About Your Role

In computer Harpoon you play the role of a Side Commander, commanding all naval and air units for one Side of a scenario. Because the scenarios can vary from a single ship Group to multiple ship Groups and bases, the scope of the role you play can vary immensely. Your job is to direct all the Groups within your control to achieve the task set in your scenario orders

Training Scenario

1. Select GIUK -- Greenland - Iceland - United Kingdom Gap and click OK.
2. On Select Game Options pop-up, select NATO as your side, and select YES or NO for each of the game options listed. Click OK.
3. On the Select Scenario pop-up, select scenario 1.0: BLUE SIDE ONLY: Beginners Walk-Thru Scenario, and read the Background, Blue Orders, Intelligence Brief, etc. in the gray box. Click on New Game. (This scenario should be played as BLUE only.)

Soon after starting the game, you should detect a Red ship group from your submarine group ACU. After you acknowledge the detection of the ships, you should click on the Blue ship group ABS which is south of your submarine group. After selecting the ship Group ABS by clicking on it, click on the Formation command button. Within the formation editor, click on the "2 SH-2F Seasprite" entry which is on the Spruance ship. Click on the Set Air Patrol button, tell it one of the two available helicopters, then click on the sector right above the Spruance. Now click on the first "1 SH-2F Seasprite" entry which is on the W.F. Sims ship. Click on the Set Air Patrol button, then click on the sector right above the W.F. Sims. You have now placed two different helicopter patrols so you can click on the Execute button.

Now click back on your submarine group ACU to select it.

You should then change the time compression from 1:1 to 1:10, by clicking on the "+ Fast" button. As soon as you see that the targets are fully resolved (i.e. there are no uncertainty rectangles around the units in the unit map), click on the Attack button while the submarine group is selected.

You may get to choose either the Surface Group or the Port & Airfield, and you should choose the Surface Group. You will then be asked to choose Missiles or Torpedo attack, and you should choose Missiles. Then you are presented with the Missile Shooting Dialog. Note that there are 4 main boxes, the first being the upper left which contains all the units within your submarine group. By using the arrow keys, or clicking on the different units in this upper left box, you can see what weapons you have available to shoot at the target units, shown in the lower left box. This dialog automatically allocates your weapons to shoot at all the targets, but you can change it by selecting a given unit belonging to you, and a specific target. You can then deallocate or allocate missiles. In our case you should just be able to hit the Execute command to launch the attack. You may be asked about a Bearing-Only Attack, for any unit where there is an uncertainty zone around the unit. Again you should just accept the default and click on the OK button.

Later in this same scenario, you should detect Red submarines from your ship group ABS. Click on the Red submarine group, then click on the Intercept button. A dialog will appear showing your two helicopters. Select each one, the press the Intercept button on this dialog. A "*" will appear on the far left side of the information line, indicating the helicopter is selected for the intercept operation. Once both helicopters are selected press the OK button on this dialog. Now both helicopters will automatically search for these submarines, and will show up on the Group Map as they become their own independent groups while attacking the submarines.

You can right click your mouse on the submarine to center the Unit map window on the submarine and watch your helicopters attack the submarines. When it is time to drop torpedoes on the submarines, the Torpedo Allocation Dialog will come up as it did with the earlier missile attack. You can change the allocation, but the default should be correct, so click on the Execute button.

Should your attack fail, select the Red submarine group again, and click on the Intercept command again. The ship group will have launched the remaining helicopter group to fill the empty patrol sector created by your earlier intercept. If you detect that the submarines have shot a torpedo at your group, you must get your group to run away from the torpedo at full speed. There is no defense against a torpedo other than to run away, and hope it runs out of fuel before it gets to you. Click on the Course button while your ship group is selected. Click on the Clear button and OK the clearing of the current course. Now select the Enter New Legs option in this dialog. Click on the Group Map south of the ship group so that the group will go away from the incoming Torpedo. Now click the OK button to execute the new course. Now click on the Speed command then select the Max Group speed, and then select OK on this dialog. Now you have done all you can do to avoid being sunk by the incoming torpedo.

During the scenario you should get a Staff Dialog indicating that you have detected a small airborne contact from your F-15s. One of the buttons on this staff dialog is a Show button, and you should click on this button. Notice that it flashes the Red Base & Airfield. What this means is that your F-15s, patrolling from your Blue Airfield have detected some Red aircraft patrolling from the enemy Base & Airfield. Now click on the Intercept button on the staff dialog. It should show your 2 F-15s, so select them and click on the Intercept button on this dialog to set the "*" to the left of the information line, indicating you are ordering the intercept. Now click on

the OK button to start the intercept. It will ask you if you want to intercept the Surface or Aircraft targets, and you should select Aircraft then click on OK.

Notice your F-15s now become a separate group which can be seen on the Group Map, as they try and intercept the Red aircraft contact. The Red plane group will also show up on the Group Map once your planes get close enough to attack them. If you have your AAW Weapons range circles on for both Blue and Red, you will see that your planes have a slightly longer range than the enemy. Once you are in range, the Missile Allocation Dialog will come up automatically. It will show you that some AIM-7M Sparrow missiles are allocated against the Red planes. Click on the Execute button to launch these air-to-air missiles. They may fire back at you, but if you are lucky you will knock them out of the sky first!

Now that the ship and submarine group are taken care of, lets attack the enemy Base & Airfield. Select your Blue Airfield Aaa. Click on the Launch command button, select Attack as your option, then select the Red Base & Airfield as your target. Now it will show you the aircraft available for your attack. We suggest you allocate all 16 of the A-6E Intruders to the attack by using the Move>> button to put them in the Launching Group side of the dialog. You should also send at least 4 F-15 Eagle fighters with the group for air cover, again by moving them to the Launching Group part of the dialog. Now click on the Launch button to launch the attacking group.

You will hear the plane group launching from your base then it will start moving towards the enemy base. You may be attacked by enemy patrol aircraft along the way. Once you are close enough to the base you will be able to launch your Walleye ordinance which should destroy the base, completing this game.

At this point you have learned the major elements of controlling groups and attacking various types of targets within Harpoon Classic 97'!

Groups, Units & Classes

Understanding Groups, Units and Classes is the key to effectively playing Harpoon.

A Class is a single platform type, such as an Iowa Class Battleship, an F-15 Fighter or a Nimitz Class Aircraft Carrier.

A ship or submarine Unit, consists of a single (named) individual class member, such as the New Jersey, an Iowa Class Battleship. In an aircraft or missile Unit, a single Unit may contain multiple members (i.e. six F- 15 Fighters with the same Air-to-Air Loadout, or nine Tomahawk Missiles launched from the same ship at the same target would be represented by a single Unit).

A Group is the primary unit of control in Harpoon and is defined as one or more units. An example ship Group might contain one battleship Unit and two destroyer Units. As the Side Commander, you will give orders to Groups, and the (computerized) Group commander uses the individual Units to carry them out.

Formation

When the Group map is being viewed at x16 zoom or higher, the center unit of the group formation is indicated by a white underline. This white line indicator only appears on the Group Map, and only at x16 or higher.

To change a group's formation, select that group on the Group Map and click on the Formation button of the Command and Control Bar. You will notice that a formation grid appears around your unit formation, and that the units within it are named on the Formation Editor pop-up. To move one of the units, select it by name on the Formation Editor and click on the area of the formation grid where you would like that unit to be moved. There may be a short delay, but the unit will appear in the specified area of the grid. NOTE: If any of the units named on the Formation Editor is an aircraft, the Set Air Patrol button will become active. You can set air patrol by clicking on the name of the aircraft, clicking on the Set Air Patrol button, and clicking on the area of the grid where you want that aircraft to patrol.

You can choose to have the formation grid show automatically on the Group Map (on units you have selected with the left mouse button) by activating that option on the Staff Options screen under the Settings menu header.

Formation Editor

Access the Formation Editor by clicking on Formation on the Command and Control Bar. The Formation Editor allows you to review the disposition of the individual units within a Group, and change this disposition if desired. See Formation Grid for further information.

Sides & Countries

Two sides are modeled in each of the Harpoon BattleSets. Sides typically represent alliances (such as NATO, Warsaw Pact, SEATO, etc...) made up of multiple countries. These two sides are labeled BLUE and RED and all of their groups and units will be colored accordingly within the game. Note: An uncertain contact will show up as the enemy side/color until you establish an exact contact, this is because within the game you can only shoot at enemy contacts. Each side can have multiple countries represented, as in the first BattleSet, GIUK, where the BLUE side has the USA, United Kingdom and Norwegian countries aligned together, while other countries may be in the alliance. Only countries with Classes used in the BattleSet are represented in Harpoon. Countries have many variables associated with them, including the percentage of breakdowns their equipment will experience, how effective their repair capability is, how effective their bearing only weapons are, and more!

In Harpoon you can either play the RED or BLUE side. This allows you to see the conflict and it's tactical nuances dictated by differing missions and equipment from both sides.

Options

The Game Options selection under the Settings pull-down menu allows you to configure display options during game play. Options include the following: Enable Launch Animations, Enable Area Defense Animations, Enable Hit Animations, Enable Killed Ship Pictures, Show Game Time Remaining, Show Current Game Clock, Land Color, Water Color, and Save Game every (#) Minutes.

Environment

In Harpoon the environment consists of several elements. The first element is altitude (or depth). To simplify the range of possibilities, altitude bands (alt bands) are used. In Harpoon all the land is of uniform height, so you do not have to worry about your planes crashing into mountains. Water depth is directly relative to how close you are to land (i.e. no realistic undersea maps). In general the higher you go, the easier it is to be spotted by the enemy. So Submarines tend to stay as deep as they can unless attacking and planes tend to fly low unless searching for the enemy or trying to improve endurance.

Vhigh

Very High altitude is 20,000 meters and higher. Only some jet aircraft have the capability to fly at this altitude.

High

High altitude is between 3,500 and 20,000 meters.

Medium

Medium altitude is between 600 meters and 3,500 meters. This is the maximum altitude for all helicopters.

Low

Low altitude is between 30 meters and 600 meters.

Vlow

Very Low, is 'wave height' or 'terrain following' flying, keeping your aircraft below 30 meters. In a fixed wing aircraft (not a helicopter), there is a significant chance that you will hit the water due to pilot error and the aircraft will be lost. The advantage is that aircraft flying at the Vlow altitude can only be detected at less than half the range of an aircraft flying at Low altitude.

Sea Level

The surface of the ocean.

Periscope

Right below the surface where you can see out your periscope, but use with caution because you can be spotted by low flying aircraft.

Shallow

Above the thermal layer, deeper than Periscope depth.

Intermediate

Below the thermal layer, but shallower than the max safe depth for most submarines. Submarines are harder to detect when at this depth or deeper. Speeds up to 24 knots are possible without cavitating at this depth.

Deep

The maximum safe depth for most submarines, used to evade detection. Submarines can go up to 29 knots without cavitating at this depth.

Very Deep

Can only be achieved by a few submarine classes, and eliminates all cavitation noise.

Too Deep

Too Deep is deeper than any submarine can go, extending to the ocean floor.

Weapons

Weapons within Harpoon are designated by the term Mount. Each Mount contains one or more weapons. A Mount also has an associated number of barrels/rails/tubes, an ammunition amount, a weapon firing arc and possibly a specific sensor for the Mount, called a director. Directors direct weapons to specific target(s), and if they are damaged the Mount may not be capable of firing at all! Note that directors can only track a limited number of targets, so a major factor in maximizing the effectiveness of your attacks is overwhelming the capacity of the defending Mounts.

To examine your weapons in computer Harpoon use the Unit Full Report or Display options to get to a Platform Display screen. Choose the Weapons option to get to the weapons screen. The descriptions in the weapon reports are:

Ammunition
The type of ammunition this mount fires or carries.

Qty
The maximum quantity of this ammo in the mount.

Target
The type of target this mount/ammunition can shoot. It will be labeled AIR (flying targets), SURF (surface targets), SUB (submarines) or N/A (not applicable). The number following the "/" is the number of Targets that the director can track concurrently.

Range
The range in nautical miles that the weapon can hit targets. If HORIZ is listed, the lesser of your current radar horizon or weapon range is the weapons maximum range.

Hit %
The percentage chance that this weapon will hit if fired at a target that is within range (and if it is not shot down by the target as in the case of a missile).

Damage
The maximum number of damage points that this weapon can inflict if it hits a target. Some weapons have KILL listed, meaning if they hit the target type, they will kill it. Another special damage type is NUKE, where nuclear explosion damage is done to the target and nearby units.

Nuclear weapons are only available in computer Harpoon after you have been granted nuclear release. At some point in the game, if you choose "YES" to the Possible nuclear release option, you may receive nuclear release. If the enemy uses a nuclear weapon, you are automatically granted nuclear release. Any nuclear weapons carried and/or aircraft loadouts will now be available for use.

Detection

In Harpoon, enemy and neutral Groups and Units are hidden until you detect them in some fashion. Detection is always by a sensor, and the module within Harpoon that does the detection is called Search. Every 30 seconds of game time, each sensor on each Unit 'Searches' to see if a non-friendly Unit has been detected. Variables that affect this search process include distance, absolute size, altitude/depth, weather, and speed of both the searching and detected Units. In general, Units which are larger in size, faster moving and radiating energy (via propulsion noise or active radar or sonar) are easier to detect. A larger Unit is easier to see, and returns more energy if 'painted' or hit by radar or sonar waves. A faster moving Unit is radiating more sound energy, and the air/water it disturbs at high speeds also increases that Units' size for radar/sonar detection. Finally, a radiating Unit (radar or sonar) can always be passively detected beyond the effective range of whatever active sensor is used

Contacts

Contacts are either passive or active, meaning either you are detecting radiated energy or you are detecting reflections of your own radiated energy. When you detect a radiating target (i.e. their radar or sonar is on or they are making noise based on their movement) you have a passive detection. If you are radiating (i.e. your radar or sonar is on) and detect a target, this is an active detection.

Detection of either the passive or active type can be exact, area or bearing-only. An exact detection means you know exactly where the detected unit is. An area detection means you know that the unit exists in a given area. This area is defined by a uncertainty zone or region represented by a colored diamond shape which surrounds the icon. A bearing-only detection is a special case of an area detection in which you know that a contact is a certain bearing from your position, but you only know the minimum and maximum distance it might be from you. All detections degrade over time if not repeated. As contacts degrade, the area of uncertainty will grow at the rate the detected unit could move since the last detection.

Fire Control Solutions

Fire control solutions in Harpoon are either exact, nearly exact or bearing-only. Whether a detection is from passive or active sensors is immaterial, only the accuracy and type of solution is important. Some weapons require an exact detection, others a bearing-only or nearly exact area detection. The computer determines whether you have a sufficient detection level to attack with your current weapons, and will either let you attack or inform you of an inadequate fire control solution.

Radar

Radar is the use of airborne radio waves sent out at a certain frequency, combined with a detector that listens for 'returns' of this same frequency, caused by this energy bouncing off a potential target. Radars in Harpoon are divided into two classes, air and surface search. Radars are limited in the distance they can be effective by the Radar Horizon.

Air Search Radar

Air Search (AS) radar is used to locate and track airborne targets, such as missiles, planes and helicopters. Air Search radar is generally used to detect targets at Medium altitude or higher. These radars can be effective against targets at Low or Very Low altitude, but only at 5% or less of their maximum range. Three special purpose Air Search radars are the Height Finding (HF), Range Only (RO) and the Look Down/Shoot Down (LD/SD) radars. A Height-Finding (HF) radar not only detects airborne contacts, but also determines which altitude they are at. It can also detect surface contacts. A Range Only (RO) radar can only detect targets directly in front of it, and is mainly used in aircraft as a gunsight radar. A Look Down/Shoot Down (LD/SD) radar is an air search radar (mounted on an aircraft) that has much greater capabilities than a normal airborne radar.

Surface Search Radar

Surface Search (SS) radar is used to detect surface Units and airborne targets at Low and Very Low altitudes. A special surface search radar is the Periscope Radar (PR) which is mounted on the periscope of a submarine and is used to help targeting submarine weapons against surface targets.

Show Pulsing Radar

You can choose to show pulsing radars by activating that option on the Staff Options screen under the Settings menu header.

Sonar

Sonar is the use of sound energy traveling through the water to detect and track surface ships or submarines. Sonar can be passive or active. Sound travels underwater through thermal layers called Thermoclines. Sound that makes it through the Thermocline 'bends' back to the surface due to the immense pressure of the ocean at depths over 1,000 fathoms, then may reflect off the surface and repeat the process.

This area where you can detect distant targets is called a convergence zone (or CZ). Modern sonar can sometimes detect targets out to 3 CZ's. If the water is not Very Deep, you will not get convergence zone detections.

Passive Sonar

Passive Sonar work by listening to sounds traveling in the water, classifying them and refining the contact. The primary advantage of a passive sonar is that it does not give away your position. The main disadvantage is that it often takes a longer time to classify a target, and get an exact location on it.

Active Sonar

Active sonar work similarly to radar in that they send out sound energy and then listen for reflected returns of this sound off possible targets. The main advantage of an active sonar is that it gives exact distance and bearing information on any contact it detects. The disadvantage is that enemy Units can detect the sound energy used in active mode at 2-3 times the range an active sonar can detect a target. A common tactic is to use passive sonar to generate an initial contact, then turn on active sonar just long enough to generate an exact contact for your fire control solution.

Hull Sonar

Hull Sonar is built into the hull of a ship or submarine. They usually have both active and passive sonar capability. Hull sonar have two restrictions, the first being the 'blind spot' in the Baffles, caused by propulsion noise and turbulence. The second restriction is that when you travel at or above 20 knots, the flow noise caused by water flowing over the sonar eliminates the ability to detect anything.

Towed Sonar

Towed Sonar is trailed behind some ships and submarines on a long cable. Most towed sonar are always below the thermal layer, but Units with Variable Depth Sonar (VDS) can change the towed sonar depth to either above or below the layer. Towed sonar greatly increases the effectiveness of a Unit, as you have a much better chance of detecting targets below the layer. In computer Harpoon all towed sonar deployment and retrieval is automatic. Each time you change course a towed sonar will stop working or work at greatly reduced effectiveness until it can straighten back out.

Dipping Sonar

Dipping Sonar is used on helicopters. They are suspended on a cable and lowered into the water while the helicopter hovers. In computer Harpoon use of dipping sonar is mainly automatic, as any helicopter with this capability will use it if assigned to a patrol zone within the formation editor. To manually dip your sonar, hover your helicopter at very low altitude and if your unit has a dipping sonar it will automatically lower it.

Sonobuoys

Sonobuoys are small sonar sensors combined with a short range radio transmitter. Sonobuoys are dropped into the water in 'fields' of 6-12 sonobuoys by aircraft then monitored. Fields of sonobuoys only last a few hours then turn themselves off and sink to the bottom of the ocean. In computer Harpoon this process is automatic if an aircraft with sonobuoys is in a patrol zone within the formation editor. To manually lay a sonobuoy field, hover/loiter your aircraft, and it will lay a sonobuoy field and begin to monitor it.

Other Detection Methods

Visual Detection

Prior to modern times, human vision was the only way to detect distant threats. Human vision is limited to the Visual Line of sight and modified by time of day and weather conditions. In today's environment there are several visual methods of detection available. Visual Line of Sight is the maximum distance you can visually detect targets given your altitude and the targets altitude, assuming the perfect visibility.

A technological addition to vision is the detection of infrared (IR) radiation (i.e. heat). On some aircraft, Forward-Looking Infrared (FLIR) and Infrared Search and Track (IRST) sensors are available. These sensors can spot surface ships and submarines on the surface or snorkeling. Ships may also have passive IR sensors to detect other ships or aircraft.

Electromagnetic Intercept / Electronic Support Measures (ESM)

All combat ships of frigate size or better have ESM capability allowing them to rapidly detect any (active radar) radiating target within 110% of your current radar horizon (against the target). This is considered a passive radar detection, comparable to a passive sonar detection.

Magnetic Anomaly Detectors (MAD)

Some ASW aircraft carry a sensor which can detect large metal objects which are close beneath them under the surface of the water. The aircraft must be a low or very low altitude for this sensor to be effective. Some submarines have titanium hulls which greatly reduce the effectiveness of this sensor.

SOSUS/Caesar

In the GIUK BattleSet, the NATO SOSUS system and USSR Caesar systems may generate detections. These systems are large fields of seabed sensors laid in the North Sea to track enemy vessels through advanced passive sonar techniques. Occasionally, you may be notified of a contact using this detection method, giving you an advanced warning of a threat.

Aircraft

Aircraft are the primary scouts and a major portion of the offensive power available to today's naval forces. Effective use of aircraft is essential if you want to succeed in Harpoon. Aircraft in Harpoon are fitted with Loadouts, which have a selection of weapons/sensors/fuel pods for a specific mission. Most aircraft only have a limited number of possible and/or available Loadouts. All aircraft have a Ferry Loadout available while other Loadouts are subject to both the missions which the aircraft are designed for and availability.

The Loadouts are:

Search
Aircraft assigned only to look for the enemy do not carry anything but fuel, sensors and crew. Some of these sensors may detect other aircraft, surface shipping, or even submarines.

Ferry
Normally has minimal or no weapons set up for a one way trip to another base. Typically carrying external tanks full of fuel.

Tanker
This configuration consists of many external tanks and a special attachment so other planes can draw fuel. In order for a tanker to refuel a group it must be part of that group. It can originate with that group or join that group. The tanker will refuel the group when the fuel percentage is about 25% of total capacity. You may force the refueling by selecting Alt+R. A tanker will only refuel a group once.

Patrol
Used for Electronic Warfare and Early Warning aircraft.

Nuclear
This loadout contains Nuclear weapons ready to do massive damage to the enemy. The type of weapon depends on aircraft type and country.

Standoff
Cruise missiles which fly the distance from release to target without requiring guidance from the aircraft, thus reducing the risk to the launching aircraft.

LR Standoff
Same as above, but some cruise missiles (and/or AAM's) will be replaced with fuel tanks to extend your range.

Anti-Radar
A special type of weapon, normally a missile, that looks for any enemy radar that is turned on. If it hits, the radar is destroyed. If used against ships a great deal of additional damage may be caused. If the radar is turned off, most of these weapons will "go stupid" and self-destruct while others home in on the last broadcasting location.

LR Anti-Radar
Same as above, but some anti-radar missiles (and/or AAM's) will be replaced with fuel tanks.

Guided
These are "Smart Bombs" or shorter range missiles which are guided by the launching aircraft to the target. Unlike cruise missiles they have very short ranges, but can do more damage. They also cost a lot less, so a country is likely to have more of these than cruise missiles.

LR Guided
Same as above, but some smart bombs (and/or AAM's) will be replaced with fuel tanks.

Unguided
This loadout represents rockets, cluster bombs, fuel-air explosives and other "area" weapons. Typically, many unguided weapons are in a loadout due to their small size. These function like a grenade, spewing fragments over a wide area.

LR Unguided

Same as above, but some of the "area" weapons (and/or AAM's) will be replaced with fuel tanks.

IronBomb

This is what most countries used in WWII. It is a simple weapon that is "thrown" at or dropped on the target based on the movement of the aircraft, the wind and temperature. These weapons are very potent (they are all explosives and metal case) but are very difficult to target effectively.

LR IronBomb

Same as above, but some bombs (and/or AAM's) will be replaced with fuel tanks.

Air to Air

Fighters and some better attack aircraft will load with infrared and radar guided missiles to destroy other aircraft and helicopters. Some extra fuel is carried for some aircraft types.

LR Air to Air

If the target is far away or the fighters must stay aloft for a long time, some missiles will be replaced with additional fuel tanks.

AntiSub

Submerged submarines are only killed by torpedoes and depth charges. Some aircraft may be able to do this with nuclear depth charges (see Nuclear loadout).

LR AntiSub

Same as above but some ASW weapons will be replaced with extra fuel tanks. In the case of helicopters that cannot carry extra fuel tanks, weapons will be dropped to reduce weight and increase airborne endurance.

AntiRunway

To destroy an enemy runway, iron bombs, guided weapons, or special "runway busting" weapons can be used (the type used depends on the aircraft and the country which owns it).

LR AntiRunway

Same as above, but some anti-runway ordinance (and/or AAM's) will be replaced with fuel tanks.

Airborne Threat Detection

Sometimes in computer Harpoon a new threat which can be countered by patrolling aircraft will be detected. Instead of having to launch new aircraft or selecting a group with patrolling aircraft and splitting them off to attack the threat, we provide the Intercept Screen.

Each available unit is shown, including their current distance to the target that needs to be intercepted. Move to the Unit(s) you want to use to intercept the threat and click your mouse on the Intercept button. Selected intercept aircraft will have a "*" show up to the left of the # of aircraft. When you have selected the units to use to intercept, select the OK button.

Bases

There are 3 different kinds of Bases available in Harpoon and each is described below:

Airfield
An airfield.

Port
A port facility for submarines and surface craft.

Port & Airfield
A combination of both a port and an airfield.

Bases typically have various radar sensors and defense weapons mounts that automatically defend against attacking enemy targets (i.e. you don't have to make your bases attack using the attack order).

Damage

Within Harpoon there is a simple Damage Point system used to represent the possible damage to Units. Each primary Unit Class in Harpoon has a certain number of Damage Points it can absorb before being destroyed. Each weapon can deliver a certain number of Damage Points. In addition to Damage Points, all Bases, Ship and Submarine Classes have the possibility of receiving Critical Hits. Most of the Critical Hits have a chance of being repaired within 48 hours. Fire and Flooding Critical Hits are the most distressing as either may spread and cause additional damage and critical hits, destroying the unit.

Your unit reports will show both your current Damage Points and current Critical Hits. Note that in Harpoon all repairs are automatic and require no input from the Side Commander. If a surface or submarine unit is severely damaged, you may want to split it off from your group into its own group.

Aircraft in Harpoon can only be killed so they have no Damage Points or Critical Hit areas.

The Main Screen

The main screen associated with the scenario which you have selected will appear once you have activated the NEW command on the scenario selection screen. This is the arena in which harpoon is played, and it is comprised of three primary areas: command & control bar, maps and a reports window.

Command & Control Bar

The Command & Control bar contains frequently used orders, most of your commands should be initiated from here. Commands are only available when in the Group window: Attack, Speed, Course, Formation, Ready Air, Launch Air, Sensors and the Time compression utility. When in the Unit window you will notice that not all commands are available.

Strategic Map

The Strategic map is the small map located in the upper-left of the Main Screen. It represents the entire geographical area for the current BattleSet. A rectangular box, called the Group Window, appears on this map. The area within the group window appears on the large map to the right of the Strategic Map (i.e., the Group Map, as discussed later).

Directly beneath the Strategic Map is a representation of a numeric keypad. Use the corresponding arrows on your keyboard to position the Group Window box which appears on the Strategic Window. This will allow you to view details of the enclosed area on the Group Map.

Using the mouse, you can simply point to an area on the strategic map, "click" the left mouse button, and the green square will center itself around the area to which you have pointed.

Group Map

The Group Map is the large map located on the upper-right of the screen. It is primarily comprised of two parts: a map showing the location of some, or all, of your groups, and the Group Map Control Bar.

Unit Map

The Unit Map is in the lower left of the Main Screen. To make anything happen on the Unit Map, you must first select that map, by moving the cursor to that window and click the left mouse button or by pressing the TAB key. When the Unit map is selected, the control bar will change color, indicating that the Unit Map is now the "active" one. To make the Group Map active move the cursor to the Group Map and click the left mouse button or press the TAB key again.

Report Window

The Report Window is located in the lower right of the Main Screen. When an item is selected from a menu, options or information related to that item will appear in the window. Also, the Report Window serves as an "animation" window. That is when an engagement between units occurs, an animation of the unit launching its point defense weapons and missile strikes will appear. Also, you will see animations of weapons arriving on their targets.

Moving Maps & Windows

If the map you want to see is behind another window, click once on any part of the map you want to see, and it will be brought to front. If you want to drag a map to another location on the screen, select the colored bar that runs across the top of the map (labeled Unit, Group, Strategic Map, etc.) by clicking and holding the left mouse button on it. Then, still holding the left mouse button, drag the map to the desired screen location and release the mouse button.

Selecting Maps & Windows

To make anything happen on a map, you must first select that map. To select a map, click on it with the left mouse button.

Sizing Maps & Windows

To change the size of a map, select the map by clicking on it; then place the cursor on an edge of the map so that it becomes two arrows and drag the map to make it larger.

Textured Map

“Textured” is a new option for land color. All land color options appear on the Game Options screen under the

Settings menu header.

Zoom

When zoom has been selected at x16 or higher on the Group Map, the Unit map "disappears".

Range Circles

You can set weapons range circles that indicate the best or furthest reach for of a given weapon, both for your own assets and for your enemy's alike. This allows you to determine what weapon to use, or what weapon your enemy might choose to use against you. To set Range Circles, Select the Settings menu header and choose the Set Range Circles option. Click the box beside the Range Circle you want to select; make sure you are clicking in the desired column (Blue or Red) if you only intend to set Range Circles for one Side. Categories of Range Circle options include Group Map, Unit Map, Group and Unit Maps, as well as Blue and Red sides.

To select range circle color for one or more range circles, select the Settings menu header and choose the Set Range Circles option. Double-click on the color bar beside the range circle name to receive an array of color options. Click on the color option of your choice and click on OK.

Reports

You can show the weapons and unit display reports at the same time and in different windows. Select the Platform Displays option under the Reports pull-down menu.

Keyboard Commands

GAME Menu Commands

CTL+P	Pause Game
CTL+N	New Game
CTL+O	Load Game
CTL+L	Load User Scenario
CTL+S	Save Game
CTL+H	Game Status
CTL+Q	Quit

ORDERS Menu Commands

F1 / CTL+1	Attack or Intercept
F2 / CTL+2	Set Group Speed (Set Depth and Speed)
F3 / CTL+3	Enter Group Course
F4 / CTL+4	Formation Editor
F5 / CTL+5	Ready Aircraft
F6 / CTL+6	Launch (Land) Aircraft
F7 / CTL+7	Join Group
F8 / CTL+8	Split Group
F9 / CTL+9	Sensors
F10 / CTL+0	Enter Staff Note

ALT+R	Force Refueling

REPORTS Menu Commands

CTL+E	Show Orders
CTL+B	Order of Battle
CTL+D	Platform Displays
CTL+W	Weather Report

SETTINGS Menu Commands

CTL+T	Time Compression
CTL+R	Set Range Circles
CTL+I	Game Icons
CTL+G	Set Grid Lines
CTL+K	Game Options
CTL+Y	Sound Options
CTL+M	Staff Options

Alt Key Commands

ALT+I	Toggle Group / Unit IDs
ALT+3	Player Nuclear Release
ALT+6	Show Current Free Runtime Memory

MISC Commands

CTL+C	Calc Range & Bearing
CTL+A	Staff Report

Tab key

Alternates selected window between group and unit window.

Arrow keys

Scrolls the currently selected window, either the group window or the unit window.

5 key
Centers the map view in the currently selected window around the selected object. Note: you must use the "5" key on the numeric keypad, not the numbers across the top of your keyboard.

Z key
Zooms in the current window (group or unit).

X key
Zooms out the current window (group or unit)

F key
Gives a full report on the selected object if a mini-report on the object is showing in the dialog box.

D key
Brings up unit display.

+ Key
Compresses time by one increment each time key is pressed.

- Key
De-compresses time by one increment each time key is pressed.

Spacebar
Selects the next object to the south (down) in the current window.

Backspace
Selects the next object to the north (up)in the current window.

U Key
Selects the first unit of the currently selected group (in the unit window)

C Key
Center the unit window around your currently selected group.

Enter Key
Takes you to 1:1 time compression immediately.

Alt-t
Toggle paths on/off for all friendly groups.

Glossary of Terms and Abbreviations

AAM: Air-to-Air guided Missile.

AAW: Air-to-Air Warfare.

AEW: Airborne Early Warning.

AIM: Department of Defense designation for any air-launched anti-aircraft missile.

Airfield: A base unit that has runways to launch aircraft.

Altitude Bands: The altitude and depth representations used in the Harpoon system.

ARM: Anti-radar missile.

AS: Air Search, used in Sensors Screen displays.

ASM: Air-to-Surface guided missile.

ASROC: Anti-Submarine Rocket. A ship-launched weapon comprised of either a homing torpedo or a nuclear depth charge attached to a rocket booster.

ASuW: Anti-surface warfare.

ASW: Anti-submarine warfare.

AS/SS: Dual mode radar. both air and surface search capable in one unit, used in the Sensor Screen displays.

Baffles: The rear part of a ship or submarine where the power plant noise combined with the propulsion noise creates an area where hull sonar cannot detect contacts directly behind a platform in a 60 degree arc.

Base: In Harpoon the general term referring to Airfields, Ports, Cities and combined Port/Airfield units.

Bastion: Any heavily-defended area of water. Normally, a bastion includes water partially enclosed by friendly shoreline, and cornered off by mines. Surface, submarine, and aircraft forces would patrol inside and outside this area, and acoustic sensors in the seabed would help detect hostile submarines.

Bearing: The direction in degrees from a detecting unit to a contact.

Bridge: The place within a ship where navigation and piloting occurs.

Call Sign: In computer Harpoon each unit and group has a call sign. Groups have a three letter call sign, a BLUE group might be AAS, while a RED group could be ZS. Units within a group share the first two letters of the Group call sign, with a two digit unit indicator (i.e. the first unit of Group AAS would have the call sign of AA01). The third letter of the Group call sign indicates the known group type, namely:

C	Carrier Group
S	Ship Group
U	Submarine Group
A	Plane Group
H	Helicopter Group
M	Missile Group
T	Torpedo Group
a	Airfield Group
P	Port Group
b	Airfield and Port Group

Caesar: The Soviet fixed seabed passive sonar sensor system. Located on the ocean floor in the North Sea.

Cavitation: Submarine and surface ship propellers create small bubbles in the water if they spin at high speeds. These small bubbles almost immediately collapse, creating a sound called cavitation noise. As submarines go deeper, the pressure allows their propellers to spin faster without creating this sound.

CG: Cruiser Guided Missile. American designation for any cruiser armed with surface-to-air guided missiles.

Chaff: Strips of metallic foil, cut to the wavelengths of specific radar, used for jamming.

CIC: Combat Information Center, the tactical center of the ship, where enemy contacts are plotted and tactics planned and executed.

Class: In Harpoon this refers to a specific platform type of which there may be many individual members. For example, the Iowa class of Battleships includes the Iowa, New Jersey, Wisconsin and Missouri as members of that class of ship.

CSUP: Communist Party of the Soviet Union.

CV: American designation for any aircraft carrier.

CVBG: American designation for an aircraft carrier battle group.

CZ: Convergence Zone used in Sensor Screen displays.

D: Dipping Sonar used in the Sensor Screen displays.

DD: American designation for any destroyer.

DDG: Destroyer Guided Missile. American designation for any destroyer armed with surface-to-air guided missiles.

Director: A sensor specific to a particular weapons mount, used to target the weapon before and/or during firing.

Electronic Counter Measures (ECM): Any device or system capable of either jamming or deceiving enemy radar.

ELNT: Electronic Intelligence. The identification of specific enemy radar, as well as the platforms employing these radar, by the analysis of received radar signals.

Endurance: In Harpoon this refers to airborne endurance (i.e. how far you can go before running out of fuel). By using the range circle options, you can visually determine your endurance distance for a currently set altitude and throttle setting.

ESM: Electronic Support Measures. Any system capable of detecting and analyzing enemy radar signals.

FF: American designation for any frigate. Frigates are normally smaller than destroyers.

FLIR: Forward Looking Infrared sensor, carried by some aircraft and used to spot surface ships and surfaced or snorkeling submarines, used in the Sensors Screen displays.

GIUK: Greenland-Iceland-United Kingdom. The opening between Iceland and the Faeroe Islands, leading to the straits between Scotland and Denmark.

Group: A collection of one or more Units within computer Harpoon. Most of your orders are given to Groups.

H: Hull Sonar. used in the Sensors Screen displays.

H/T: Combination Hull/Towed sonar. used m the Sensors Screen displays.

HF: Height Finding air search radar, used in the Sensors Screen displays.

Hunter-Killer: A naval unit whose purpose is to seek out and destroy enemy submarines.

IR: Infrared, detecting radiating heat.

KB: Kilo Byte, or 1,024 bytes of information.

KGB: Governmental branch of the Soviet Union responsible for State security. Combines the functions of the American CIA, FBI, and NSA.

Knot: Nautical miles per hour. A nautical mile is about 14% greater than a statute mile.

LD/SD: Airborne Look Down/Shoot Down radar, used in the Sensors Screen displays.

Loadout: In Harpoon this refers to an aircraft's' specific ordnance load for a given mission type.

LOC: Line of Communication. Military term for any supply line extending from a country engaged in hostile activities to the front lines.

LR: Long Range.

M: Mine Hunting Sonar, used in Sensors Screen displays.

MAD: Magnetic Anomaly Detection. A system which is capable of sensing disturbances in the earth's magnetic field caused by the presence of a large metallic object, such as a submarine.

MB: Mega Byte, or 1 million bytes of information.

Mount: A weapons mount in Harpoon. A mount contains a weapon, the ready ammunition for that weapon and possibly a sensor used to target the weapon, called a director.

NATO: North Atlantic Treaty Organization, comprised of the United States and her European Allies.

nm or NM: Abbreviation for Nautical Mile.

OTH: Over the Horizon radar (normally land based), used in the Sensors Screen displays.

Picket: A scout, looking for the enemy. In Harpoon this normally refers to the Picket Zone of your formation, the outermost ring.

Platform: Any vehicle capable of carrying a weapons system.

PR: Periscope Radar, used in the Sensors Screen displays.

Radar: Radio Detection and Ranging. A sensor system capable of detecting targets by way of reflected electromagnetic energy.

RIM: Department of Defense designation for any ship launched anti-aircraft guided missile.

RO: Airborne Range Only radar, used in Sensors Screen displays.

S: Sonobuoys, used in Sensors Screen displays.

SAG: Surface Action Group. A Surface action group is centered on one or more powerful surface ships such as

cruisers and/or battleships and includes several escort ships for protection. Its mission is to provide heavy firepower when needed, as in support of an amphibious landing.

SAM: Surface-to-Air guided missile.

Side: In computer Harpoon, the alliance to which a Group or Unit belongs, represented as BLUE or RED.

Sonar: Sound Navigation and Ranging. A sensor system capable of detecting underwater targets whether actively (i.e., through reflected sound waves) or passively.

Sonobuoy: An expendable sonar device used in anti-submarine warfare, normally dropped by aircraft.

SOSUS: The NATO seabed passive sonar listening system.

SOW: Stand-Off Weapon. Normally applied to an antisubmarine weapon (torpedo or depth charge) attached to a rocket booster.

SPIR: Shipboard Passive Infrared sensor, used in the Sensors Screen displays.

SR: Short Range.

SS: Either a Surface Search radar or the designation for a Diesel (non-nuclear) Attack Submarine, dependent on context.

SS-N-21: A type of Soviet cruise missile carrying a nuclear warhead.

SSBN: Submarine Ballistic Nuclear. American designation for any nuclear- powered submarine armed with intercontinental ballistic missiles.

SSM: Surface-to-Surface guided missile.

SSN: Submarine Nuclear. American designation for any submarine propelled by nuclear power.

T: Towed array sonar, used in Sensors Screen displays.

Thermal Layer: The depth at which a sudden temperature change creates a 'layer' that tends to reflect sound waves, reducing sonar effectiveness. Also called the Thermocline.

Towed Array Sonar: Any sonar device capable of being towed behind a surface ship, The advantage of a towed array sonar is that it can be employed beneath ocean thermal layers where a submarine might hide.

TVD: Soviet Intermediate High Commands in the various theaters of operation. TVDs are subordinate to the VGK (the Supreme High Command).

UNIT: In Harpoon, a unit consists of any single ship, submarine or base. Missiles, Torpedoes and Aircraft can have multiple members in a single unit, but must share the same target or Loadout.

VDS: Variable Depth Sonar, normally a towed array sonar that can vary its' depth, allowing it to listen both above and below the thermal layer, used in the Sensors Screen displays.

VGK: Supreme High Command of the Soviet Union responsible for all military actions. Comprised of the Minister of Defense, his five commanders-in-chief, plus six other deputy Defense Ministers for civil defense and other matters.

VTOL: Vertical Take-off and Landing. Abbreviation for any fixed-wing aircraft capable of a direct vertical take-off.

WARSAW PACT: The Soviet equivalent of NATO, comprised of the Soviet Union and her eastern European allies.

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