

# Sea Power: Naval Combat in the Missile Age

EA Manual - Updated as of 11/18/2024

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## Introductions

Thanks for diving into Sea Power Early Access! This manual will be designed to help you understand how to navigate the game's menus, buttons, and apply more tactics to help you in your fight against the many enemies you'll encounter on your journey.

**Disclaimer:** This manual version is designed for the EA period of Sea Power: Naval Combat in the Missile Age. There is a possibility that some UI elements, game mechanics, names, or otherwise can be different from the version of the game you may be playing on.

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# Main Menu

## Scenarios

- This is where you can access pre-made or workshop downloaded missions.

## Mission Editor

- The mission editor allows any user to make a mission using in-game or workshop provided assets. See more information [HERE](#).

## Campaign(s)

- This is where the dynamic campaign can be accessed and played.
- **Disclaimer:** This feature is estimated to be in a Alpha State @ Q2 of 2025, and so specific information is not available as of the writing of this document

## Continue Campaign(s)

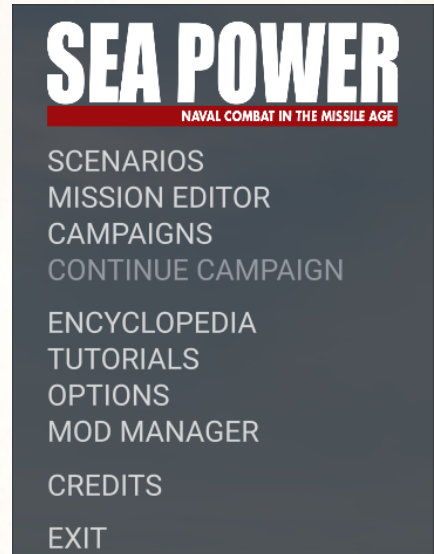
- This button will be used to resume a saved campaign.
- **Disclaimer:** This feature is not functional as of the data subtitled below the header

## Encyclopedia

- The Encyclopedia is where the user can see all assets in the game environment. This also includes information about units, including equipped weapons, sensor systems and other relevant data.

## Tutorials

- Premade scenarios to help you learn in-game controls and systems. This manual is an extension of it.
- **Disclaimer:** During EA, the tutorials are likely to be incomplete, so refer to this document in the meantime.



## Options

- A section where all controls, graphics, and audio settings can be changed to suit the players preferences.

## Mod Manager

- This is where all your mods from the steam workshop will be displayed hierarchically. The list can include missions, mission packs, system modifications, etc.
- **Important:** Hierarchy based list will overwrite content below it. For example, if you have two mods that modify CIWS hit chance, the one closer to the top will take priority and overwrite the one below it.

The Mod Manager provides an interface to manage the load order of mods that you have downloaded from either Steam Workshop or placed locally in the game's StreamingAssets folder. Each mod has a structure like the "original" folder and is used to override files in the order specified in the Mod Manager menu.

The tick box indicates if a mod is enabled or not. The "Local" or "Workshop" indicates if the mod is downloaded from Steam or stored locally in StreamingAssets. The description is provided in localisable form using the \_info.ini file in the folder.

The buttons to the left of the title allow the order that folders are searched for files to be changed. Some folders (user, and original) cannot be moved and will always be searched in a specific order.

The "Create Mod" button will be enabled if Steam is also running and the game is able to establish a connection to it. This opens a new "Create Mod" window that allows players to create or update mods in the Steam Workshop.

### Steam Workshop

Steam Workshop is integrated into the game client. Normally you would expect to see the Steam Client download a mod when you subscribe to it, or when you first run the game after subscription.

This might not complete before the game loads or might not be triggered in some cases. There is a fallback trigger that is used to make sure that your mods are updated on starting the game. This might make the game loading quite slow, so please be patient if you have just subscribed to a new mod.

**Note:** This will be integrated into the load screen in due course but is not yet!

If "Update Existing" is ticked the game will search for Mods that your SteamID is associated with. This will populate the drop down to allow them to be selected. If an existing Mod is

selected the window will attempt to populate the Mod Name and Mod Description with the values downloaded from Steam Workshop.

**Note:** This is limited to the first 50 mods returned by Steam at present.

The “Pick Folder” button allows you to select a folder from within StreamingAssets to upload as a mod. If you try and select the “original” folder it will be rejected as invalid.

“Mod Name” is the title that appears in Steam Workshop. “Mod Description” is the text that appears below the Preview Image in Workshop.

The Preview Image can be selected by using the “Pick Image” button. This will attempt to load the image into the window. Due to Steam restrictions this must be less than 1MB in size. We recommend that you store the Image in the Mod folder in StreamingAssets. The image you upload here will be the image shown in the tile in Workshop item browsing. This should be square ideally. If you choose to upload additional images through the Steam Client you can upload rectangular images as banners too.

The “Change Log” section will appear if you are editing an existing mod. You don’t have to fill this out but it is useful to keep track of changes.

Visibility controls the item's visibility in Steam Workshop. Public is the default mode but you can change that!

On hitting “Submit Mod” the game will make an attempt to submit your entry to Steam. It will open the Mods submission page in the Steam Client which will show you if your upload has been successful or not.

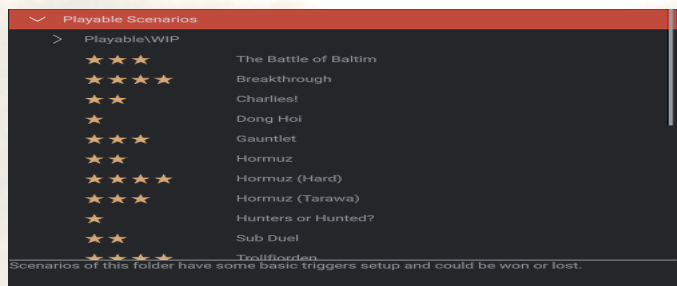
**Note:** We intend to have more feedback in the game in the future, e.g. progress bars etc.

## Credits

- A list of developers, supporters, and otherwise who worked on respective features within Sea Power.

## Scenarios

- Inside of this section of the menu, there are collapsible/expandable sections marked with either a *downward facing*



*arrow* (Expanded), or a *right facing arrow* (Collapsed) folder.


- Scenarios are marked with a Star Symbol (★). More stars indicates a more difficult mission.
- Selecting a mission will bring up a short description of the scenario at the bottom of the screen.
- The Play button is located at the very bottom of the menu beneath the description.



# Mission Editor

Starting from the left side, there are a few tabs you can see in the first menu. They include:

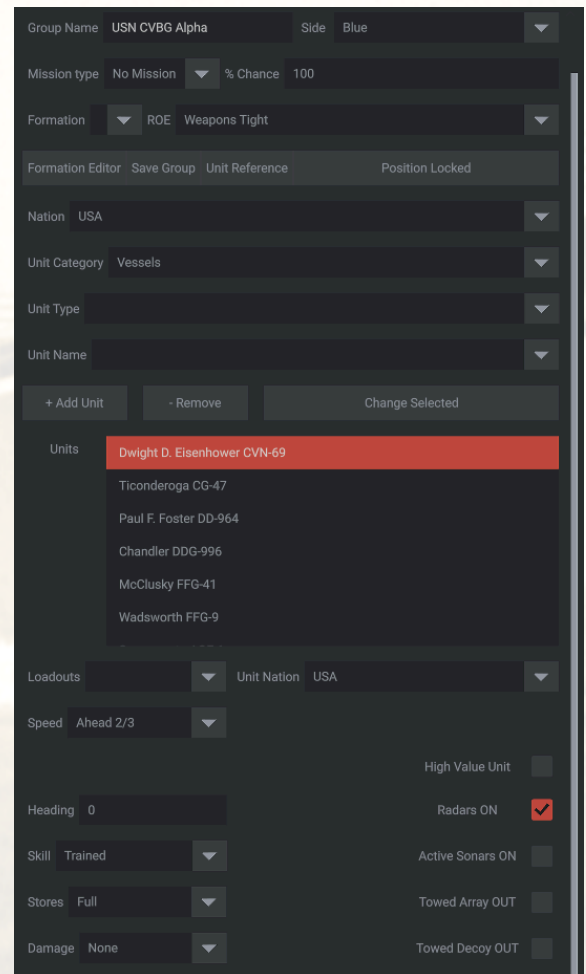
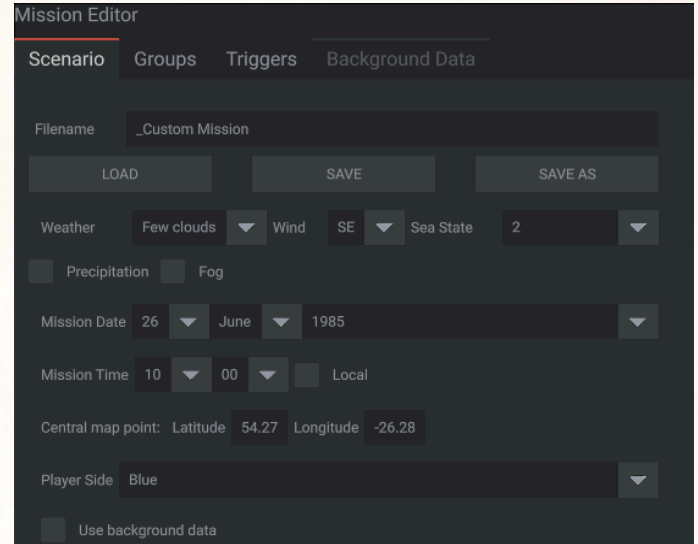
## 1. Scenario

- 1.1. This is where the general parameters of the missions can be set. It includes weather, mission time/date, the central map point coordinates (Icon on Map: ) , and the player side (Control enemy units [Red] or friendly forces [Blue]).

**1.2. Note:** Central Map Point should be set around the middle of your combat area!

## 2. Groups

- 2.1. Group Name: The name of the group as displayed on the mission editor map
- 2.2. Mission Type: [REDACTED]
  - 2.2.1. Not in EA at the time of this document
- 2.3. % Chance: The % chance a unit will spawn in that given scenario. Can be used to create more dynamic engagements.
- 2.4. Formation: Used a new unit group into a preset formation. This can be overwritten by using the formation editor however.
- 2.5. Nation: Filters unit selection by selected nation.
- 2.6. Unit Category: Filters units by unit category.
- 2.7. Unit type: This is where you can select the unit you wish to place
- 2.8. Unit Name: A section where you can select the unit name for that specific Unit Type. This includes names/hull numbers (displayed in-game).
- 2.9. + Add Unit: This will add the unit into the mission, as well as add them into the box





beneath the button to show the units within that group

- 2.9.1. **Note:** The first unit added will be designated the formation lead by default.
- 2.10. Remove: This will remove the selected unit (seen below and highlighted in red), from the group/mission.
- 2.11. Change Selected: This will allow you to select a unit in the box below this button, and replace it with a new unit by using the Unit Type & Unit Name (optional) buttons.
- 2.12. Units: All units within a formation are shown below. If you click on a separate group using the map view on the right, this box will be updated to show the contents of the selected group.
- 2.13. Loadouts: This is used to select a loadout for the selected unit. Can include cargo, aircraft loadout presets, and other options.
  - 2.13.1. **Tip:** Aircraft loadouts can be hovered over to get a tooltip that presents the exact weapons within a loadout.
- 2.14. Unit Nation: This is used to assign the selected vessel to a nation, which will change the flag of the ship in-game and loadouts in some cases. Example: Mig-21 nation will change its anti-air missile within its loadout selections.
- 2.15. Speed: This will set the selected units speed to be going at the start of the mission.
  - 2.15.1. **Tip:** setting the speed of the formation leader (the first unit within the group), will make others follow as closely as possible to that speed as well to stay in formation. **However**, not all ships may be able to keep pace at higher speeds (ie, escorts following carriers who are conducting air ops).
- 2.16. Heading: This will set the selected groups direction via a number ranging from 0-360.
  - 2.16.1. **Tip:** A quick example of bearings by value:
    - 2.16.2. 0/360 (North)
    - 2.16.3. 90 (East)
    - 2.16.4. 180 (South)
    - 2.16.5. 270 (West)
- 2.17. Skill: The level of the crew affects various stats around the unit. See [Damage Control Section](#)
- 2.18. Stores: Sets the amount of ammunition carried
  - 2.18.1. **Disclaimer:** Not functional as of the writing of this document!
- 2.19. Damage: Sets the amount of damage a unit has taken before the mission.
- 2.20. Checkboxes (Bottom Right)
  - 2.20.1. High Value Unit: [REDACTED]
    - 2.20.1.1. Non Functional as of EA
  - 2.20.2. Radars on: Turns the selected units radar on mission start (if available).
  - 2.20.3. Active Sonar on: Turns the selected units radar on mission start (if available).

- 2.20.4. Towed Array out: Makes selected units towed array deploy on mission start (if available).
- 2.20.5. Towed Decoy out: Makes the selected unit deploy their towed decoy on mission start (if available).

### 3. Triggers

- 3.1. Given the complexity of the trigger system, external documentation will be needed here...

### 4. Background Data

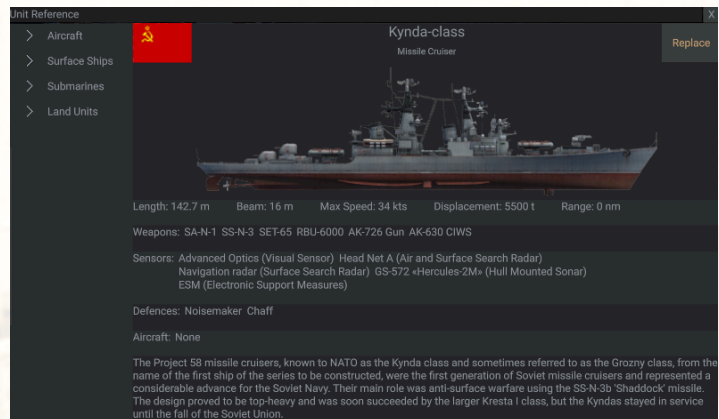
- 4.1. **Disclaimer:** This is heavily work-in-progress during EA, so please do not expect results using this feature as of the writing of this manual!

## Campaigns

- **Disclaimer:** As of the writing of this guide, the dynamic campaign is still in development

## Encyclopedia

- A 3D scene where you can explore all units available within the game, learn about their history, weapons, and sensors.
- If you click into this scene, you will be greeted by a randomly selected ship and the Unit Reference window, see the image here.
- Using the drop down menus on the left hand side, you can filter through, and click on various units to learn more about them. Hitting the replace button in the top right will switch the unit in the 3D scene to the selected one for you to play with.
- **Tip:** Weapons, Sensors, and aircraft listed beneath a selected unit can be clicked on to show more information about it. This is a great way to learn about weapons ranges!
  - If needed, you can close the unit reference, and access it again by right clicking on the vessel, then selecting unit reference from the menu.

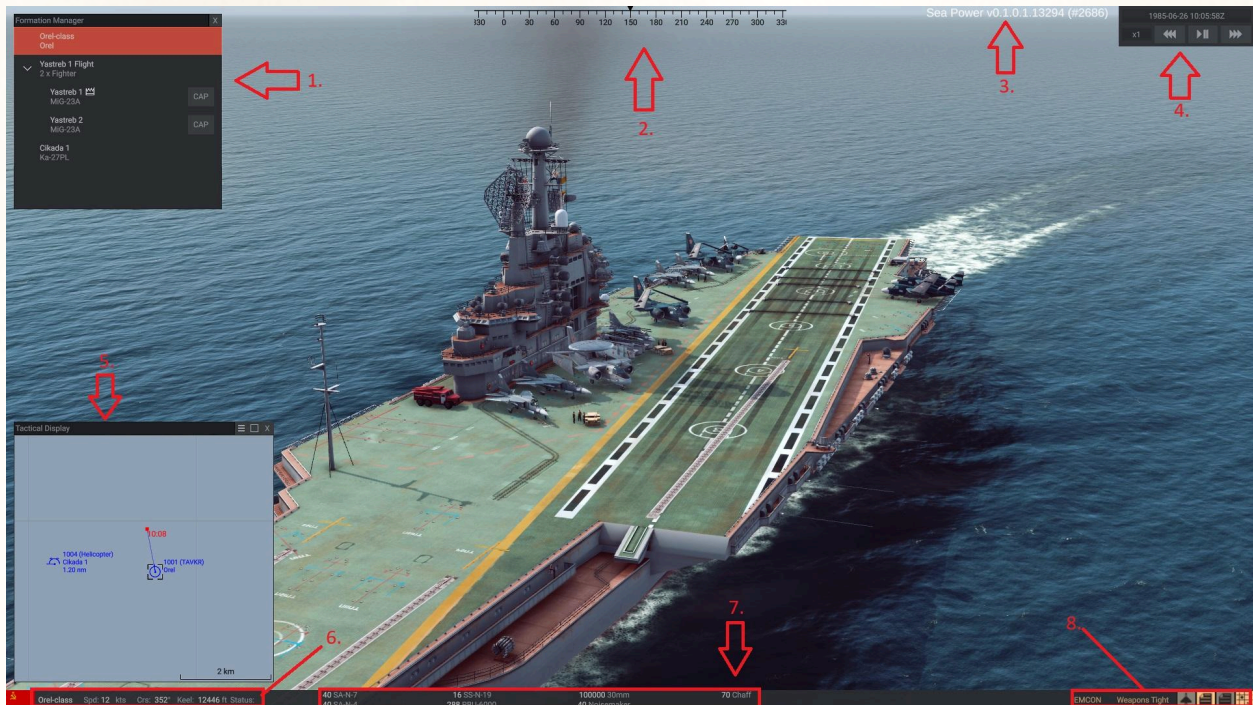


## Tutorials

- This section of the game will contain all interactive tutorials for the player.
- **Disclaimer:** Tutorials will be in development during the EA period.

# In-Game UI and Systems

## The UI



1. Formation Manager
  2. Bearing Tape
  3. Game Ver. #
  4. Date/Time compression tools
  5. Tactical Display
  6. Speed/Alt Controls
  7. Weapon controls
  8. EMCON, Weapon Protocol, Flight Deck, Formation Manager, Message Log, and Map toggles
- **Tip:** Nearly all windows in the game can be resized by using your mouse along the edge of a window's dimensions.

## Formation Manager

- Allows you to quickly switch between formations of units and units within a formation
- Double clicking on a unit will snap the camera to them.
- When units are a formation, there will be a chevron to indicate you can expand the UI to show all units within a formation.

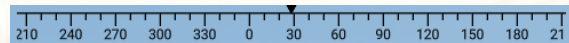
- **Tip:** Units marked with a crown are the formation leader!
- **Tip:** If you double left click a formation, it will instantly snap the camera to the formation leader!

- The buttons on the right indicate the units selected role
  - **Disclaimer:** This is particular feature is heavily Work-in-Progress, so it's largely non-functional



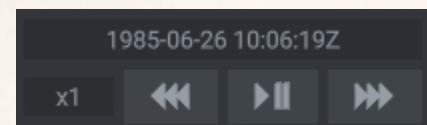
## Bearing Tape

- Shows the bearing your camera is facing, indicated by a downward triangle in the middle. Moving the camera will adjust the bearing tape correspondingly.



## Date/Time Dilation controls

- This section of the UI displays all time and date controls.
- Clicking on the Date/Time at the top will toggle the clock to switch between Zulu Time (default), and Local Time (in-game time).
- The box at the bottom left (shown as default 1x), is your current time compression. These can be changed by hitting the following buttons (from left to right)..
  - Left Facing arrows (slow down time)
  - Play/Pause (Pauses and Resumes play)
  - Right Facing Arrows (speeds up time)



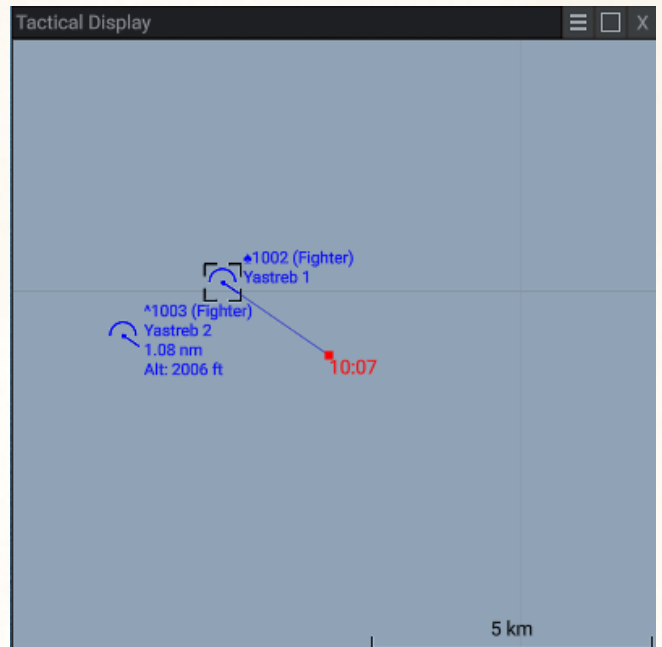
# Tactical Display/NTDS

## NTDS

Sea Power uses Naval Tactical Data System (NTDS) iconography, which was developed by the US Navy. NTDS marks units with...

- A circle is friendly ship
- A diamond is enemy ship
- A square is an unknown

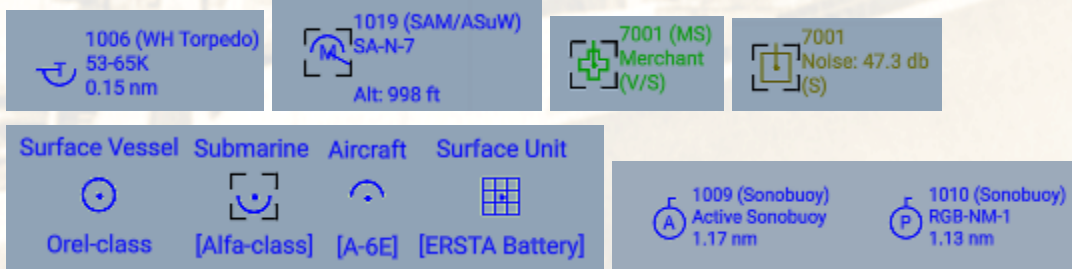
If only the upper half of the symbol is displayed, it is an air contact. Conversely, if only the lower half of the symbol is shown, it is a submerged contact. The great benefit of NTDS is that it is color agnostic, since it is the shape of the symbols that indicate type and faction.



## Tactical Display UI

From top to bottom..

- Top Right Corner
  - Filters (indicated with three horizontal lines)
  - Maximize/Minimize (hollow square)
  - Close (X button)
- Units are displayed using NTDS symbology (examples below)



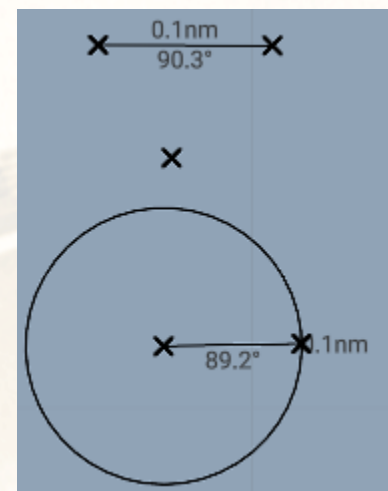
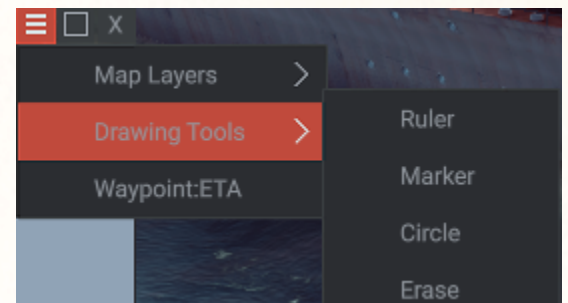
- Icons will be a different color based on a variety of factors, see below:
  - Blue - Your Forces
  - Green - Civilian/Neutral
  - Yellow - Unknown
  - Red - Hostile
- Icons with letters indicate..
  - T - Torpedo
  - M - Missile
  - P - Passive Sonobuoy
  - A - Active Sonobuoy (Currently there are none in game)

- Referring to the image on this page in the top right, this flight of two fighters has a waypoint marked with a blue line. The red square with the time beside it shows how long it will take the unit to get there (in Zulu Time).
  - **Tip:** Using the icon located at the top right of the tac. Display (three horizontal lines), you can change the waypoint to show distance instead!
- The scale at the bottom right indicates range in Kilometers based on your current zoom level (changed with scroll wheel).

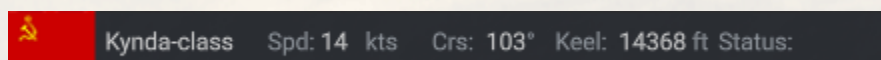
## Drawing Tools

A set of handy tools to help you plan attacks, keep track of ranges, and see bearings relative to the map. **TIP:** All drawing tools can be moved and resized after placement!

- Ruler
  - Once clicked, clicking once on the tactical display will place the first point, and clicking elsewhere again will place the second point. Once the two points are placed, you will see two numbers (this applies to the Circle Tool as well).
    - Top - Range (in nautical miles)
    - Bottom - (Bearing from point 1 to point 2)
  - The Ruler/Circle Tool can also attach points to tracks (clicking ruler, then clicking a unit. This includes hostile targets, unknown tracks, and allied units).
- Marker
  - Places a small x on the map, which can be used to keep track of key areas of interest
- Circle
  - Once clicked, allows to designate a center with your first click, then the second setting the point. A circle will be drawn with the radius of the two points
  - **Tip:** Useful to draw out weapon ranges on the tactical display!
- Erase
  - Once clicked, allows you to erase a marker, circle, or ruler drawing from the tactical display
    - **Disclaimer:** The Erase Tool is known to be rather picky about the line selection..



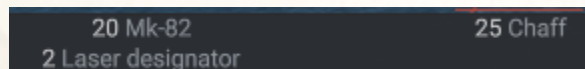
## Speed/Heading controls



In order from right to left..

- Name of Unit
- Current Speed
  - You can change the selected speed here by hovering over it and clicking on a speed you desire.
  - **Tip:** Clicking hovering over either spd or a selected speed in the popup will display the current ordered speed
- Course: Displayed in compass bearing
- Keel: Distance between the lowest part of the vessel and the ocean floor
- Status: Displays information about the unit's tasking/actions

## Weapon Controls



- These icons located at the middle of the bottom bar control weapon selection.
- Clicking on any weapon will select that weapon for manual (player) targeting
- Click 'Chaff' or 'Noisemaker' will instantly deploy the selected countermeasure
- For aircraft, clicking "Drop Fuel Tanks" will jettison drop tanks which will lead to maneuverability increase. Aircraft will automatically drop fuel tanks when they are empty or when entering combat. **Disclaimer:** maneuverability increase/decrease by fuel tanks is not implemented atm.
- Depending on the weapon selected, the unit will also display various color rings to indicate the following about the weapon
  - Red - Weapon's maximum launch range
  - Yellow - Minimum weapon launch range
  - Blue - Maximum launch range by best fire control radar horizon
  - Green - Maximum launch range by worst fire control radar horizon
- **Tip:** These circles can change size to account for the target's information. Targeting aircraft for example will make the circles bigger since horizon is not as much of a limiting factor. Note that in the case of smaller targets (missiles, helicopters, smaller aircraft) max launch range could be reduced for semi-active radar homing missiles because fire control radar can not lock at target at such range. Also for SARH and radio-command missiles launch ranges will dramatically reduce if the launch platform is jammed by an active jammer.
- Once a weapon is selected, right click a track to fire on it.
  - **Note:** Depending on the range, a unit firing on a target below minimum weapon range will result in the unit trying to get out of minimum range to fire on it.

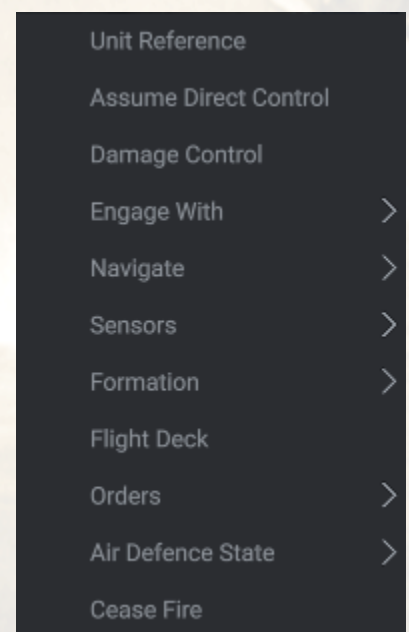
## Misc. Controls



- Radio Routine/EMCON
  - Allows you to set the unit's radio protocol (enabling/disabling emitting sensors)
  - Setting to EMCON means all active sensors will be disabled
  - **Disclaimer:** Currently this menu is bugged and may display incorrect information.
- Weapons Protocol
  - Weapons Free - Unit will engage at any confirmed hostile target and engage in self/formation defense
  - Weapons Tight - Unit will only defend itself or formation against threats (only engaging missiles/torpedoes/converging hostile aircraft)
  - Weapons Hold - Unit will not fire at all, but still defends itself with CIWS from missiles
- Flight Deck Button
  - Toggles the Flight Deck UI on and off
- Formation Manager Button
  - Toggles the Formation Manager (top left when enabled) on and off
- Message Log Button (rightmost paper icon)
  - Display the message and intel log on and off
- Map Button
  - Toggles either the tactical display on and off, or the full screen map on and off

## Right Click Context Menu

- When right clicking on the selected unit, you can get an additional area to access various commands both new and previously mentioned buttons. **Tip:** You can also right click a unit in the formation manager in the top left or a unit icon in the tactical display as well. The right click context menu includes..
  - Unit Reference
    - Automatically pulls up the reference sheet with the selected unit.
  - Assume Direct Control
    - **Note:** Only covers submarines and vessels!
  - Damage Control
    - Pulls up the damage control UI, which will be talked about more to the linked title of this bullet point.
  - Engage With
    - Acts the same as using the bottom bar, but can be used with Tac. Display/Formation Manager



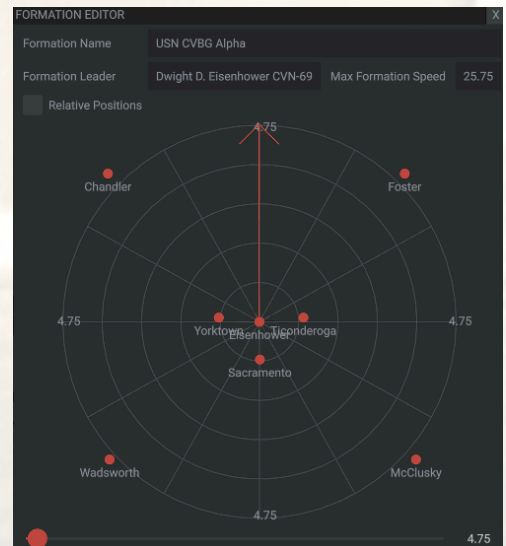


to tell ships to use certain weapons without switching the camera.

- Navigate
  - Remove waypoints
  - Resume Course (TBD/Redundant) - Switched manual unit control to automatic control.
  - Change Speed
- Sensors
  - EMCON + any other sensor toggle of the unit selected
- Formation
  - Create Formation - Creates a new formation from that unit.
  - Join Formation - The selected unit will join an existing formation.
  - Formation Orders
    - Air Defense/Sensor Orders - Will order the entire formation to change sensor/air defense state.
  - Return to Formation - Used to order a unit to return to formation (ie: you ordered a non leader unit to move somewhere, but then want them back at the formation).
  - Leave Formation - Unit will leave the current formation
  - Disband Formation - All Units with the selected units formation will leave the formation.
  - Edit Formation - (Ships/Submarines only) Will pull up the [Formation Editor](#)
- Flight Deck - opens up the Flight Deck UI
- Orders - ID?
- Air Defense State - Changes the selected units air defense state (Weapons Hold/Tight/Free)
- Cease Fire - Selected unit will stop firing on all targets and its weapons state will be set to Weapons Tight (Still engages in self defense)

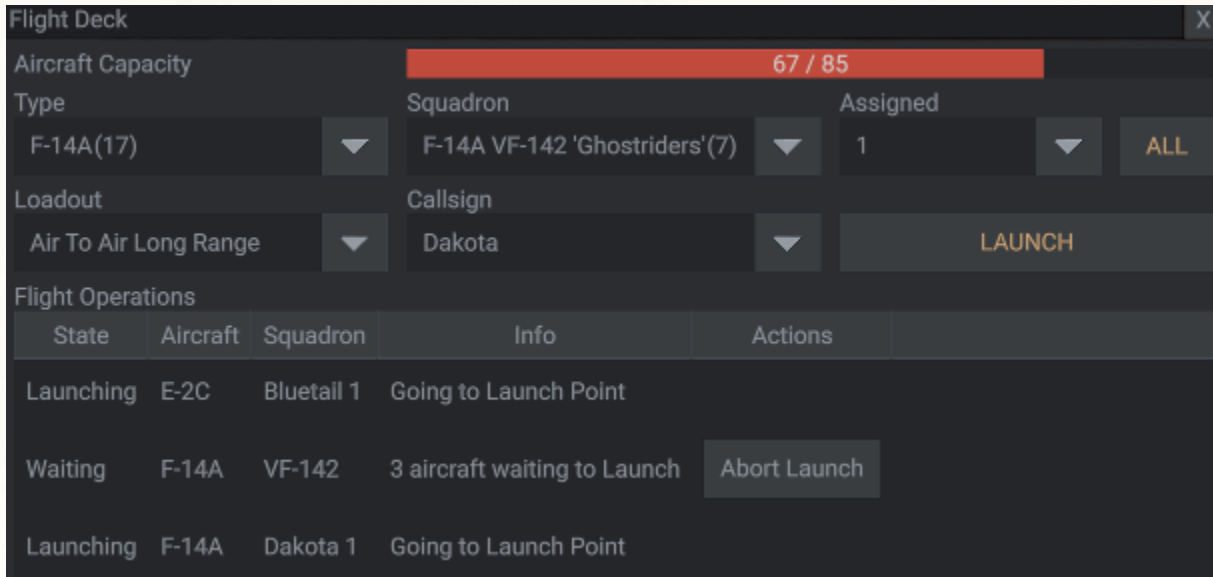
## Formation Editor

- Formation Name: Allows you to change the name of a formation/group of units
- Formation Leader: Displays the name of the formation leader
- Max Formation Speed: Displays the formations max speed (based on slowest max speed of all units in formation).
- Relative Positions: Allows you to have a formation keep its shape based of either relative or world orientation
- Circle Plot:
  - All red dots represent their respective unit, and can be moved around by using left click on the mouse and dragging.



- The ranges displayed at each cardinal direction is the range in nautical miles.
- The slider at the bottom can be moved to increase the scale (in nm) of the editor.

## Flight Deck



To access the Flight Deck, click on any flight deck capable unit, and then either use the Right Click Context menu or the Bottom Right Flight Deck Button. The UI displayed in the bottom right, contains the following:

- Aircraft Capacity: Displays the number of aircraft assigned and the maximum aircraft capacity for the selected vessel.
- Type: Displays the list of units you can launch from the selected flight deck capable unit
- Squadron: Displays the list of available squadrons of selected aircraft type
- Assigned: # of planes/helicopters to launch
  - **TIP:** Selecting more than one will assign launched units into formations automatically. Maximum size of such formations is 4 units. (Additional units can be added manually later)
- Loadout: Allows you to select the aircraft's loadout
  - **TIP:** You can hover over any loadout to see what armaments are included within it.
- Callsign: Assigns a callsign to the unit to be displayed on the tactical display
- Launch Button: Launches the aircraft with the selected type, # assigned, and with its selected loadout
- Flight Operations Status: Displays the current state of all aircraft currently in the queue, along with their status.
  - Multiple queued units can be canceled using the Abort Launch Button

**TIP:** Flight deck can also be accessed in the mission editor by using a flight deck capable unit. This allows you to use historical groups right out of the carrier's capacity, which they will also use as their homebase.

# Systems

## Damage Control



Damage Control (DC) UI can be pulled up by using the Right Click Context Menu on the selected unit. Most DC actions are handled automatically, but can be manually controlled as needed by using the +/- buttons located in each Compartment Column. Using the >>> buttons prioritize systems The # of DC Teams you have is based on the tonnage of the unit. Depending on the damage a module has acquired, various debuffs will be applied to it to reduce its effectiveness as well.

- Automatic Control Priority (from highest to lowest)
  - Flooding Rate
  - Repair Fire
  - Repair Flooding
  - Repair Structure
  - Repair Systems
- There is also color used on text to indicate severity of damage.
  - White - Light
  - Yellow - Medium damage
  - Red - Heavy
  - Black - Module Destroyed
- Repaired Modules
  - Repaired modules will appear using the same color system above
  - However, gear icons will appear with an X mean the module cannot be repaired past it's current health

- **Note:** Movement related modules like Engine, Propulsion, Rudders are always repairable and will be restored to some basic functionality even if destroyed.
- Gear Icons without an X can be repaired to one stage of damage higher (Yellow->White)

## Crew Skills

DC Teams are heavily affected by the Skill of the crew (which can be set in mission editor using the Skill option (Green [Lowest skill level] to Ultra [Highest skill level])). Skill level affects the following stats

Vessels:	Aircraft:
Flooding Repair & Flooding Rate Fix	Intercept Chance (Gun Accuracy)
Structural Repair (Hull Repair)	Intercept Chance (Missile Accuracy)
Fire Severity Repair (Fire Fighting)	
System Repair (Fixing Modules)	
Target Motion Analysis (Quicker Threat Detection)	

## Radar/RWR

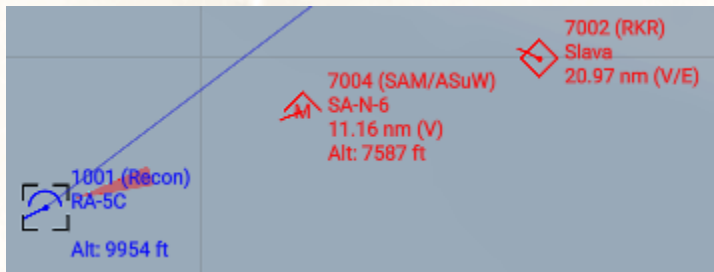
Radar systems in Sea Power are quite powerful, and they are also the main tool you'll be using to be more aware of the threats you'll encounter. However, radar has some serious limitations in range, power, and use cases. For example, some radars are specifically used to guide weapons, and are not capable of search functionality. Meanwhile, others can search, but not guide weapons. A combination of radars on a ship is not uncommon during this time period. SP uses simplified equations to model radar detection.

- Radar effectiveness depends on radar parameters such as Power and Gain. Higher power output means a better chance a detecting threats further away
- Radar Cross Section (RCS) parameters of targets reduce detectability. Lower RCS -> lower detectability.
- Radar height is the main limiting factor of all radars, given the game world is not flat and we simulate Radar Horizon Range. This means that your radar can only see to where the horizon is, which is why aerial radars seen on Hawkeye or other Aerial Early Warning planes radar can see much further. The higher the radar, the further it can see.
- **Tip:** Some radars are so unique, they can be specifically detected and classified by both you and the enemy!

RCS reduces when the aspect of target relative to a radar position reduces e.g. target heads toward the radar are moving perpendicular to it. Fire control radars use the same principles to guide missiles, acting as illuminators.

## RWR

Radar Warning Receivers (RWR) are mounted to some aircraft, which will display a red cone (see image below) in the direction of the radar signature that is detecting the aircraft. This happens when a fire control radar is radiating in direction of your aircraft, not necessarily locked on it.



## Sonar

Sonar is one of the core systems used by submarines, as well as surface vessels to detect surface and underwater targets. To turn on your active sonar, use the bottom bar EMCON button or the Right Click Context menu. There are many types of Sonars, which includes...

- Equipment Based..
  - Hull mounted Sonar
    - Most ship/sub based sonars have some degree of passive and active systems, or passive systems that can be switched to active mode.
  - Variable Depth Sonar (VDS)
    - Ship based
    - Variable Depth - Can be set to go below or above the layer
  - Sonar Buoy
    - Aircraft Deployed (Fixed Wing/Helicopter)
    - Transmits data only if friendly units are in comms range.
    - **Tip:** Using a helicopter, you can queue a preset drop of 9 sonar buoys using Ctrl+Right Click for a tight pattern (with weapon selected), or use Alt+Right Click for a wider square pattern. 16 can also be dropped using Ctrl+Alt+Right click.
  - Dipping Sonar
    - Helicopter/Vessel Only (if equipped)
    - Active Mode Only (US Based) (RU has Passive when not active)

- Weapon Based
  - Active Sonar Homing Torpedoes - Uses active sonar pings to track a target
  - Passive Sonar Homing Torpedoes - Uses passive sonar emissions to track a target

There are few other factors that will play into the detection of a submarine/vessel. This includes..

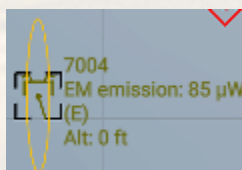
- Environment Noise
  - Example: Rain will increase the overall noise
- Thermal Layer Depth
  - Sound is 'curved/distorted' when sound goes past the thermal layer
  - If a thermal layer is between the hunter (vessel) to hunted (submarine), this increases the difficulty of tracking the submarine
- Emission/Noise of target
  - Passive Sonar Only
    - Noise of the target unit, which is usually based on Speed (Flow Noise) + Base Noise
- Speed of ASW Unit
  - When using ship based sonar, the faster you go, the harder it is to hear
- Sensor Gain
  - Strength of Sonar system against target
- Target Reflection Strength
  - Active Sonar Only
    - If your sonar is side on to a submarine, it will be easier to get a stronger reflection of noise

## Magnetic Anomaly Detector (MAD)

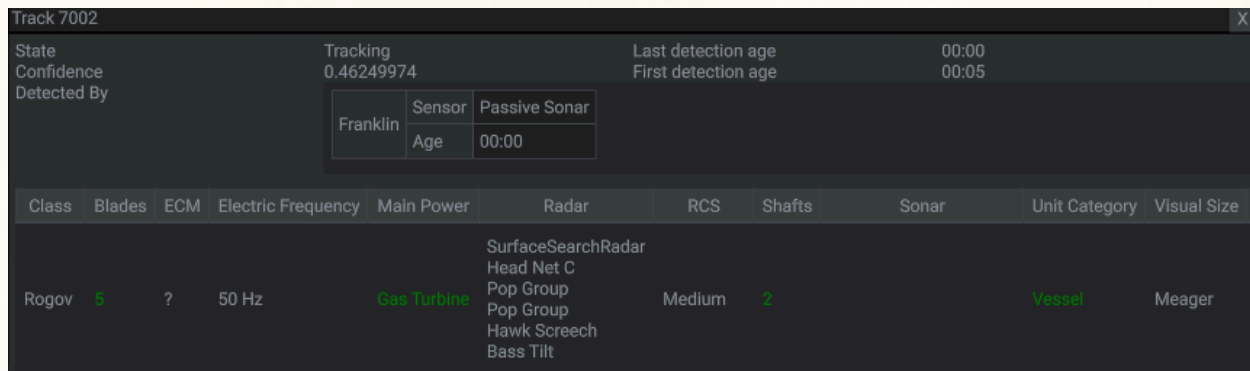
Some fixed wing and helicopters have a MAD device. This is automatically deployed very close to the surface from a moving unit (Min. Alt. for aircraft), which can detect submarines at a very short range by flying directly over the target.

## ESM (Electromagnetic Support Measures)

ESM is a tool that looks for radio based emissions, which can reveal information about the many units you'll encounter. Luckily, some radio emissions are broadcast at different frequency ranges and are unique enough to be identified to the unit itself. ESM systems are found across many units in Sea Power, with some of the stronger ones being located on vessels and submarines/ ESM systems will plot yellow ellipses down on your map to indicate the rough, estimated bearing & location (see image).



Track analysis using the ESM systems are handled automatically using the information panel (TIP: which can be accessed by using **left ctrl + right click -> information button**).



This information process is automated, so this can be used to help you manually ID a unknown track using the information the crew has gathered. Any text in this window that is green shows you confirmed information. Over time, this list is filtered using the gathered info, and if enough detail is discovered, the track can be classified/identified as hostile or otherwise.

## Weapon Deployment/Usage

### Ballistic Weapons

- Cannons
  - Many vessels are armed with multiple purpose cannons that fire High-Explosive Variable-Time fuze shells for all targets
- CIWS
  - Generally smaller in caliber than the multi purpose cannons, and has roughly three nautical miles of range. These guns focus primarily on defense against aircraft that get a little too brave as well as targeting missiles.

### Missile Systems

Missiles in Sea Power have many different uses, weather for Air-to-Air intercept, or Surface-to-Surface usage. There are also many different types of seeker heads attached to them, which can include..

- Active Radar
  - Mainly found on anti-ship missiles. Only anti-air missile in game with ARS is AIM-54 Phoenix which uses it for terminal guidance.
  - Uses active radar to seek targets within its field of view
- Semi Active Radar
  - Used by both aircraft and surface vessels mainly as anti-air weapons. Shipbourne SARH missiles usually can be used to attack surface targets as well
  - Radar beam from the firing platform illuminates target and missile homes to the reflection of this beam from the target.

- Radio Command Mid Course Correction
  - Usually used without a seeker unless it is a long-range anti-ship missile like Shaddock. Mostly found at Soviet ship and land based surface-to-air missiles.
  - Guided by radio from the launching unit.
- Anti-Radiation Homing
  - Found on anti-radar missiles used by aircraft
  - Homes in on the strongest radar emission within its seeker's field of view.
- Laser/Beam Homing
  - Found on guided bombs and short-range anti-ground missiles..
  - Requires laser illuminating target from launch platform or some other unit
- TV Homing
  - Mainly based on bombs and some anti-shipping missile systems.
  - Less Effective at night/inclement weather
- Infra Red
  - Mainly found at aircraft anti-air missiles, but some anti-ship missiles have it too
  - Homes at target's heat emission so effective both night and day

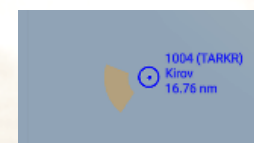
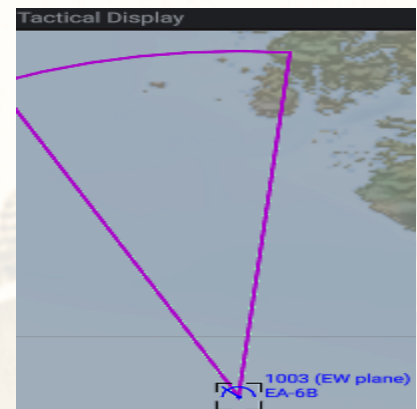
## Offensive and Defensive ECM

### Offensive

Employed by aircraft exclusively, these weapons will reduce the effective range of hostile radar systems. Just keep in mind that the higher it is, the better! When the aircraft is selected, you can click 'offensive ECM' and right click the target location to jam the area (indicated with a cone).

Targets caught in the cone which have been classified will indicate they are being jammed with a small, shining light symbol (see image of ally Kirov, player units get a different symbol).

The same applies for if a hostile is targeting your ships with a jamming pod. Weapon systems that employ Radar Fire Control Directors will be affected by Offensive ECM, making it safer to operate near hostile SAMs for example. Offensive jamming is a very powerful tool and should always be used if possible. **Tip: Jamming unit reveals itself to enemy while using jammers!**





## Defensive

Many newer models (relative to the timeframe of SP) of surface vessels and aircraft have defensive jammers. When a missile system is targeting such a unit the defensive jammers will automatically try to jam the weapon. If it's successful, some extra deviation is applied to the incoming threat.

# Basic Controls

## Unit Navigation

Basic unit navigation is generally handled in three different ways.

The first being to select a unit via left click, then right clicking on the tactical display to set a waypoint. You can adjust your speed, alt. (for aircraft only), and Depth (submarines only) using the bottom left of the bottom bar of the user interface by clicking the 'spd/alt/depth' section accordingly.

Second, you enter into manual control by using WASD. W/S for setting speed, AD for turning left or right. Rudder controls can be hit twice to do a maximum turn, while speed controls can be hit more times.

Third, using the right click context menu on a selected unit to set speed and alt, paired with either of the above options.

## Using Weapons

Weapon controls are handled via the bottom bar by clicking on the weapon you wish to employ. You can salvo fire using the bottom bar by holding CTRL for 2x missile launches, or using shift for consecutive launches based on the # of clicks. Some weapons like Offensive jammers are a toggle, and can be turned on by using the bottom bar and clicking in a location. Same for sonar buoys (see [here](#) for more info). Something to keep in mind is the weapon range circles (see [here](#) for more info). If you give an engagement order to a target within minimum range, your unit will turn around and attempt to get out of the minimum range to fire on the target!

## Using formations

So there are a few ways to use formations in a mission. The first method is the Formation Manager, which can use drag-and-drop functionality. The second option is to use the right click context menu to create new formations, join them, or disband/leave formation. Lastly, you can use keybinds like Shift (to join a formation) or Ctrl (to make the already selected unit the leader and recruit the clicked unit).

Additionally, formations are a great way to set entire groups of units to use different sensor states (like setting them to weapons free) using the right-click context menu, formation button.

Formations of units will do their best to stay in formation from the location they joined at, but if it needs to be changed, using the formation editor via the right click context menu will pull up a special UI where you can move units around as needed.



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# Troubleshooting

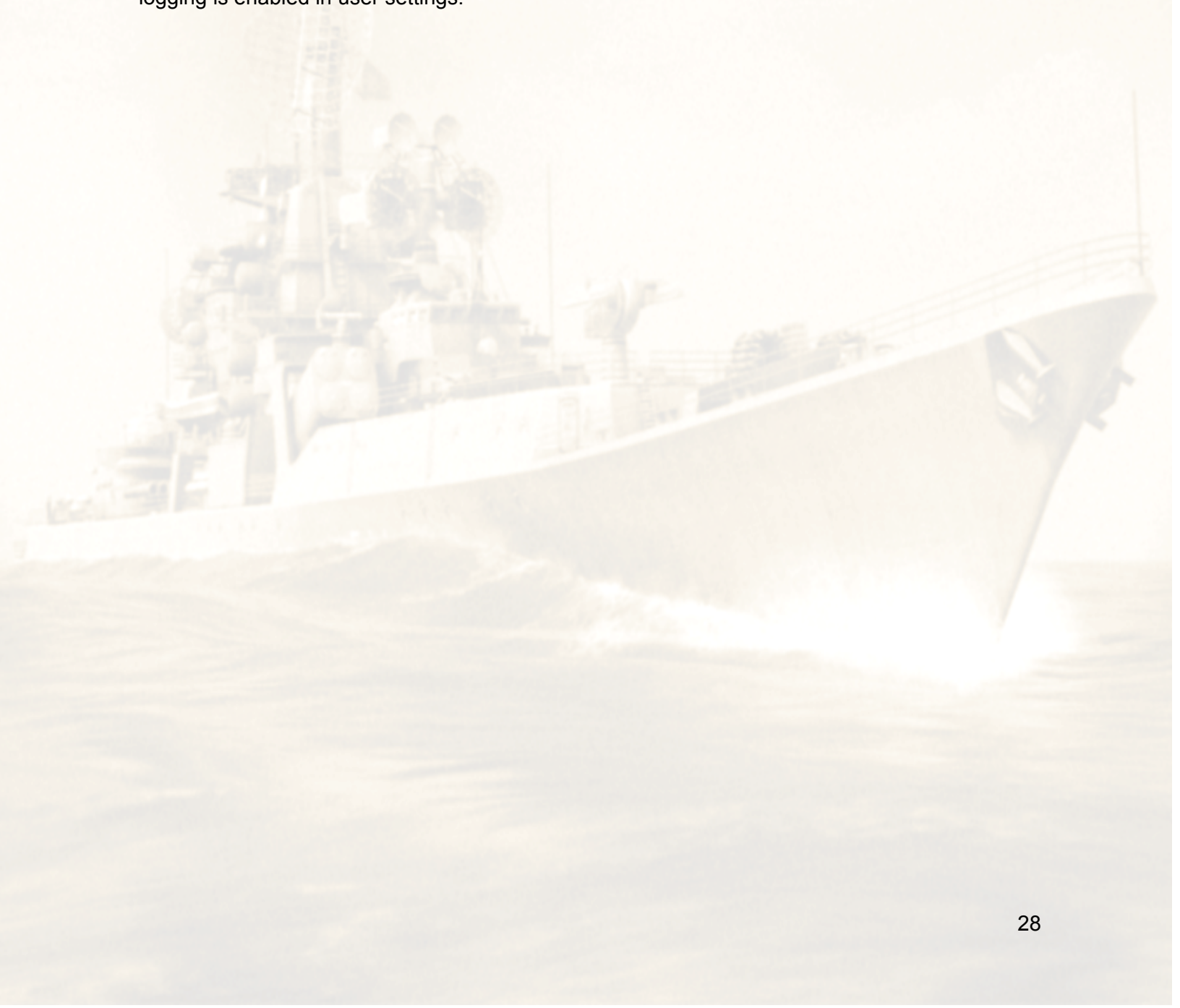
## Where to find find User settings and Logs

User settings can be located in your computer's app data folder, and it will be titled usersettings.

Example Path:

C:\Users\[USER/PC NAME HERE]\AppData\LocalLow\Triassic Games\Sea Power

Inside of this path, you'll also see a text document called player and player-prev. These log files show the information from the last two game boots. Extra logging can be found inside the game's root folder. Using steam, you can right click Sea Power, Manage, Browse local files. Once inside, you can click SeaPower Data and see the logs folders. More logs are stored here if logging is enabled in user settings.



# Tactics

