

SUBWAR 2050

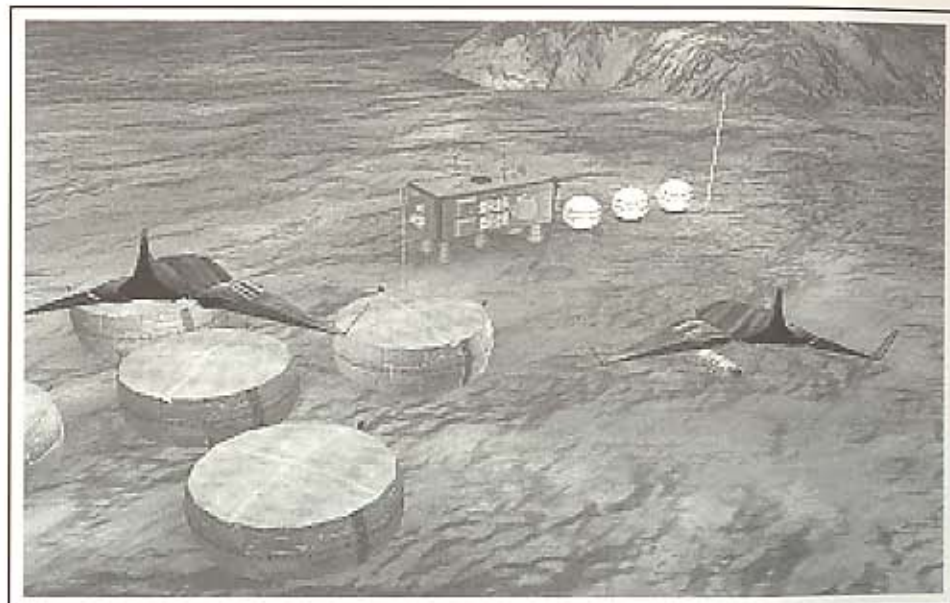
THE UNDERWATER COMBAT SIMULATION



Game Manual

SUBWAR 2050

THE UNDERWATER COMBAT SIMULATION



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Made in the UK

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INTRODUCTION

SubWar 2050 is a unique simulation. It combines elements of submarine warfare, flight simulation and strategy game; set in a realistic future world scenario.

You take the part of one of the new breed of submariners, piloting the latest in marine technology; the fighter sub. Working for huge corporations as an independent mercenary, each mission you carry out is rewarded in hard cash.

One moment, you are battling using tactics which are drawn from air warfare. The next, you are diving deep to reduce your cavitation and coming to a halt to reduce your passive sonar visibility.

Varied missions in four theatres of war, simulated combat mode and a full complement of training missions make *SubWar 2050* the definitive underwater combat simulation.

The Manuals

This manual is organised to help you start playing *SubWar 2050* quickly:-

The section on **The Command Centre** will introduce you to the different levels of play in *SubWar 2050*.

The section on **The Mission** explains how to operate your sub's control, navigation and combat systems.

The separate *UnderCurrents* manual contains information which may be useful as you get deeper into the game.

Controls

The Controller

You can play *SubWar 2050* using a combination of Keyboard, Mouse or Joystick. For piloting submarines, it is recommended that you use a Joystick and for menu selection it is recommended that you use a Mouse.

In this manual, which is applicable to all computer systems, these three devices are known as the *Controller*.

The Selector

During the game, you may be asked to select from a list of options. You will be able to use either the Keyboard Return/Enter key, the Left Mouse Button (abbreviated to LMB) or the Joystick Fire Button.

In this manual, these devices are referred to as the *Selector*.

GETTING STARTED

Sorting the Materials

Your *SubWar 2050* package contains this Manual, a copy of *UnderCurrents*, a Technical Supplement, a Key Guide and a set of disks to run the simulation.

Installing/Loading *SubWar 2050*

The Technical Supplement gives specific instructions for installing and/or loading *SubWar 2050* for your particular computer.

Copy Protection

After the opening screens, you are taken to the Copy Protection screen. Enter the correct word from the manual using the reference given.

When you have completed the Copy Protection, you are transferred to The Command Centre, on board the sub carrier.

THE COMMAND CENTRE

The Command Centre is the central room of your sub carrier. The Command Centre screen contains a number of options which are accessed by moving the Cursor over an 'active' area of the screen and pressing the *Selector*.



When you move the cursor over an 'active' area of the Command Centre, its function is displayed in the box at the top centre of the screen.


New Campaign





Select 'New Campaign' to begin a new campaign. You may choose from:-

- | | |
|----------------------------|-------------------------------|
| North Pacific | - Training |
| Antarctica | - The Hot Cold War |
| North Atlantic | - The Treasure Trove |
| South China Sea | - Trouble in Paradise |
| North Pacific/Sea of Japan | - Small Insults, Big Business |

The training campaign is recommended for rookie sub pilots. Each of the other four scenarios have their own unique challenges and may be played in any order.

Click on the  icon to change the current campaign. You may change your current campaign at any time; the position reached in your previous campaign will be saved.

Click on the  icon to view the scenario briefing text.


Click on the  icon to return to the Command Centre.


Quit

Select 'Quit' to exit *Subwar 2050* and return to your computer's operating system.

Game Options



Select 'Game Options' to make game configuration changes. To change a particular game option, click on the  icon.

Click on the  icon at the bottom of the Game Options screen to return to the Command Centre.

Calibrate Joystick

Select this option to calibrate an analogue joystick.

Control Mode - Mouse/Joystick/Keyboard

Select this option to change the submarine control mode.

Terrain Shading - Textured/Plain/Wireframe

Select this option to change the 3-D terrain shading mode - fully textured terrain can slow the frame update rate significantly, especially on slower machines.

Object Shading - Textured/Plain/Wireframe

Select this option to change the 3-D object shading mode.

Collisions - On/Off

Selecting 'Collisions Off' prevents your submarine from sustaining damage if it hits the seabed or another submarine.

Selecting 'Collisions On' is more difficult to play, but will result in a higher mission score.

Sonar Realism - Realistic/Simplified

During real underwater engagements, the only way of seeing stationary enemies is to use your active sonar. However, this has the disadvantage of broadcasting your position to the enemy.

The 'Simplified' sonar realism setting allows you to see all submarines within a range of approximately 1 kilometre. This is unrealistic, but makes the game easier to play. However, while you can see the enemy, you cannot target them until they are detected by your active or passive sonar.

The 'Realistic' sonar realism setting will only display those submarines which your active or passive sonar has detected. Playing on this setting is more difficult, but will result in a higher mission score.

Enemy Skill Level - High/Medium/Low

The enemy skill level affects the intelligence, aggressiveness and number of opponents you encounter during a mission.

Playing on a high skill level will result in a higher mission score.

Screen Zoom - On/Off

Select 'Screen Zoom off' to turn off the zoom effect between screens.

Simulated Combat

Selecting 'Simulated Combat' puts you into a fighter sub simulator, in the middle of a multi-sub underwater dogfight. 'Simulated Combat' allows you to perfect your underwater combat technique without getting killed.

The score which you get at the end of a 'Simulated Combat' session is dependent on several factors, including how many enemy subs you destroy and the number of weapons it took to destroy them.


For more details on piloting submarines, see the section of this manual on 'The Mission'.


Pilot Roster




The Pilot Roster screen allows you to select or create a pilot.

If you wish to play a different pilot, click on one of the eight numbered icons along the bottom of the pilot status display. If the pilot is unavailable for action, they are listed as either 'KIA' (Killed In Action), 'MIA' (Missing In Action) or 'Captured'.

If you want to create a new pilot, click on one of the eight numbered icons to select the pilot you wish to delete, then click on the  icon. Type in the new pilot's name using the keyboard and press **Return**. The default campaign for new sub pilots is 'Training'. Return to the Command Centre and enter the 'New Campaign' screen if you wish to select a different campaign.

If you wish to change the face of the selected pilot, click on the  icon.




Click on the  icon to view the selected pilot's medals and awards.

Click on the  icon to return to the Command Centre.

Mission Briefing

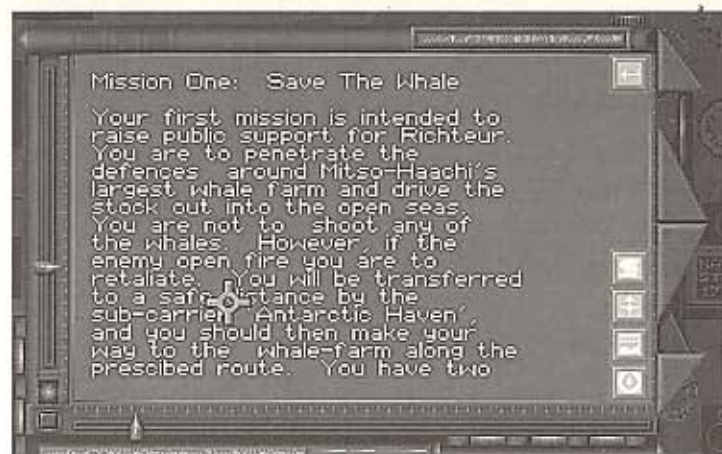
When you have created or selected a pilot in the Pilot Roster and you have selected a campaign, you are able to enter the Mission Briefing.


The Mission Briefing consists of three screens:-

- the Orders - click on the  icon.
- the Mission Map - click on the  icon.
- the 3-D Briefing - click on the  icon.

Click on the  icon to return to the Command Centre.

The Orders



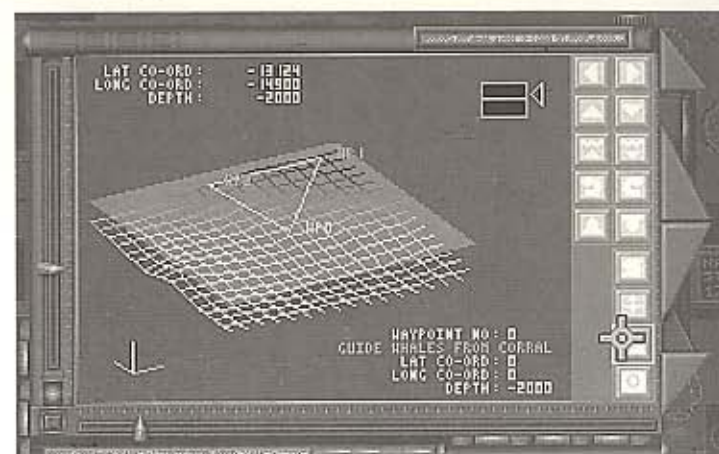
The Orders screen consists of a brief description of the mission's objectives, rules of engagement and intelligence data on enemy activity. To view the next page of the Mission Briefing, click on the  icon.

The Mission Map













The Mission Map is a top-down view of the mission area. You may also call up a Mission Map when you are in the cockpit of your submarine.

The 3-D Briefing



The 3-D Briefing augments the Mission Map by providing a 3-D view of the mission area. Additional data is provided on this screen concerning the depth of the mission waypoints.

The 3-D view may be manipulated by using the ten icons in the top right of the 3-D briefing screen:-

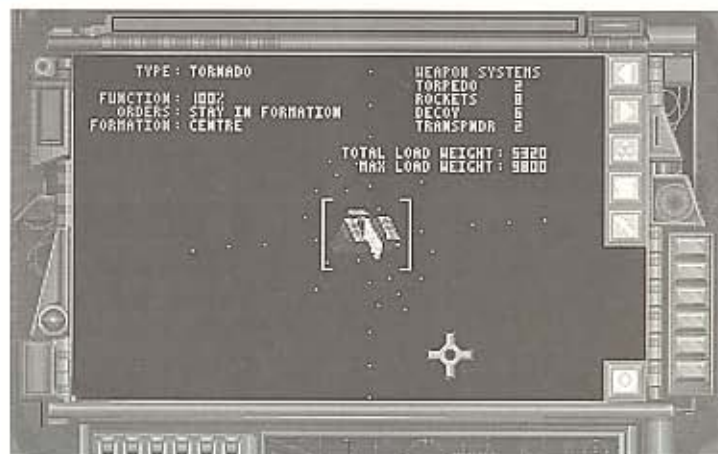
- Select the  or  icons to move the display West or East.
- Select the  or  icons to move the display North or South.
- Select the  or  icons to move the display up or down.
- Select the  or  icons to rotate the display to the right or left.
- Select the  or  icons to tilt the display forward or backward.

Configure Subs

When you have completed your Mission Briefing, you may enter the 'Configure Subs' screens. This consists of two displays:-

- the Configuration Screen
- the Arming Screen

The Configuration Screen



This is the first screen in the 'Configure Subs' section. It consists of a 3-D display of the sub(s) you are taking on your mission and their payload, orders, type and formation position.

Click on the or icons to select the next/previous sub. The selected sub is highlighted with a pair of yellow brackets.

Click on the icon to change the highlighted sub's position in the formation.

Click on the icon to change the highlighted sub's orders.

Click on the icon to enter the Arming Screen.

The Arming Screen



This screen allows you to adjust the payload of your sub to suit your particular tactics or skill level. For example, when you have become a proficient sub pilot you might prefer to take rockets on a mission instead of torpedoes.

Click on the or icons to select the next/previous weapon bay. The selected weapon bay is highlighted with a yellow box.

Click on the icon to load more of the selected weapon onto your sub.

Click on the icon to unload the selected weapon from your sub.

Click on the icon to return to the Command Centre.

Enter Mission

When you have configured your submarines, click on the bottom right-hand monitor to begin your mission.

THE MISSION

Piloting Your Submarine

You begin most missions under the submarine carrier, moments after launching.

Primary Controls

Submarine controls are split into three different groups -

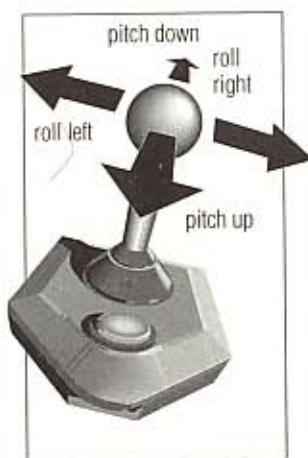
Directional Controls which allow you to turn, dive and climb.

Engine Controls which allow you to control your speed.

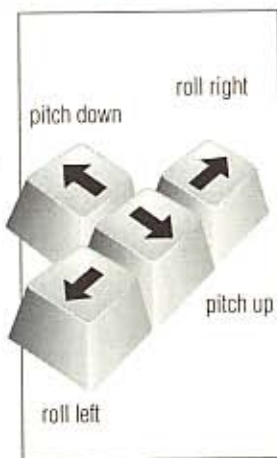
Ballast Tank Controls which provide additional control over depth. These controls may also be used when you are stationary, hiding from passive sonar.

Directional Controls

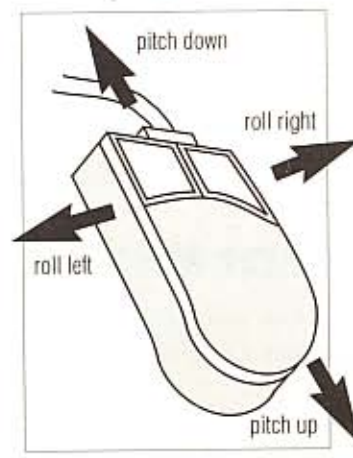
Joystick



Keyboard



Mouse



Press **[L]** to lock your submarine into single-plane manoeuvring. With this function on, moving the controller to the left or right will make the sub turn in that direction with no change in its roll angle. Single-plane manoeuvring is useful when you are lining up on targets and when you are running on the surface.

Engine Controls

+	Increase throttle
-	Decrease throttle
Shift -	Set throttle to minimum power
1	Set throttle to 1/3 power
2	Set throttle to 2/3 power
Shift +	Set throttle to maximum power

Ballast Tank Controls

8	Flood ballast tanks
9	Flood/blow ballast tanks to remain at current depth
0	Blow ballast tanks

Note: If you want to dive or climb really fast, combine the dive controls with the engine controls.

The 3-D Display

It is too dark to navigate a submarine visually at depths below about 200 feet. For this reason a 3-D seafloor display, generated from seafloor survey data, is projected onto the inside of your sub's cockpit. This 'virtual world' display is also used to show your opponents' submarines via active sonar imaging.

The Head-Up Display

The Head-Up Display is overlaid on the 3-D display and shows the following data:-

Artificial Horizon

When your sub is not at a high nose-up or nose-down angle, you will be able to see the artificial horizon bar. This is displayed on the HUD as a short red line, allowing you to see if your sub is in a level attitude.

Waypoints

When you reach a waypoint, it will be displayed on your HUD as a green triangle. If you fly through the centre of this triangle, your sub's navigation system will automatically switch to track the next mission waypoint.

Thermal Layers

Thermal layers are boundaries between warm and cool water which are set up by ocean currents. They are very important to sub pilots because they reflect sonar just like a mirror reflects light. If you position your sub with a thermal layer between it and the enemy, you will be invisible to their sonar.

Thermal layer boundaries may be one of two types:-

From warm to cool water - displayed on your HUD as a green grid.

From cool to warm water - displayed on your HUD as a red grid.

Thermal layers are also useful to orientate yourself. For example, if you are upside-down you will see red thermal layers below you.



Targeting

When your sonar detects an object, it will mark it with a box on the HUD. The currently targeted object is marked with a diamond-shaped box, all other contacts are marked with square boxes. The HUD targeting display also presents the following target information:-

- the object's distance from the nearest thermal boundary. This is represented by a line extending vertically from the sonar contact to the thermal boundary. If there is no thermal boundary nearby, this line will not be displayed.
- target type, which may be one of the following:-
 - SUB - a submarine
 - BIO - a marine lifeform
 - SHP - a ship
 - HLI - a helijet
 - TRP - a torpedo or rocket
 - MNE - a mine or depth charge
 - TRN - a transponder
 - DCY - a decoy
 - STR - a structure such as an underwater base
 - DBR - underwater debris
 - UNK - unknown
- target rating, denoted by the colour of the tracking box:-
 - Blue - friendly object
 - Red - enemy object
 - Green - neutral or unknown object

The Head-Up Display may be toggled on or off by pressing [H].

The Cockpit Displays



The cockpit display consists of four large screens, augmenting the 3-D display and the HUD. There are also two small displays for instant assessment of your detectability and damage status.

Navigation Display

The Navigation Display has two modes; Waypoint and Map. Press [M] to toggle between these two modes.

In Waypoint mode, the Navigation Display lists the following information:-

WAYPT	- waypoint currently being tracked by the navigation system.
BEARING	- the bearing along which you must travel to reach the waypoint.
RANGE	- the distance to the waypoint.
DEPTH	- the depth of the waypoint.
TIME	- the elapsed mission time (you will be told in the briefing if you have a set time to complete the mission).
CLRNC	- the clearance between the seabed and your sub. If you get within 100 feet of the seabed, this readout will change from yellow to red.

In Map mode, the Navigation Display shows a map of the immediate terrain with your sub in the centre. As on the HUD, all objects are colour coded:-

Yellow - your sub	Blue - friendly object
Red - enemy object	Green - neutral or unknown object

Instruments

The Instruments consist of three rows of figures:-

The top line shows your current heading in degrees. The direction you must turn to reach the currently selected waypoint is also shown, as arrows to either side of the heading readout.

The second line shows the speed of your sub in knots, followed by your throttle setting (between 0 and 120).

The last line shows your current depth in feet.

Targeting Display

The targeting display gives a readout of data concerning the currently targeted sonar contact. To change the currently targeted sonar contact, press **[Return]**.

CONTACT	- the number of the currently targeted contact followed by the total number of sonar contacts.
TYPE	- the type of contact (e.g. SUB - a submarine). This may change as your sub gets closer to a contact and identifies it more positively.
RATING	- the target's rating (friendly, enemy, unknown).
BEARING	- the bearing which you must follow to reach the contact.
COURSE	- the course which the contact is following.
SPEED	- the speed at which the contact is travelling.
RANGE	- the distance from your sub to the contact, in nautical miles.
CONF	- the confidence factor of your submarine's weapon systems in hitting the targeted object with an active homing torpedo. Confidence factors are based on many separate considerations including the time the object has been tracked for and the amount of noise it is making. Confidence factors in excess of 100 are required to guarantee a hit.

Note: if a torpedo is fired at you, it will be targeted automatically to give you the maximum chance of avoiding it. By making maximum use of the external views, you should be able to anticipate the torpedo's manoeuvres and outsmart it.

Weapon Display

The Weapon Display allows you to see what weapons you have selected and how many are remaining.

The top line of the display shows which weapon bay is selected. To change the selected weapon bay, press **[Backspace]**.

The second line of the display shows the weapon carried in the selected bay and number of these weapons remaining. To fire a weapon, press **[Spacebar]**.

The third line of the display is the weapon status. This can be one of the following:-

READY	- the selected weapon is ready to be launched
ARMING	- the selected weapon has just been launched and is arming itself
EMPTY	- the selected weapon bay is empty
DAMAGED	- the weapon systems are damaged

The final line of the Weapon Display is the sonar status. Press **[S]** to change your sub's sonar mode. You may choose between:-

OFF	- sonar systems off
PASSIVE	- passive (listening) sonar on
ACTIVE	- active (echo) sonar on

If an enemy torpedo is launched at you, press **[D]** to release a decoy, then carry out a hard turn. This should allow you to escape unscathed.

Sonar Cross-Section (SCS) Display

The SCS Display is a bar scale running from left to right which allows you to see the amount of noise you are making. If the display is black, you are completely silent. If it is yellow, you are making some noise and you risk enemy detection. If it is red, you are broadcasting your position to everyone in the immediate vicinity. To keep your noise level down, you must run slowly and use active sonar with extreme care.

Damage Status


The eight bars below the SCS Display represent the status of your sub's primary systems. The bar scale is entirely green if the system is undamaged, yellow if partly damaged, red if heavily damaged and black if destroyed. See **Damage Status** in the next section for full details.



Full Screen Displays


Map Screen

Press **[1]** to enter the mission map. This is similar to the Mission Map in the Command Centre, but has some additional functions:-

Click on the  icon to increase the map magnification.

Click on the  icon to decrease the map magnification.

Click on the   icons to toggle the auto-centring function on or off. Auto-centring keeps your sub at the centre of the map display at all times.

Click on the  icon to return to your sub's cockpit.

Damage Status Screen

Your sub is equipped with a complex network of damage assessment and automatic repair systems. Press **[2]** to enter the screen which controls these systems; the Damage Status screen.


The Damage Status screen allows you to assess your current damage status and modify your sub's automatic damage repair systems to repair important systems first.


In the bottom of the Damage Status screen, there is a list of your sub's primary systems. These include such items as Hull Structure, Weapon Systems and Sensor Systems.


For each primary system, there is a display consisting of, from left to right:-

- the name of the system.
- a bar chart which shows the damage status. This is green if the system is fully operational, yellow if partly damaged, red if heavily damaged and black if destroyed.
- a brief description of the repair state. This may be:-

OPERATIONAL	- the system is fully operational
UNDER REPAIR	- the system is under repair
MINOR DAMAGE	- the system has suffered minor damage
MAJOR DAMAGE	- the system has suffered major damage
DESTROYED	- the system is beyond repair

To select a particular damage system, click on the  or  icons.



To make this system the priority system to repair, click on the  icon. Repairs will now be made to this system before all others.


Click on the  icon to return to your sub's cockpit.

Wingman Orders Screen


You will need to give orders to your wingmen during missions. Press **[3]** to display the Wingman Orders Screen.

The Wingman Orders screen consists of a 3-D display of the sub(s) on your mission and their type, damage status, orders and formation position.




Click on the  or  icons to select the next/previous sub. The selected sub is highlighted with a pair of yellow brackets.

Click on the  icon to change the highlighted sub's position in the formation.

Click on the  icon to change the highlighted sub's orders.

Click on the  icon to return to your sub's cockpit.

Object Viewer Screen

Press **[4]** to enter the Object Viewer; a reference library of 3-D images. You may wish to consult this library to review the shapes of enemy vessels before engaging the enemy. Click on the  or the  icon to view the next/previous object. Click on the  icon to return to your sub's cockpit.

Other Controls

Press **[Shift] [E]** to activate your submarine's ejection capsule.

Press **[Shift] [A]** to accelerate the passage of time.

Press **[P]** to pause the game.

Press **[Shift] [Q]** to either end or abort the current mission and return to the Control Centre.

Press **[Esc]** to display the 'Game Options' screen, allowing you to make game configuration changes mid-mission

VIEWS

Cockpit Views

When you are in the cockpit, you may move your viewpoint to the left, right, up and down:-

- [<] moves the view to the left
- [/] moves the view to the right
- [>] re-centres the view
- [↑/↓] moves the viewpoint up or down, allowing you to see more or less of the 3-D world
- [F2] or [V] hides the cockpit completely, displaying full-screen 3-D

External Views

Flypast Camera View - Press [F3]

- a stationary viewpoint which tracks your sub as it goes past.

Chase Camera View - Press [F4]

- a view which follows your sub from just behind, allowing you to see all around it. This view is very useful when manoeuvring in a restricted space.

Weapon Camera View - Press [F5]

- a view looking out of the nose of the last weapon you fired.

Tactical View - Press [F6]

- tracks the currently targeted sonar contact in the background with your sub in the foreground and is a very useful view in underwater dogfights.

Inverse Tactical View - Press [F7]

- tracks your sub in the background with the currently targeted sonar contact in the foreground and is useful for seeing what the enemy is doing in an underwater dogfight.

Current Contact View - Press [F8]

- a view through the nose of the currently targeted sonar contact, allowing you to see if it is lining up on you. This is a very useful view when you have targeted a hostile torpedo.

Returning to the Sub Carrier

When you want to land back aboard the sub carrier, you must bring your sub into a position immediately below the carrier's hangar. The carrier's automatic docking system will then pilot your sub into its hangar bay. Press [Shift] [Q] to end the mission.

MISSION DEBRIEFING

When you have completed your mission, you will be taken to the mission debriefing screen. The debriefing presents a summary of the mission and you are paid depending on your mission performance.

If you achieve an outstanding result in your mission, you may qualify for an award from either the mercenary's union or the company who you are currently working for.

To get a mercenary award, it is only necessary to score high points on the mission. To get a more valuable Corporate Award, you must carry out the mission objectives with maximum damage to the enemy and minimum damage to friendly forces, using the minimum amount of weapons (and therefore money).

You may review your medals and awards by selecting **Pilot Roster** in the Command Centre.

NOTES

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Seriously Fun Software

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