STEAM AND IRON
THE GREAT WAR AT SEA

PLAYER'S MANUAL

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1.0 SCENARIO SELECTION

When you start up the game, you will see the scenario selection screen. On the left hand side is a list of available scenarios. Click on a scenario to get a description and a briefing map that shows where the scenario is taking place.

You can play either side in a scenario against the AI. Human to human play is not supported.

On the lower right there are buttons for controlling the force levels. _Historical_ forces mean that side will get exactly those forces that took part in the historical engagement. _Variable_ forces mean that the forces available will be randomized to some extent, and that side will get fewer or more ships or additional forces. Variable forces will give the most realistic playing experience, as real admirals could never be sure exactly what they would meet. _Reinforced_ forces mean that the side will be likely to have more forces than historically, but they will still be randomized.

There is also a button for selecting preferences. You might want to set these to values that fit your taste before starting a scenario. Once set, the game will remember these. See below for an explanation of preferences.

2.0 USING THE MAP

The map shows your ships as coloured dots on higher zoom levels, and as ship graphics when you zoom in. The ships are shown in approximately double size, so the ships might look more crowded together than they actually are.

Ships in Steam and Iron will be shown on the map and elsewhere in the game with the following prefixes denoting the ship type:

BB Dreadnought Battleship
BC Battlecruiser
B Predreadnought Battleship
CA Armored Cruiser
CL Light Cruiser
DD Destroyer
MS Minesweeper (also used to represent a variety of small surface combatants)
TR Transport or merchant ship
AMC Armed Merchant Cruiser
AV Seaplane carrier
SS Submarine
LT Land target

You can zoom the map by clicking the + or - buttons on the toolbar. You can also click and drag a box on the map with the left mouse button to zoom in to a particular area of the map, or use the mouse wheel to zoom.

To scroll the map, right click and drag on the map, this effectively rotates the earth. You can also scroll the map by using the A-S-D-W keys.

Clicking the Zoom to force button will zoom the map so that you see all your ships, and any spotted enemy ships.

The lock button will make the map follow the currently selected division.

You can show the sighting ranges or fire lines for the selected division by pressing

the appropriate buttons on the toolbar.

You can get details on friendly ships and divisions by right clicking on the ship or the division flag.

Info on enemy ships will be limited. You can hover the mouse pointer over a ship to get additional info, and you can right click on an enemy ship to bring up information about the ship class from a simulated Jane's Fighting Ships, provided the class is identified.

It is possible to show an inset with an enlarged view of the current ship by pressing the show enlarged view button on the toolbar. This can be very handy for checking if all guns are bearing, or if you just want to keep an eye on your flagship.

The ship displayed will shift when a popup is shown, but it is possible to lock the inset view to the current ship.

When the scenario is finished, you can use the track chart button on the toolbar to display a track chart of the action. *(Note: Track charts will not be saved with the game, so a reloaded saved game will have tracks that start where the game was resumed.)*

3.0 THE OOB TAB

The Order of battle tab lists all your ships and shows how they are organised. Each side will have one or more forces, which are divided into divisions which contain the ships. You can expand the forces and divisions to see your ships.

As the ships are damaged, they will get stars beside their names in the tree, one star is light damage, two stars is medium

damage and three stars is heavy damage. An (M) beside the name denotes that the ship is carrying mines.

Most objects in the OOB tree can be right clicked for further functionality, for example finding them on the map or seeing detailed info on forces, ships or divisions.

A force may be computer controlled, which means that there are friendly forces over which you have no control and do not know exactly where they are. They will report sightings of enemy forces, but those reports will be fragmentary and subject to error. You cannot change the control of computer controlled forces, but you can change AI control of divisions in player controlled forces (see below)

4.0 THE LOG

The log list on the log tab will list all important events taking place in the game. Events during the current turn will be in black, while events from the preceding turn will be shown in gray. Click on an event to locate the map to the ship causing or suffering the event. You can also right click most events related to friendly ships to get details on the ship.

Some events will be shown in differing colour or font to make them stand out. These are ships sinking, torpedo hits etc. Some events can also be made to pause the game or show a message box, subject to customization by the player. See under preferences.

All log entries are recorded in a total log that is available when you press the log button on the toolbar (the one with a book on it). In the log window, you can copy all

entries to the clipboard with Ctr+C and paste into Word or Word Pad. It is an RTF file so it will keep the formatting with colors and bold lines for hits etc. In this way, you can peruse the log after the battle or even save if for future reference.

Note that the log entries will not be saved with the game, so when you restart a saved game the log will be blank.

5.0 THE REPORTS TAB

The reports tab lists all reports on enemy activity that come from friendly non-player controlled forces or submarines. Click on a report to locate it on the map. Note that reports are randomized and subject to "fog of war", both as regards location and enemy strength.

6.0 THE OBJECTIVES TAB

This lists all objectives for your side. Click on an objective to highlight its location on the map. See more on objectives under Victory and objectives.

7.0 MANEUVERING YOUR SHIPS

Steam and Iron puts you in the place of the admiral. That means you will give orders to divisions of ships, not to single ships (unless they are alone in a division).

Divisions are shown on the map with flags. A square flag means a division under the control of the player, a triangular flag means the division is under AI control. Tip: It can often be preferable to have smaller ships, destroyers for example, under AI control. In a big battle, that will let you focus your attention on the big ships. It will

also insure against a division doing something stupid just because you have forgotten to give it orders. You can switch on and off AI control for divisions in your force at any time during play, subject to the realism level you have chosen.

There are a couple of ways to give orders to a division. You can right click on the division flag, which will bring up the division dialog.

The division dialog will show a list of the ships in the division, and their details. For further details on a ship, double click on its listing.

You can set the speed and course for the division. Clicking the arrow button by the course value will let you pick a direction from the map. The map will be shown and the cursor will be a cross. Left click on the map and the division will be given a course to the point you clicked.

Extended high speed cruising carries a risk of engine damage: If the speed is above 16 knots for battleships and 18 knots for battle cruisers and cruisers, there is a slight chance for engine damage.

You can switch on and off AI control for a division by clicking the AI control checkbox (possibly restricted depending on realism level).

The formation of the division will affect how the ships deploy.
Line ahead means all ships will follow the division flagship. Very common formation, especially for heavier ships, as it maximises firepower and will avoid putting ships in the line of fire of each other.
Line abreast means the ships will form up on the flagship in a line abreast. Usually

only used at the start of a scenario to account for spread out deployments. During play, this is best ordered by checking the "turn together" checkbox and giving a new course for the flagship at roughly right angles to the original course.

Search line is a specialized formation, like line abreast but with much larger intervals between ships. Typically used by a lone squadron trying to cover as much sea as possible.

Screen means the ships will spread out to cover an arc in front of the lead division. Used by ships having the role of scout or screen (see below).

Formations other than line ahead have a risk of ships getting separated from the division, especially at night or in poor visibility. Heavy ships maneuvering in line abreast will risk some disorder, especially if ships are ahead of the flagship.

You can select the role for the division. This will affect how the AI will handle the division:

Independent divisions will not care about keeping station on other friendly divisions, but they will maneuver in the general direction of the force flagship. Independent cruiser divisions will try to place themselves a couple of nautical miles in front of the main force.

Core divisions will follow their lead division. Typically used for battleship divisions in the main line of battle.

Support divisions will follow some distance behind the supported division or on the disengaged side and endeavour to stay out of the line of fire. Typically used for destroyers supporting a battleship or cruiser division. Supporting destroyers will launch torpedo attacks or counterattacks on enemy destroyers when they deem it

appropriate.

Scout divisions will place themselves a considerable distance in front of their lead division, and spread out their ships. Typically used for light cruisers scouting for a heavier force.

Screen divisions will form a screen a short distance in front of the lead division. Typically used for light cruisers or destroyers screening heavier ships.

Patrol divisions will patrol around their objective. Used for patrolling coastal forces etc, usually not under player control. However, it might be useful to put a player controlled division on patrol if you want it to loiter in an area while you concentrate on other areas.

Note that all roles are not available to all ship types, to reflect historical practice. For example, you cannot place a battleship-division on scout. Neither can you place a destroyer division on scout. If you think this is odd, it is to reflect historical usage of destroyers in WW1. WW1 destroyers were small and had poor means of navigation and communication, which precluded their use in scouting. They can be put on screen instead.

Lead division is the division that all the above will relate too. All divisions will have a lead division except independent divisions.

The turn together check box makes it possible to order a division in line ahead to turn together if you for example want to turn away quickly from the enemy or a torpedo attack or similar. Turn together will apply to following divisions in core role, thus allowing a battleline to make a common turn away from a torpedo attack or other threat.

The Division dialog can also be accessed by right clicking on a division in the OOB tree and selecting status from the popup menu. Similarly, ships can be inspected in the same way. It is also possible to center the map on a division or ship if you cannot find them.

There is also a quick way to give orders by using the box in the lower left corner of the main screen. If a division is selected, you can simply enter a course or a speed, or press the arrow button to pick a course from the map.

An ultra-quick way to change course for a division is to shift click on the map with the division selected. That will change its course to head for the clicked point. Ctrl+click on the map will give a new course as above and start the game running until your ships have reached the clicked point.

8.0 TARGETING

Your digital gunnery officers will normally handle targeting. However, unless you are playing at Admiral's mode you can set targets yourself for divisions that are not AI-controlled.

If you set a target manually for a division or ship on automatic targeting, it will shoot at that target until the target is out of range or cannot be seen. It will then revert to automatic mode. Note that this might mean that a more important target will be ignored. If you give manual targeting orders, you must also pay constant attention to what your ships are firing at.

On manual mode, it is entirely up to the player to select targets. If a target is out of

range or not visible, the ship will simply stop shooting. This means that constant player supervision is recommended if you put a division on manual targeting.

In the division dialog, you can also order a division to hold fire for 10 minutes or indefinitely, and to abstain from launching torpedoes, if you are playing at Rear Admiral's or Captain's mode. Note that ships given hold fire orders might end up being pummelled by the enemy without shooting back, so as with manual targeting, you will have to pay careful attention to what's happening,

Secondary batteries and torpedoes will always have automatic targeting. Occasionally, you might see secondary batteries not firing at targets well in range. The reason is most often that there is already a substantial number of ships firing at the target, and further guns firing will just complicate observation and lower accuracy, so your digital gunnery officer has decided to hold fire.

9.0 PLAYING A TURN

The game moves in one minute turns. The ships are animated to create a smooth movement, but everything actually happens in the minute turns. The turn button will play a single one minute turn. Run 5 will run the game 5 minutes, and Run will run the game until something happens which will cause the game to pause, or turn or pause is pressed (or the P key). The game can be run for a variable number of minutes by pressing the number keys, i.e. pressing 7 will run the game for 7 minutes.

The events that will pause the game automatically are configurable under

preferences.

You can adjust the game speed with the game speed control on the toolbar. Speed varies from very fast, which will have game minutes passing by at the rate of several minutes per real life second, down to real time. Normal speed equals roughly one game minute per real life second (varying slightly with computer performance).

If you are playing at slow speeds and press P to pause the game, it will take some time for the game to pause until the current minute is played out. In the mean time, the text "Pause pending" will be shown in the display.

The game will revert to normal if on a faster setting whenever an enemy ship is sighted. You can thus safely up the speed when no enemy is in sight.

10.0 HITS AND DAMAGE

Hits will be shown in the event log. Hits on your own ships will be detailed as to location and the part of armor hit. An asterisk * after the hit denotes that the hit penetrated armour. Hits that do not penetrate armour will cause no or very slight damage.

Armour types are:
B Belt: The main belt armour
BE Belt extended: Upper strakes of belt armour or armour protecting the ends of the ship.
D Deck: The main armour deck of the ship.
DE Deck extended: Corresponds to BE above.
T Turret: Main gun turret.
TT Turret top: Roof of main gun turret.
SEC Secondary gun armour.

CT Conning tower.

The range at which the ship is hit will influence whether belt or deck armour is hit, with deck hits being more frequent at longer ranges.

Ships take structural damage either as structure damage or flotation damage. Flotation damage will affect the speed of the ship and will eventually sink the ship. Structure damage is not directly dangerous to the ship, but extensive structure damage will affect gunnery and damage control.

In addition all individual main turrets can take damage. *Turrets* can either be destroyed, which is permanent, or disabled, which might be fixed by the crew. Even non penetrating hits can disable a turret, the chance being dependent on the shell size. Turrets can also jam from mechanical failures which are similar in effect to being disabled. A penetrating turret hit might trigger an ammunition flash fire, which might either destroy the ship or burn out two turrets. The risk of this happening is dependent on nationality modifiers, which vary over time.

Engine room hits will in most cases affect the speed of the ship.

Waterline hits (or hits by *torpedoes)* can cause progressive flooding, which will gradually cause flotation damage. Damage control will try to limit flooding. The chance of reducing flooding will increase if the ship is at lower speed. Going at high speed with extensive flooding can risk the ship.

When ships sink, they will not just turn turtle and disappear. A ship will be in sinking state for up to several hours. Sinking

ships might be targeted by your gunnery officers, and there is no way you can know if an enemy ship is sinking or just badly damaged. This is to recreate the conditions under which real admirals had to make decisions.

In the ship details window, you can get a list of all the hits that ship has received, with hit location and if it is a critical hit etc. If a hit has a ## mark, it means the hit was made while the ship was already sinking. During play, you will not see the firing ship name. After the scenario is over, you can see exactly which ship scored which hit.

When a ship is sunk and the enemy is not too close and friendly light ships are close, you will get a question if you want to detach a ship to pick up survivors. Picking up survivors earns victory points (regardless of which side they are from, sea battles are supposed to be chivalrous affairs and besides, enemy prisoners are good for propaganda).

Hit Locations:

a. Near miss: Might cause flotation damage to unarmored ships or weakly armored ships and knock out guns on light ships or unarmored secondary or tertiary guns.

b. Turret: Can destroy or disable the turret. A penetrating turret hit can cause a catastrophic flash fire.

c. Hull hit: Will cause flotation damage

d. Engine room: Will affect speed and might cause flotation damage

e. Superstructure: Causes superstructure damage and might damage unarmored secondary or tertiary guns. Splinters may damage other parts of the ship depending on armor thicknesses.

f. Torpedo tubes: Will knock out torpedo tubes and there is a slight chance of an explosion which might cause further damage. Hits on underwater torpedo tubes might cause bad flooding.

g. Secondary battery: Can destroy secondary guns

h. Critical hits: Include rudder damage, catastrophic machinery damage, magazine hits, fire control, conning tower and bridge hits, electric system damage and bad waterline hits. Might also cause any mines carried to explode, with catastrophic effects.

Most hits have a possibility of causing some additional superstructure damage

Some hits on unarmored locations will be pass-through hits that don't explode. Such hits will cause minimal damage.

Torpedo hits will cause massive flotation damage and might cause progressive flooding. They might also damage machinery or knock out turrets.

Note: The term "superstructure in hit locations is used a little loosely and is best interpreted as "upper parts of the ship that will not cause immediate flooding damage".

Fires
As ships accumulate damage, fires may

break out. The risk of fires varies according to ship type, with TR, AMC, AV, CA and B being the ship types most susceptible to fires. Initially, fires don't do much damage, they may either spread or be successfully fought by damage control. Large fires will eat away at the superstructure points of the ship, and might lead to other damage control being hindered or rate of fire affected, or even the ship stopping firing as gun crews and damage control personnel concentrate on fighting the fire. Fire level will be indicated in the ship details window, and also noted in the map popups.

A ship on fire will produce more smoke, contributing more to obscuring lines of fire. A ship on fire will be easier to spot (but not identify) at night.

Fires will be more common during early years before WW1.

11.0 GUNNERY

A lot of factors affect the gunnery of the ships in the simulation. Gunnery accuracy depends on:

Crew quality
Fire control
Firing ship turning
Target ship turning
Previous salvo on target
Sea state
Smoke interference
Damage to firing ship
Range
More than one ship firing on the target
Target evading
Dusk (*firing eastwards in dusk or westwards at dawn is penalised*)
Glare (*firing within 45 degrees of the sun within*

one hour of sunset or sunrise, provided weather is clear or partly cloudy).

To sum it up, to obtain the best result from your ships gunnery, keep a straight course with as many guns as possible bearing, and make sure your smoke is not blowing towards the enemy.

Rate of fire (ROF) is dependent on:

Crew quality
Firing ship turning
Sea state
Smoke interference
Damage to firing ship
Firing ship on fire
Range

Ships low on ammo will fire more slowly and be more selective about targets to conserve ammo. Your digital fire control officers will also use ammo for heavy guns sparingly when firing at light ships at long range.

Ships firing at a new target will be ranging and fire more slowly and with less accuracy until they have found the range.

12.0 TORPEDOES

Torpedo firing is normally automated in the game, and torpedoes will be fired by your virtual torpedo officers when a suitable target is in range. Note that underwater torpedo tubes cannot be fired at a speed higher than 25 knots.

At captain's mode (see Preferences below) torpedoes can be fired manually.

13.0 WEATHER AND VISIBILITY

Visibility will change with the weather. The weather has two parameters that are to a large extent interdependent, sea state and precipitation. These will be shown in the lower right hand corner of the map. The precipitation level will also be shown as a graphic on the toolbar.

Sea state really expresses the wind force, and is given as in the Beaufort scale. Stormy weather will lower visibility and affect the gunnery of ships, with small ships suffering the most. It might also cause badly damaged ships to founder. Torpedo accuracy and reliability will also be affected by heavy seas. Heavy seas will also limit the speeds of ships, again with lighter ships suffering most.

Precipitation level simulates fog, mist, rain and snow. Mist and rain/snow will lower visibility ranges, sometimes severely.

Stormy weather will make fog much less likely, while it will increase the risk of rain.

14.0 SMOKE

Smoke is simulated in the game in several ways.

Funnel smoke will degrade gunnery when firing through it, regardless of which ship the smoke is coming from, except normal funnel smoke from the target ship.

Destroyers and light cruisers can lay smokescreens. A smokescreen can be laid for a maximum of 5 minutes. After that, a ship has to wait 20 minutes before it can lay a smokescreen again. (*Extensive smoke generation will foul the boilers*). Smokescreens are not fully opaque, but will affect gunnery through it to a larger extent than normal funnel smoke. A smokescreen will affect all gunfire through it, even against the laying ship.

Smoke floats can be deployed by light cruisers in nations having them (Germany). Smoke floats will both block line of sight in their densest area, and cause similar effects to funnel smoke. Smoke floats can be ordered manually in captain's mode, and will be deployed when the carrying ships deem it necessary on other realism levels, generally when the carrying ships or their lead division is disengaging. Each light cruiser will have between 3 and 5 smoke floats.

Accumulated smoke from many ships moving at high speed and firing guns in a confined area will eventually lower the sighting range for all ships in the area.

Smoke will tend to disperse faster and cause less visibility effect the stronger the wind is.

15.0 VICTORY AND OBJECTIVES

The basic victory levels are dependent on points for damaging and sinking enemy ships. Sinking a ship gives substantially more points than just damaging it.

The player is given a number of objectives for the scenario that give bonus points when completed. These can be of four types:

a. *Sink ships*: Points are awarded for sinking the specified numbers of enemy ships of the correct type.

b. *Do not lose*: This one gives negative points for losing more ships than specified of the appropriate type.

c. *Reach objective*: Points are awarded for bringing the specified ships to the indicated location. All the required ships must be within 8000 yards of the location at the same time to trigger the objective. Fulfilling this objective will end the scenario in some cases. Reaching an objective with a seaplane carrier will trigger an air raid on the nearest enemy land target in some scenarios.

d. *Lay minefield:* To lay a minefield, you must bring a ship carrying mines (denoted by an M in the OOB tree) to the objective location, then lower speed to 10 knots and the ship will start laying mines. Laying the mines will take some time, usually from 10 to 20 minutes. When the mines are laid the objective is fulfilled. Note that the newly laid minefield is fully functional and any ship venturing into it might hit a mine.

e. *Blockship mission:* This mission requires you to bring a number of merchant ships to the location, usually at the entrance to an enemy base. Once there, their crews will automatically scuttle the ships.

To find the location of an objective, click on it in the objective list and the objective location will be shown on the map. In the case of sink ships, the location is just an indicator to where the enemy can be found;

the actual location where the ships are sunk doesn't matter.

In a campaign scenario, there is an objective button in the toolbar which will show all objectives as dots on the map, yellow for pending objectives, green for passed and red for failed.

16.0 MINEFIELDS

Minefields can be of two types, "friendly" minefields and suspected enemy minefields. Ships will automatically attempt to avoid both types. In addition, there might be unknown enemy minefields which will come as an unpleasant surprise. There is a chance that a mine strike will be reported as a torpedo attack, as there was historically often doubt about if the ship had been hit by a torpedo or a mine.

Minefields can also be laid by ships if they have a "lay minefield" objective.

17.0 SEARCH AREAS

A search area simulates small craft, coastal patrols etc. If a ship is in an enemy search there is a risk that its presence will be reported.

There are also air search areas. They work much the same as normal search areas. Aircraft might spot enemy ships and report them. Aviation was in its infancy, and reports from aircraft will be sporadic and uncertain. Aircraft effectiveness is heavily dependent on weather.

18.0 LAND TARGETS

Land targets are similar to ships except that

they cannot move. They are typically either unarmed bombardment targets or coastal batteries. They will be targeted just as if they were ships (though ships will not fire torpedoes at them). Some scenarios will have destruction of land targets as an objective.

19.0 SUBMARINES

Submarines have a patrol area and can attack ships in that area. They will also report sightings of enemy ships, but usually with a substantial delay, as the sub will most likely be forced to dive and stay submerged for a considerable time after an encounter.

Nearby destroyers will protect larger ships from submarine attack. They will make it harder for the sub to attack and more likely that the sub will be spotted before it can attack. There is a possibility that a surface ship will sink the submarine.

Submarine operations in WW1 were severely affected by weather. If the weather is too calm, the submarine will be spotted more easily, and attacks will be harder. If the seas state is too violent the sub cannot keep attack depth and observation will be difficult. A sea state from 2 to 5 is optimal for submarines. WW1 submarines, in contrast to WW2, were not good at attacking at night, and this is reflected in the game.

WW1 submarines were also notoriously unreliable and hard to control and integrate into other naval operations. To reflect this, each submarine has a reliability rating that roughly determines how large a percentage of time the submarine will be able to scan for targets. This is usually around 50%.

Despite this there were frequent examples of sightings of imaginary submarines and torpedo tracks that sometimes had a profound impact on operations. This is simulated in the game by sightings of non-existent submarines.

It might be a good idea to stay out of areas where friendly submarines are operating with your surface ships, as there is a risk of mistaken identity with potentially embarrassing results.

20.0 PREFERENCES

There are settings for the level of detail in most reports, as well as what is shown on the game map. It is also possible to select what events will pause the game.

In addition, the player can chose between one of three realism levels.

Admiral's mode: The ultimate in realism. The player can only give orders to the lead divisions of each force. Other divisions can be controlled only by selecting their role. No manual targeting is allowed. If you want to experience the limitations of WW1 fleet command, this is how you should play Jutland!

Rear admiral's mode: The player can put any divisions in his force on manual or AI control as long as they are within sight of the force flagship. The player can give target orders to divisions. Victory points will be reduced by 10%.

Captain's mode: The player can put any divisions in his force on manual or AI control. The player can give target orders to divisions or ships. Victory points will be reduced by 20%.

Note that some scenarios may have friendly forces that are not under player control. This is not affected by the realism setting.

21.0 FORCE ORDERS

Especially under Admiral's mode, force orders offer a possibility to influence your whole force. Right click a force in the OOB tree to open the force orders dialog.

Flotilla attack: This orders a general destroyer attack. Might be used to finish off a crippled enemy force or as a desperate move to cover a withdrawal. Note that the attack might take a few minutes to develop, as it takes time for orders to transmit and commanders to react.

To remind you that a flotilla attack order is in force, a black flag will be shown on the left in the main window. If you right click the black flag, you will get an option to recall all flotilla attack orders.

Rally: This will raise force morale, making a battered force more likely to fight it out. Note that the effect will be temporary if your force has suffered heavy casualties or is low on ammo.

Disengage: This will lower force morale, causing subordinate divisions to tend to increase range or withdraw.

Change Lead division: You can also change the force lead division. This can only be done once in a scenario, to prevent misuse. It can be useful if playing on admiral's mode and you need to change direction of your whole force, or as the British, if your battle fleet is deployed in cruising formation and you want to deploy on the opposite column to the lead division. This order is likely to cause quite a lot of confusion in your fleet if it is used to reverse course of the battle line.

Battle Turn Away: A German force only can also use Battle Turn Away, which works somewhat like changing force lead division, except that it will also change the order of ships within the divisions, with each ship doing a 180 degree turn. This manoeuvre is optimised to reverse course of the battle line. Even so, it is still liable to cause some confusion.

22.0 RANDOM BATTLES

You can select random battle instead of an ordinary scenario. This will generate a random battle in a specific theatre of war within parameters selected by the player. First select the theatre and side you want to play, then press select. This will bring you to the random battle dialog.

Force level: This is the general size of the forces engaged. Small will be 1 to 3 divisions on each side, medium will be 3 to 5 divisions, and large can be up to an entire battle fleet. The actual number of ships in a large scenario can be limited by the ships available to that side in a theatre. Selecting random will give the opposing forces a random size, which means that the forces might be of very different size.

If you select Pick Force, you can pick your own force and organise it as you want. The computer will then field an enemy force according to the Force Ratio selected (see below).

Largest ship size: This is the largest size of ship that will be used, the same for both sides. Random means that the ship size will

be randomized for both sides independently, so the sides might be mismatched.

Year: This is the year the scenario takes place. Ships not in service by that date will not be included, and neither will obsolete ships. If you select random, ship availability dates are disregarded, so any ship might show up. In addition, the year is set to a random year.

Enemy force ratio: Here you can set the balance in the scenario. Note that if you select randomized largest ships and balanced forces, one side might get one battleship and the other 20 destroyers, which while theoretically worth the same amount of points, will not lead to a very well matched battle. The forces will be balanced based on the point values of the selected ships.

Weather: Here you can set the environmental conditions for the battle. Note that even if the weather starts good, it might still turn for the worse. See it as planning a vacation.

For a truly unpredictable encounter, select random force level, ship size and balance. That way you will have no idea what you might be up against!

Note that some settings can be impossible for the program to fulfil, if ships are not available. For example, Russia had no BBs in the Baltic when the war began, so a request for BBs for Russia in 1914 might result in the computer picking whatever is available, which might lead to it being unable to create a balanced scenario.

23.0 DESIGN PHILOSOPHY

SAI aims to create and play out fleet encounters on an operational level. Thus, the game is designed to put the player in the admiral's position, and to recreate the historical limitations on the knowledge of enemy forces and the ability to give detailed orders to subordinate ships.

Gunnery is computed by taking the modified ROF and arriving at the number of shells fired in a minute. This is an average value, but I found that this resulted in more or less historical rates of ammunition consumption. In the game, this will often result in a 10-gun ship firing 2 or 3 shells during a minute when all modifications are applied. This might seem low, but applying this to actual naval battles, it works out quite well. For example Hipper's battle cruisers at the battle of Jutland, one of the most hotly engaged squadrons of naval history, fired less than half its available ammunition during the battle.

The game was originally designed as a combat module to an eventual campaign game featuring design and construction of WW1 era ships where the player would manage the naval budget and construct and build and eventually go to war with his ships, a little like in "Master of Orion". This may eventually be published as an add-on to Steam and Iron.

This is the reason for some design decisions. All guns of a given calibre are treated the same, there are no different gun types like 12 in Mk XXII or such. Guns do have a quality value that gives some additional modification. Similarly, the graphics are made so that they can automatically represent any player constructed ship,

which means that all conceivable legal turret configurations can be displayed and look reasonably good. This has the consequence that turret positions might not exactly correspond to the actual positions on every historical ship class.

A note on flagships: The game treats the leading ship in the first division in the force as force flagship. That means that in the Jutland scenario, King George V and König are treated as force flagships, even though the real force flagships were Iron Duke and Friedrich der Grosse. This is because all the other divisions were conforming to the lead division, which is what the divisions in the game do. Thus, in game it is more relevant to treat the leading ships as the force flagship, even though that is not really correct on paper.

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APPENDIX

HOTKEYS

1-9: Runs the game that many minutes.

< : Runs the game 5 minutes

Enter: Runs the game until paused

Space: Runs one minute

P: Pauses and unpauses game

Z: Zooms map out

Pg Up: Zooms map out

<: Runs game 5 minutes if in contact with enemy, 60 minutes if not in contact.

-: Zooms map out

X: Zooms map in

Pg Dn: Zooms map in

+: Zooms map in

F: Zoom to view all ships

C: Increase game speed

V: Decrease game speed

A/S/D/W: Scrolls map

Mouse wheel: Zooms the map

Click Turkish flag holding down Ctrl + Shift: Notebook mode in Scenario selection screen.