standard (see section 2.5, Variables Page 3). After 15rounds of swordfighting, each sniper is allowed to fire.

CASUALTY RATES. The counter-thrust beats the thrust and kills 2 men. The thrust beats the hack and kills 4 men. The hack beats the counter-thrust and kills 6 men. The counter-thrust kills 0 men against the counter-thrust. The thrust kills 4 men against the thrust. The hack kills 6 men against the hack. The number of men killed by these movements is altered if your swordfighter is advancing or retreating during the round. An advancing swordfighter (ship 1 swordfighter moving right or ship 2 swordfighter moving left) loses twice as many men if he is killed. A retreating swordfighter (ship 1 swordfighter moving left or ship 2 swordfighter moving right) kills only half as many men, and loses only half as many men if he is killed.

EXAMPLES. These examples are given so you will understand how casualties are calculated. You do not have to calculate these results yourself. The computer does all of that for you and will also display the new crew total at the end of each round. In fact, it is easy to tell who won a particular round because you will see the loser's crew total decrease. All these examples assume that the swordfighters are adjacent after any movement.

Example 1: Player 1 chooses to hack and stands still. Player 2 chooses to counter-thrust and advances.

Results: Player 2 will lose 12 men because Player 2 will suffer 2 times the normal losses in a round in which he advances.
6 (normal losses) $\times$ 2 = 12

Example 2: Player 1 chooses to thrust and advances. Player 2 chooses to counter-thrust and retreats.

Results: Player 1 will lose 2 men. The normal amount of losses (2 men) is first multiplied by 2 because you lose twice as many men when you advance and lose a round, but in addition to this Player 2 retreated so the number of losses is divided by 2 because you only kill ½ as many men in a round in which you retreat.
2 (normal losses) $\times$ 2 $\times$ ½ = 2

Example 3: Player 1 chooses to hack and stands still. Player 2 chooses to hack and stands still.

Results: Each player will lose 6 men.

Example 4: Player 1 chooses to hack and advances. Player 2 chooses to hack and stands still.

Results: Player 1 loses 12 men (double losses due to advancing). Player 2 loses 6 men.

BOARDING STRATEGY. To win the game through boarding, you must play an aggressive game. Your swordfighter must advance to engage the other swordfighter. If you play a defensive game, you will lose less men during boarding, and you will end the boarding (disengage) earlier.

6.2 BOARDING COMMANDS

The boarding phase always uses the keyboard for inputting commands. It is necessary to time when you hit the key on this screen to make sure the command 'takes'. Sniper commands (to make the sniper shoot at other snipers, enemy on other deck, or enemy on own deck) must be given right before that sniper shoots. Swordfighter attack movements (counter-thrust, thrust, and hack) must be given right before the swordfighter attacks.

SWORDFIGHTER MOVE RIGHT

Move the ship 1 swordfighter to the right to make him more offensive, or move the ship 2 swordfighter to the right to make him more defensive. The keys to hit to cause this action are:

	APPLE II & II+	APPLE IIe	ATARI	C-64
SHIP 1 (Violet/dark)	F	F	F	F
SHIP 2 (Green/light)	->	'	→	=

SWORDFIGHTER MOVE LEFT

Move the ship 1 swordfighter to the left to make him more defensive, or move the ship 2 swordfighter to the left to make him more offensive. The keys to use are:

	APPLE II & II+	APPLE IIe	ATARI	C-64
SHIP 1 (Violet/dark)	D	D	D	D
SHIP 2 (Green/light)	<-	;	←	;

SWORDFIGHTER COUNTER-THRUST

The counter-thrust is a short thrust and is the most defensive of the sword actions. It results in the least number of enemy crew being killed. The counter-thrust beats the thrust and kills 2 men. If both players choose to counter-thrust, then they will kill 0 men. Keys to use are:

	APPLE II & II+	APPLE IIe	ATARI	C-64
SHIP 1 (Violet/dark)	1	1	1	1
SHIP 2 (Green/light)	0	0	8	8

SWORDFIGHTER THRUST

This sword movement is not as defensive as the counter-thrust and not as offensive as the hack. It results in more enemy crew being killed than the counter-thrust when the movement kills the enemy. The thrust beats the hack and kills 4 men. If both players choose to thrust, then they will each lose 4 men. The correct keys are:

	APPLE II & II+	APPLE IIe	ATARI	C-64
SHIP 1 (Violet/dark)	2	2	2	2
SHIP 2 (Green/light)	:	–	9	9

SWORDFIGHTER HACK

This is the most offensive of the three sword movements. If successful, it will kill the most enemy crew. The hack beats the counter-thrust and kills 6 men. If both players choose to hack, then they will each kill 6 men. To execute this command, use keys:

	APPLE II & II+	APPLE IIe	ATARI	C-64
SHIP 1 (Violet/dark)	3	3	3	3
SHIP 2 (Green/light)	–	=	0	0

SNIPER AIM AND FIRE AT OTHER SNIPERS

Use this command to make the sniper aim at the other ship's snipers. For each sniper, you must hit the appropriate key right before the sniper fires. Then you will see the sniper's musket aim at the other snipers. Due to the difficulty of hitting enemy snipers, the percentage chance to hit an enemy sniper is 25% of the normal hit percentage. The keys to use are:

	APPLE II & II+	APPLE IIe	ATARI	C-64
SHIP 1 (Violet/dark)	1	1	1	1
SHIP 2 (Green/light)	0	0	8	8

SNIPER AIM AND FIRE AT ENEMY ON OTHER DECK

This command will make the sniper fire at the enemy crew on the enemy's ship. The keys to use are:

	APPLE II & II+	APPLE IIe	ATARI	C-64
SHIP 1 (Violet/dark)	2	2	2	2
SHIP 2 (Green/light)	:	–	9	9

SNIPER AIM AND FIRE AT ENEMY ON OWN DECK

We recommend that you use this command only when there is a significant number of enemy crew on your own deck, as there is always a chance that your sniper will miss and hit a man on his own side. This chance increases as the number of enemy on the ship decreases. If the sniper hits while aimed at his own deck, he will kill a man in one of the positions 1 through 10 (see boarding picture) whether he is yours or an enemy's crew member. It is much easier to pick out a clear enemy target on the enemy's deck or rigging (other snipers) than on your own deck where the enemy is engaged in hand-to-hand combat. The keys to use for this command are:

	APPLE II & II+	APPLE IIe	ATARI	C-64
SHIP 1 (Violet/dark)	3	3	3	3
SHIP 2 (Green/light)	–	=	0	0

6.3 SURRENDER

A ship will surrender whenever its total crew remaining is reduced below one fourth of its original crew size as long as the other crew is greater than a fourth of its original size, or whenever 11 enemy crew members have boarded the ship. For example, if both crews start with 480 men, the first ship will lose if its crew drops below 120. If both crews drop below 120 men, the game is a draw.

7.0 Ending the Game and Victory Conditions

The game ends if either ship wins or loses, or at 6 P.M., whichever comes first. If both ships lose, or if the time reaches 6 P.M. before one ship can win, the game is a draw. You will win if you sink the enemy ship. You will also win if your ship can accumulate enough points to force the enemy ship to surrender; this will happen if your score less the score of your opponent is greater than 10 times the original number of guns on the enemy ship's broadside. Under these conditions it is assumed that the enemy's morale has broken and he has struck his colors. You will lose if your crew size goes below a fourth of its original size. If the crews of both ships go below a fourth of their original size at the same instant, the game will be a draw. You will also lose if 11 enemy crew members manage to board your ship during boarding and you have no standing friendly crew members occupying any of the first ten boarding positions. If both ships sink, the game will be a draw. Points are awarded for damaging enemy ships (see sections 7.1 to 7.4). If a ship surrenders during boarding (see section 6.3), the victorious player will receive points as if he had killed the entire surrendering crew.

7.1 POINTS FOR DESTROYING SAILS AND MASTS

There are 500 points possible for knocking out all of your opponent's sails. If you knock out one-half of your opponent's sails, you will have earned 250 points for sail damage; if three-quarters, you will have earned 375 points. Cumulative bonuses awarded for knocking out masts are 5 points for each mast top section, 5 points for each mast middle section, and 10 points for each mast bottom section. Thus if you knock out one of your opponent's masts with one or more broadsides, you will have earned 20 points for mast damage. Players will find that it is easier to destroy top mast sections, as well as the middle section of the rear mast.

7.2 POINTS FOR DESTROYING HULL

You will tain two points for each hull point that your opponent loses. In addition, non-cumulative bonuses are awarded if 30 or more hull points are destroyed. Bonus points for hull points are as follows:

HULL POINTS DESTROYED	POINTS AWARDED
30–59	30
60–89	100
90–119	200
120–149	400
150–179	800
180+	1600

For example, if you have destroyed 66 enemy hull points, you will earn 132 regular points, plus 100 bonus points, for a total of 232 points for hull damage. If your opponent loses all of his hull points, he will sink and you will win.

7.3 POINTS FOR KILLING CREW

For each enemy crew member killed, you will accumulate one-half of a victory point. In addition, non-cumulative bonuses are awarded as follows:

NUMBER OF CREW KILLED	POINTS AWARDED
100–199	50
200–299	125
300–399	225
400–499	350
500–599	500
600–699	700
700–799	925
800–899	1175
900–999	1450
1000+	1850

For example, if your opponent started with 1,000 men and now has only 650, you have earned 175 regular points plus 225 bonus points, for a total of 400 points due to enemy crew losses.

7.4 POINTS FOR DESTROYING GUNS

You will earn 4 points for each of your opponent's guns that you destroy. In addition, cumulative bonuses are available if a large number of guns on an enemy broadside are destroyed, as follows:

NUMBER OF GUNS DESTROYED ON ONE BROADSIDE	NUMBER OF POINTS AWARDED
10–19	100
20–29	200
30–39	300
40–49	425
50–59	675
60–69	925
70–79	1175
80–89	1425

For example, if you destroy 21 of your opponent's guns on his port broadside, you will gain 84 regular points plus 200 bonus points, for a total of 284 gun damage points gained.

7.5 BONUS POINTS FOR THE VICTOR

The victorious player will receive a bonus equal to: 720 – number of minutes elapsed. *Example:* Player 1 sinks Player 2 at 8:30:00 and thus receives a bonus of 570 (720 – 150) points.

7.6 FINAL VICTORY POINT DETERMINATION

In the tactical game (and in the arcade game against a human opponent) the final number of points awarded to the victorious player is equal to:

POINTS OF VICTOR + TIME BONUS – POINTS OF LOSER

In the solitaire arcade game the final number of points awarded to the victorious player is equal to the points accumulated by the victorious ship (no time bonus or subtraction of loser's points). Furthermore, the points scored against multiple ships will be added together at the end (i.e., if you manage to sink three ships, you will be given the points you received for the damage done to all three ships).

In the "boarding only" game, the final number of points awarded is calculated in the same manner as in the tactical game; however, no time bonus is awarded:

POINTS OF VICTOR – POINTS OF LOSER

8.0 Statistics on Ships of the Napoleonic Era

Use this data to simulate historical ships of the era. All data given can be specified on variables pages 1, 2 and 3 (in some cases you will be forced to round off values). Boarding casualties are not specified because they are always 1.00 × standard. Ships in British service were divided into categories known as rates. First rate ships were ships with 100+ guns, second rate 90–98 guns, third rate 64–89 guns, fourth rate 50–60 guns, fifth rate 32–44 guns, sixth rate 20–30 guns. Rates one through four were called ships of the line and fifth rates were called frigates. In this rating system, carronades were not taken into consideration. Also, ships usually carried more guns than they were rated for. For the ships of other countries, the equivalent British number of guns is given. Battles between frigates were the most common single ship battles. See the end of this section for some historical battles.

8.1 BRITISH SHIPS

British built ships were really average in quality as the figures below reflect. The British crews and officers as a whole were superior and one of the main reasons why "Brittania ruled the waves." Another reason for their superiority was that British ships were generally kept in good condition and repair. British crews were also good at repairing damage during battle — keeping the ships working as excellent fighting machines. The British rate of fire was almost twice as fast as any other nation's, but for game purposes, in most cases you will probably want to set the loading time for both players fairly equal.

Historical notes: British crews should be given a rate of fire that is 50–75% of the rate of fire given for the ship. British crews should not be allowed to fire chain shot.

	GUNS NUM	TYPE	FIRE	TURN	SPEED	SHOT	HULL	CREW	SNIPER%
FIRST RATE									
100+	5	24lbC	3:00	4:30	2.4kn	1.00	115	875	15%
	21	12lb							
	14	24lb							
	15	42lb							
SECOND RATE									
98	5	18lbC	2:30	4:30	2.4kn	1.00	110	750	15%
	20	12lb							
	15	18lb							
	14	32lb							

	GUNS NUM	TYPE	FIRE	TURN	SPEED	SHOT	HULL	CREW	SNIPER%
THIRD RATE									
80	5	18lbC	3:30	3:30	2.6kn	1.00	85	650	15%
	12	9lb							
	13	18lb							
	13	32lb							
74	5	18lbC	2:30	3:30	2.6kn	1.00	85	650	15%
	9	9lb							
	14	18lb							
	14	32lb							
64	5	18lbC	2:10	3:00	2.6kn	1.00	65	650	15%
	6	9lb							
	13	18lb							
	13	24lb							
FOURTH RATE (FRIGATES)									
60	5	6lb	2:10	2:40	2.9kn	1.00	65	480	15%
	13	12lb							
	14	24lb							
50	3	12lbC	2:10	2:20	2.9kn	1.00	60	420	15%
	3	24lbC							
	12	12lb							
	11	24lb							
FIFTH RATE (FRIGATES)									
44	4	18lbC	1:50	2:20	2.9kn	1.00	55	300	8%
	3	6lb							
	11	12lb							
	10	18lb							
36	4	32lbC	1:50	1:50	3.1kn	1.00	45	3(	8%
	4	9lb							
	1	12lb							
	13	18lb							
32	3	24lbC	1:40	1:30	3.4kn	1.00	40	3(0	8%
	3	6lb							
	13	12lb							
SIXTH RATE (FRIGATES)									
28	3	24lbC	1:30	1:20	3.4kn	1.00	35	200	8%
	2	6lb							
	12	9lb							
24	3	18lbC	1:30	1:20	3.4kn	1.00	35	200	8%
	1	24lbC							
	2	6lb							
	11	9lb							
20	4	12lbC	1:30	1:10	3.4kn	1.00	30	200	8%
	10	9lb							

8.2 FRENCH SHIPS

French ships had better sailing qualities than the British but were often in poor condition. The crews were definitely on the whole inferior to the British with the rate of fire being about twice as slow as the British. The figures below reflect the qualities of the ships and the amount of crew the French put on each ship. If you want to compensate for the quality of French crews, increase the rate of fire considerably up to twice, increase the turning speeds about 10%, and lower the shot damage to .80. The reason the shot damage is set at 1.10 is to reflect the fact that the French shot was actually heavier than the equivalent sized British shot. In the game you probably will want to play with crews much better than the French actually were. Feel free to do so.

Historical notes: French crews should be given a rate of fire that is 100–150% of the rate of fire given for the ship. Increase turning speed by 10%.

	GUNS NUM	TYPE	FIRE	TURN	SPEED	SHOT	HULL	CREW	SNIPER%
120	14	8lbC	2:50	5:20	2.3kn	1.10	140	1098	30%
	17	12lb							
	17	24lb							
	16	36lb							
110	10	8lb	2:50	4:40	2.4kn	1.10	125	1037	30%
	16	12lb							
	16	24lb							
	15	36lb							
80	3	42lbC	2:50	3:30	2.6kn	1.10	95	840	15%
	9	12lb							
	16	24lb							
	15	36lb							
74	2	42lbC	2:50	3:10	2.6kn	1.10	85	690	15%
	8	8lb							
	15	24lb							
	14	36lb							
FRIGATES									
40	2	42lbC	1:50	1:50	3.1kn	1.10	50	330	8%
	6	8lb							
	14	18lb							
38	2	42lbC	1:50	1:40	3.1kn	1.10	45	320	8%
	6	8lb							
	13	18lb							
36	2	42lbC	1:40	1:40	3.1kn	1.10	45	300	8%
	5	6lb							
	13	12lb							
32	2	42lbC	1:40	1:30	3.4kn	1.10	40	275	8%
	3	6lb							
	13	12lb							
28	3	42lbC	1:30	1:20	3.4kn	1.10	35	200	8%
	1	6lb							
	12	8lb							

8.3 AMERICAN SHIPS

Without question the Americans had the best quality crews and ships of any nation of the period. They just didn't have many of them. The figures below reflect typical American ships. You will note that the frigates are far superior to those of any other nation. Americans employed a higher percentage of carronades on many ships than other nations. There were four 74-gunners made at the end of the War of 1812 that never saw action and were not as good as other American ships. The shot damage is set at .90 because American shot was inferior (some would just break apart in flight), and generally weighed less than the rate of the guns that fired them. If however you want to take into account the superior accuracy of most American crews you might want to raise shot damage to 1.3 or higher to reflect the greater number of hits.

Historical notes: American crews should be given a rate of fire that is 50-75% of the rate of fire given for the ship.

	GUNS NUM	TYPE	FIRE	TURN	SPEED	SHOT	HULL	CREW	SNIPER%
74	12	32lbC	2:10	3:00	2.9kn	0.90	100	800	30%
	16	32lb							
	15	32lb							
FRIGATES									
44	11	32lbC	1:50	1:50	3.4kn	0.90	80	470	15%
T.1	15	24lb							
44	10	42lbC	1:50	1:50	3.4kn	0.90	70	470	15%
T.2	15	24lb							
38	10	32lbC	1:30	1:40	3.6kn	0.90	65	340	8%
	14	18lb							
36	10	32lbC	1:30	1:40	3.6kn	0.90	60	340	8%
	13	18lb							
32	3	18lb	1:10	1:30	3.4kn	0.90	55	328	8%
T.1	20	32lbC							
32	6	9lb	1:20	1:20	3.4kn	0.90	50	328	8%
T.2	13	12lb							
28	2	6lb	1:20	1:10	3.4kn	0.90	40	220	8%
T.1	12	12lb							
28	3	6lb	1:20	1:10	3.4kn	0.90	40	230	8%
T.2	12	12lb							
24	13	12lb	1:20	1:00	3.4kn	0.90	40	200	8%
20	10	9lb	1:30	0:50	3.6kn	0.90	30	200	8%
18	2	12lb	1:40	0:50	3.6kn	0.90	30	150	8%
	8	24lbC							

8.4 SPANISH SHIPS

These are included mainly to give you a selection of different ships. The Spanish navy was in terrible condition and corrupt at the highest levels. In addition to that they spent most of their time in port. The crews as a whole were of a very poor quality, definitely inferior to the French. The figures below reflect ship qualities and not crew qualities.

Historical notes: Spanish crews should be given a rate of fire that is 125–175% of the rate of fire given for the ship. Increase turning speed by 10–20%.

	GUNS NUM	TYPE	FIRE	TURN	SPEED	SHOT	HULL	CREW	SNIPER%
136	18	8lb	2:50	5:20	2.3kn	1.00	130	1005	30%
	16	12lb							
	16	18lb							
	15	32lb							
110	9	8lb	2:50	4:40	2.4kn	1.00	110	888	15%
	16	12lb							
	16	18lb							
	15	32lb							
80	12	42lbC	2:50	4:00	2.4kn	1.00	95	856	15%
T.1	5	8lb							
	16	24lb							
	15	36lb							
80	9	8lb	2:50	3:20	2.6kn	1.00	80	656	8%
T.2	16	18lb							
	15	36lb							
74	4	24lbC	2:10	3:10	2.6kn	1.00	75	623	8%
T.1	5	42lbC							
	14	24lb							
	15	24lb							
74	8	8lb	2:10	3:00	2.6kn	1.00	75	545	8%
T.2	15	18lb							
	14	24lb							
64	6	8lb	2:10	2:40	2.9kn	1.00	65	474	8%
	13	18lb							
	13	24lb							
FRIGATES									
40	6	8lb	1:50	1:40	3.1kn	1.00	40	281	8%
	14	18lb							
34	4	8lb	1:40	1:20	3.4kn	1.00	35	240	8%
	13	12lb							
20	10	8lb	1:30	0:50	3.6kn	1.00	30	130	8%

8.5 SHIPS STORED ON THE GAME DISK*

	GUNS NUM	TYPE	FIRE	TURN	SPEED	SHOT	HULL	CREW	SNIPER%
LEVEL 1.									
VICTORY (BRITISH)									
	1	68lbC	2:20	3:20	2.6	1.00	110	836	30% (plus 2.00 × standard boarding casualties)
	15	42lb							
	21	12lb							
vs.									
CONSTITUTION (AMERICAN)									
	11	32lbC	1:30	1:50	3.4	.90	70	420	15% (plus 2.00 × standard boarding casualties)
	15	24lb							
LEVEL 2.									
CONSTELLATION (AMERICAN)									
	10	24lbC	1:50	2:00	3.4	1.00	48	320	15%
	14	18lb							
vs.									
LA VENGEANCE (FRENCH)									
	4	32lbC	1:50	2:10	3.1	1.10	54	547	15%
	16	18lb							
	7	12lb							
LEVEL 3.									
CLEOPATRA (BRITISH)									
	5	24lbC	2:00	1:40	3.4	1.00	50	220	8%
	16	12lb							
vs.									
VILLE DE MILAN (FRENCH)									
	10	8lbC	1:30	1:50	3.6	1.20	66	368	15% (plus 2.00 × standard boarding casualties)
	13	18lb							
OPTION A									
SYBLLE (BRITISH)									
	7	32lbC	1:30	1:40	3.1	1.10	45	370	15%
	3	9lb							
	14	18lb							
vs.									
FORTE (FRENCH)									
	4	32lbC	1:50	1:50	3.1	1.00	60	370	8%
	7	8lb							
	15	24lb							

**New feature in Apple 2.0 version.*

	GUNS NUM	TYPE	FIRE	TURN	SPEED	SHOT	HULL	CREW	SNIPER%
OPTION B									
AMBUSCADE (BRITISH)									
	4	24lbC	1:30	1:20	3.4kn	.80	35	220	8%
	16	12lb							
vs.									
BAIONNAISE (FRENCH)									
	1	42lbC	1:30	1:20	3.4kn	1.20	35	320	15%
	3	6lb							
	12	8lb							
OPTION C									
CONSTELLATION (AMERICAN)									
38	5	12lb	1:20	1:30	3.8kn	0.90	60	320	8%
	14	24lb							
vs.									
L'INSURGENTE (FRENCH)									
38	3	32lbC	2:20	1:40	3.6kn	1.10	50	420	8%
	4	6lb							
	12	12lb							
	1	18lb							
OPTION D									
CONSTITUTION (AMERICAN)									
44	11	32lbC	1:30	1:50	3.4kn	0.90	70	420	15%
	15	24lb							
vs.									
GUERRIERE (BRITISH)									
44	4	18lbC	1:40	2:10	3.1kn	1.10	50	270	8%
	3	6lb							
	12	18lb							
	11	24lb							
OPTION E									
UNITED STATES (AMERICAN)									
44	10	42lbC	1:30	2:10	3.1kn	0.90	70	470	15%
	15	24lb							
vs.									
MACEDONIAN (BRITISH)									
44	4	32lbC	1:40	1:30	3.6kn	1.00	50	320	8%
	2	12lb							
	13	18lb							

	GUNS NUM	TYPE	FIRE	TURN	SPEED	SHOT	HULL	CREW	SNIPER%
OPTION F									
MARS (BRITISH)									
74	5	18lbC	1:50	3:30	2.6kn	1.00	90	620	15%
	9	9lb							
	14	18lb							
	14	32lb							
vs.									
HERCULES (FRENCH)									
74	2	42lbC	3:00	3:20	2.6kn	1.10	90	670	15%
	8	8lb							
	15	24lb							
	14	36lb							
OPTION G									
BONHOMME RICHARD (AMERICAN)									
42	4	9lb	1:30	2:20	2.4kn	1.10	50	420	15%
	14	12lb							
	3	18lb							
vs.									
SERAPIS (BRITISH)									
44	4	6lb	1:30	2:00	2.9kn	1.00	60	270	8%
	10	12lb							
	10	18lb							
OPTION H									
NYMPHE (BRITISH)									
36	4	32lbC	1:30	1:50	3.1kn	1.00	40	220	8%
	4	9lb							
	1	12lb							
	13	18lb							
vs.									
CLEOPATRE (FRENCH)									
36	2	42lbC	2:00	1:40	3.1kn	1.10	40	320	8%
	5	6lb							
	13	12lb							

9.0 Glossary of Terms

ARCADE GAME Broadsides allows for two types of play, 'arcade' and 'tactical'. Fewer commands are available in the arcade game.

BATTLE SAIL Battle sail was the normal sail and rigging configuration used by a ship in action. Many of the sails were 'clewed up,' giving the ship less speed, but causing the masts and sails to be less vulnerable to enemy fire.

BOARDING A boarding action occurred when one ship was able to grapple with the other ship, to allow the crew members of the two ships to engage in hand-to-hand combat.

BROADSIDE A broadside occurred when all the cannons on one side (either port or starboard) were fired simultaneously at a target.

CARRONADE A carronade was a short-barrelled, large caliber gun designed for short ranges. It was invented in 1779 by the Carron Company in Scotland.

FULL SAIL Full sail allowed ships to increase their speed by setting more sails. This increased strain on masts and rigging, and made them more vulnerable to enemy fire.

GRAPPLES Grapples were used to keep the two ships together so boarding could continue. In the game, you can break the grapples on your ship by moving your swordfighter back behind the bulwark (see boarding screen picture and explanation) on your ship.

KNOT One nautical mile per hour. A nautical mile is approximately 6080 feet.

OPTION There are six options shown on the options page: game controller, number of players, arcade or tactical type of game, regular game or boarding screen only, level of play, and change variables.

PORT The left side of the ship as you stand on the ship facing forward.

SNIPER Snipers used muskets to shoot at the enemy and were positioned in the rigging of the ships.

STARBOARD The right side of your ship as you face forward on the ship.

SWORDFIGHTER Represents hand-to-hand fighting with swords during boarding actions.

TACTICAL GAME There are two types of games that can be played: arcade and tactical. The tactical game has more command options.

VARIABLE The game variables specify the characteristics of each ship. These can be altered one by one on the variables pages. Some of the variables are crew size, strength of hull, and type and number of cannons. The game is designed to enable you to change any or all of the characterisitics of each ship before each game begins.

Credits

Game Design & Programming
Wayne Garris

Game Development
Joel Billings

Customized Disk Operating System (Apple version)
Roland Gustafsson

Art & Graphic Design
Louis Hsu Saekow, Don Woo, Kathryn Lee & Dave Boudreau

Typesetting
Abra Type

Printing
A&a Printers and Lithographers

If you have any questions or problems regarding the program or game, please send a self-addressed, stamped envelope with your question to: *STRATEGIC SIMULATIONS INC, 883 Stierlin Road, Bldg. A-200, Mountain View, CA 94043-1983.* Or call our Hotline Number: **(415) 964-1200** every weekday, 9 to 5 (P.S.T.)