UP SCOPE!

RULES OF PLAY

Copyright © 1977, Simulations Publications Inc., New York, N.Y. 10010
1.0 INTRODUCTION
2.0 GENERAL COURSE OF PLAY
3.0 GAME EQUIPMENT
  3.1 The Rules Manual
  3.2 The Game Map
  3.3 Game Charts and Tables
  3.4 Command Tracks
  3.5 The Playing Pieces
  3.6 Definition of Terms
  3.7 Game Scale
  3.8 Inventory of Game Parts
4.0 SEQUENCE OF PLAY
5.0 COMMAND
  5.1 Command Decision
      Phase Procedures
  5.2 Combat Decision Phase Procedures
  5.3 Command Execution
      Phase Procedures
  5.4 Movement Commands
  5.5 Search Commands
6.0 SHIP MOVEMENT
  6.1 Basic Restrictions of Ship Movement
  6.2 How Ships Execute
      Maneuver Commands
  6.3 How Ships Execute
      Speed Commands
  6.4 How Submarines Execute
      Depth Commands
  6.5 How Facing Affects Ship Movement
7.0 COMBAT
  7.1 Underwater Weapons
  7.2 Torpedo Weapons
  7.3 Gunnery Combat
  7.4 Ramming and Ship Collisions
  7.5 Damage
  7.6 Contemporary Combat
8.0 SEARCH, SIGHTING
    AND DETECTION
  8.1 Contemporary Detection
  8.2 Underwater Detection
  8.3 Surface Detection
8.4 How Ocean and Water Conditions
     are Determined
9.0 AIRCRAFT
  9.1 Contemporary Aircraft
  9.2 Non-Contemporary Aircraft
10.0 SCENARIOS
  10.1 Scenario Format
  10.2 Special Scenario Restrictions
  10.3 World War I Scenarios
  10.4 World War II
      Mediterranean Scenarios
  10.5 World War II Atlantic Scenarios
  10.6 World War II Pacific Scenarios
  10.7 Contemporary Scenarios
  10.8 Multi-Player Scenarios
  10.9 Scenario Composition
11.0 NON-CONTEMPORARY
    SHIP AND WEAPON DATA SUMMARY
  11.1 Non-Contemporary
       Surface Vessel Statistics
  11.2 Non-Contemporary
       Submarine Statistics
  11.3 Underwater Weapon Statistics
  11.4 Torpedo Statistics
  11.5 Detection Statistics
12.0 CONTEMPORARY SHIP
    AND WEAPON DATA SUMMARY
  12.1 Explanation of Contemporary Ship
       and Weapon Data Summary
  12.2 Soviet Union
       Contemporary Ship Statistics
  12.3 United States
       Contemporary Ship Statistics
  12.4 Great Britain
       Contemporary Ship Statistics
  12.5 France Contemporary Ship Statistics
  12.6 Italy Contemporary Ship Statistics
  12.7 West Germany
       Contemporary Ship Statistics
  12.8 Contemporary Aircraft Statistics
  12.9 Contemporary Weapon Statistics
13.0 COMMAND TRACKS
[1.0] INTRODUCTION

_Upscope!_ is a tactical simulation of submarine and anti-submarine warfare during the First and Second World Wars as well as in the contemporary era. The game furnishes complete information on every significant submarine and anti-submarine vessel and weapon employed between 1914 and the present day. Each weapon is classified by a full range of statistics which describe its operational efficiency and historical date of availability, and it is this data which governs exactly how and when a given weapon type is employed in the context of the game.

[2.0] GENERAL COURSE OF PLAY

_Upscope!_ is basically designed for two Players, one of whom commands the submarine force while his opponent commands the anti-submarine (surface) force. After choosing a Scenario, each Player extracts the ship and weapon statistics appropriate to his assigned forces from the data provided in the Ship and Weapon Data Summary and immediately transcribes this data on one or more of the blank Command Track sheets which are provided for both the submarine and surface forces. When playing one of the included Scenarios, the Scenario rules prescribe the number and type of ships assigned to each Player as well as the historical date, initial deployment, game length, victory conditions and special rules which govern play. The general course of play, regardless of the Scenario framework, is governed by these rules manual in its entirety and particularly by the Sequence of Play presented in Section 4.0.

Basically, the game is played in a series of successive Game-Turns, each of which consists of a Command Stage, Combat Stage, Search Stage, and Termination Stage. During the Command Stage of each Game-Turn, each Player secretly determines the course and speed of each of his ships and any combat mission a given ship will execute during the remainder of the Game-Turn. At the end of the Command Stage, all ships are moved according to these pre-assigned command decisions. After all ship movement is completed, each ship's pre-planned combat mission is executed during the ensuing Combat Stage. Following the resolution of all combat, each ship uses visual, radar and/or sonar capabilities to detect and maintain contact with Enemy vessels during the Search Stage. Finally, various markers are removed from the map, and other necessary tasks are performed during the Terminal Stage of each Game-Turn.

Players should note that although the various ships execute pre-planned missions sequentially during the course of a Game-Turn, all ship movement, combat and search activities are considered to be occurring simultaneously during the same period of time.

[3.0] GAME EQUIPMENT

[3.1] THE RULES MANUAL

The rules to _Upscope!_ are divided into Major Sections, which are generally arranged in the order in which they are used in a Game-Turn. Each Major Section is numbered with a whole number (e.g., 1.0, 2.0, 3.0, and so forth). Many of the Major Sections begin by explaining the General Rule, which is a simple statement of what that section covers, and they go on to give the details in the Cases. These Cases are numbered decimally as subdivisions of the number of the Major Section. For example, Cases 5.1, 5.2 and 5.3 are all parts of Major Section 5.0. In some instances, the Cases themselves are subdivided into Secondary Cases. For example, 5.1.1, 5.1.2, and 5.1.3 are all subdivisions of Case 5.1.

[3.2] THE GAME MAP

The game map is composed of two separate 34" x 22" blue mapsheets which have been designed so that they overlap each other when placed together either lengthwise or widthwise, to form the playing surface required for a particular Scenario. A numbered hexagonal grid pattern is printed on the game map to regulate movement and location of the playing pieces and to calculate ranges which affect Combat and Search procedures.

[3.3] GAME CHARTS AND TABLES

Various charts and tables are provided which organize required data into an easily retrievable form. These include the Ship and Weapon Data Summary, the Underwater Weapons Table, the Torpedo Combat Table, the Gunfire Combat Table, the Contemporaneous Combat Table, and the Damage Table, as well as the Command Track which contains a Game-Turn Record and are used to document the Movement, Combat, and/or Search activities assigned to each vessel which is participating in a given Scenario. Players should examine the charts and tables as they are referred to in the rules. The use of each chart is fully explained in the appropriate Rules section.

[3.4] COMMAND TRACKS

There are three Command Tracks used in _Upscope!_ Two are used in the non-contemporary game. The first is the Non-Contemporary Submarine Command Track, the second is the Non-Contemporary Escort Command Track, and third is the Contemporary Vessel Command Track (used by both the Submarine and Surface Player in the Contemporary game). For full explanation of the use of these tracks, see the appropriate rules Sections.

[3.5] THE PLAYING PIECES

The playing pieces (hereafter called "counters" and "markers") are colored, front and back printed, die-cut counters. They are divided into two general groups—_counters_, which are pieces representing individual ships, and _markers_, which are playing aids used for various functions in the course of a game. The ship counters are universally colored and may be used to represent ships of any nationality. Each ship counter bears a basic silhouette symbol, an identity number, and a one letter prefix which distinguishes the type of ship represented by the counter. There are four basic types of ship counters:

- **Capital ships** which represent aircraft carriers ("A" prefix), battleships ("B" prefix), or cruisers ("C" prefix).
- **Escorts** which represent destroyers, frigates or corvettes (all "E" prefix).
- **Convoy ships** which represent freighters ("F" prefix) or tankers or troopships ("T" prefix).
- **Submarines** ("S" prefix).

Players should note the fact that there are no game values printed on the ship counters. The ship and weapon data required to play the game must be extracted from the Ship and Weapon Data Summary and recorded on a Command Track Sheet prior to the first Game-Turn of the Scenario being played.
### 3.6 DEFINITION OF TERMS

**Vessel Type:** There are four basic types of vessels: Capital ships which represent aircraft carriers ("A" prefix), battleships ("B" prefix), or cruisers ("C" prefix); Escort vessels which represent destroyers, frigates or corvettes (all "E" prefixes); Convoy ships which represent freighters ("F" prefix) or tankers ("T" prefix); and Submarines ("S" prefix). All vessels except submarines are considered surface vessels. Each vessel which participates in a given Scenario is represented by a Ship counter bearing the appropriate alphabetical prefix immediately preceding the Identity Number printed on the ship counter. The I.D. Number is used to distinguish a particular vessel among other vessels of the same type.

**Vessel Class:** The Ship and Weapon Data Summary categorizes all Contemporary vessels and all non-contemporary Escorts and Submarines by class. The characteristics of a vessel are located according to the vessel's class in the data summary. For example, three historical German U-boats designated Type VIIC in the Scenario rules share the same characteristics which are located in the Ship and Weapon Data Summary under the German Submarine Class entitled Type VIIC.

**Maneuver Command:** During the Command Phase, each vessel is assigned a Maneuver Command which restricts the direction in which the ship may be moved during the current Game-Turn.

**Speed Command:** During the Command Decision Phase, each vessel is assigned a Speed Command which indicates the speed of the vessel at the start of the Command Phase. The Speed Command assigned to a vessel determines the total number of Movement Points the vessel must expend during the Command Execution Phase. This number is also called the vessel's Movement Allowance.

**Search Command:** During the Command Decision Phase, each eligible vessel may be assigned one or more Search Commands which indicate the type of equipment that the vessel is using to detect Enemy vessels during the current Game-Turn.

**Depth Level:** Each map sheet represents a three dimensional area of ocean containing a maximum of fifteen different Depth Levels. Each Depth Level represents approximately 120 feet beneath the ocean's surface except for Depth Level 0 (which actually represents the surface) and Depth Level 1 (which represents "periscope depth"). Only submarines may move at different Depth Levels. Surface vessels may never be at any Depth Level other than 0.

**Facing:** Each Ship counter must always be positioned so that the bow of the ship "faces" a specific hexside on the game map. During the Command Execution Phase, vessels may only enter a hex by moving across the hexside facing the bow of the vessel. To enter a hex other than the hex faced by the bow, the vessel must execute a turn.

**Detection:** At any time during the game, a vessel is either considered detected or undetected by one or more Enemy vessels. In general, a vessel may only attack an Enemy vessel which it has previously detected. When a submarine is undetected, it is not deployed on the map and its Maneuver, Combat and Search Commands are recorded in writing on the Command Track which functions as the submarine's logbook.

**Detection Value:** When executing certain Search Commands, a searching vessel is assigned a Detection Value which indicates the basic ability of its Detection equipment to locate and "fix the position" of previously undetected Enemy vessels.

**Evasion Value:** When an Enemy vessel executes certain Search Commands, Friendly vessels are assigned an Evasion Value. This value indicates the vessels' basic ability to avoid detection based on both the vessel's inherent characteristics and/or range, ocean and water conditions which aid the vessel's ability to evade detection.

**Efficiency Rating:** Each non-contemporary Escort and Submarine vessel is assigned an Efficiency Rating by the Scenario rules which indicates the relative quality of the vessel's crew. A vessel's Efficiency Rating may modify its effectiveness in executing various Combat and Search operations. The range of Efficiency Ratings includes "A" (superior), "B" (average) and "C" (inferior).

**Port:** A nautical term indicating the left side of a vessel looking from the vessel's stern tow ard its bow.

**Starboard:** A nautical term indicating the right side of a vessel looking from the vessel's stern toward its bow. Note that the I.D. Number is printed on the starboard side of each ship counter.

### 3.7 GAME SCALE

The same game components are used to play either Contemporary or non-Contemporary Scenarios; however, the game scale differs according to the era of the Scenario. During a Contemporary Scenario, each Game-Turn represents six minutes, and each map sheet represents a one-mile area of the ocean. During a non-Contemporary Scenario, each Game-Turn represents ninety seconds, and each map sheet represents approximately 220 yards from side to side.

### 3.8 INVENTORY OF GAME PARTS

A complete game of *Upscope* includes the following parts:

- One Rules Booklet, including 4 sheets each of three Command Tracks
- 2 identical pages of Charts and Tables
- 1 eight-page set of Ship and Weapon Data Summaries
- One countersheet containing 400 counters
- One plastic dice
- One Game Box/Coversheet Assembly

If any parts are missing or damaged, please write to:
Customer Service Simulations Publications Inc. 44 East 23rd Street New York, N.Y. 10010

Questions concerning the rules to *Upscope* that are phrased in such a way that they can be answered with a simple one-word answer will be answered if sent to the address above together with a stamped, self-addressed envelope. Mark your inquiry, "Upscope! Rules Questions."

### 4.0 SEQUENCE OF PLAY

**GENERAL RULE:**

*Upscope* features a variety of Scenarios or situations, each of which constitutes a distinct game. Players may choose any of the included Scenarios, or they may research and design additional Scenarios from the information provided in the
Ship and Weapon Data Summary. Each Scenario is played in a series of successive Game-Turns. Each Game-Turn is composed of four Stages: the Command Stage, Combat Stage, Search Stage, and Terminal Stage. Each of the first three Stages is composed of three Phases, and some of these Phases are composed of several sub-divisions known as Sections during the Stages of a Game-Turn, the Players maneuver their ships and resolve combat within the limits of the rules according to the Game-Turn outline that follows. The Players execute as many Game-Turns as the Scenario that they are playing specifies, at the end of which time the Victory Conditions are consulted, and a winner is determined.

Upset by utilities an unusual Sequence of Play in which the opposing Players perform certain functions simultaneously and other functions sequentially. Players should note that the standard Sequence of Play governs both historical and contemporary Scenarios, although minor differences in various procedures are distinguished by special rules oriented to reflect changes in doctrine and technology.

Note also that the opposing Players are hereafter referred to as either the Submarine Player (who controls all of the submarine ships and weapons) or the Surface Player (who controls all of the air and surface anti-submarine ships and weapons).

A. COMMAND STAGE

1. Command Decision Phase: During this Phase, the opposing Players simultaneously and secretly determine and record the Movement and Search operations which each of the ships currently in play will execute during the remainder of the current Game-Turn. The manner in which ships’ commands are recorded is fully explained in the Command Rules (see Section 5.0). At the end of this Phase, after all ships’ commands have been recorded, the Movement Command markers for every ship on the map are revealed by placing the markers face-up and on top of the ship counters.

2. Combat Decision Phase: During this Phase, the opposing Players simultaneously and secretly determine and record the Combat operations which each of the ships currently in play will execute during the Combat Stage of the current Game-Turn. The manner in which Combat commands are recorded is fully explained in the Command Rules (see Section 5.0). At the end of this Phase, after all Combat commands have been recorded, each Player must verbally notify his opponent if he is planning to execute any type of Combat during the Combat Stage of the current Game-Turn.

3. Command Execution Phase: This Phase is subdivided into three Segments which proceed as follows:
   a. Air Phase: During this Segment, the Surface Player may launch ship-born aircraft and may move land or ship based aircraft according to the restrictions of the Aircraft Rules (see Section 9.0).
   b. Surface Segment: During this Segment, the Surface Player executes the Movement commands of each surface vessel according to the restrictions of the Command and Movement Rules (see Sections 5.0 and 6.0).
   c. Submarine Segment: During this Segment, the Submarine Player executes the Movement commands of each submarine vessel according to the restrictions of the Command and Movement Rules (see Sections 5.0 and 6.0).

B. COMBAT STAGE

1. Air Phase: During this Phase, the Surface Player executes all anti-submarine attacks launched by aircraft according to the restrictions of the Combat and Aircraft Rules (see Sections 7.0 and 9.0).

2. Surface Phase: During this Phase, the Surface Player executes all anti-submarine attacks launched by surface vessels according to each ship’s Combat commands and within the restrictions of the Combat Rules (see Section 7.0).

3. Submarine Phase: During this Phase, the Submarine Player executes all anti-surface attacks launched by submarine vessels according to each ship’s Combat commands and within the restrictions of the Combat Rules (see Section 7.0).

C. SEARCH STAGE

1. Air Phase: This Phase is subdivided into two Segments which proceed as follows:
   a. Surface Detection Segment: During this Segment, the Surface Player attempts to detect submarine vessels using the surface detection capabilities of each aircraft according to the restrictions of the Search Rules (see Section 8.0).
   b. Underwater Detection Segment: During this Segment, the Surface Player attempts to detect submerged submarine vessels using the underwater detection capabilities of each aircraft according to the restrictions of the Search Rules (see Section 8.0).

2. Surface Phase: This Phase is subdivided into two Segments which proceed as follows:
   a. Surface Detection Segment: During this Segment, the Surface Player attempts to detect submerged submarine vessels using the surface detection capabilities of each surface vessel according to the restrictions of the Search Rules (see Section 8.0).
   b. Underwater Detection Segment: During this Segment, the Surface Player attempts to detect submerged submarines using the underwater detection capabilities of each surface vessel according to the restrictions of the Search Rules (see Section 8.0).

3. Submarine Phase: This Phase is subdivided into two Segments which proceed as follows:
   a. Surface Detection Segment: During this Segment, the Submarine Player attempts to detect surface vessels using the surface detection capabilities of each submarine according to the restrictions of the Search Rules (see Section 8.0).
   b. Underwater Detection Segment: During this Segment, the Submarine Player attempts to detect submerged Enemy submarines according to the restrictions of the Search Rules (see Section 8.0).

4. Victory Determination Phase: During this Phase, each Player determines whether the special conditions for ending the Scenario prematurely have been fulfilled. If these conditions have been fulfilled, the Scenario ends immediately and the victor is determined in accordance with the Scenario Victory Conditions.

D. TERMINAL STAGE

1. Marker Removal Phase: During this Phase, all Command, Speed, Search, Starshell, Disturbed Water, and Underwater Weapons markers are removed from the map along with all submarine and torpedo counter which were not detected during the Search Stage of the current Game-Turn.

2. Reinforcement Phase: During this Phase, each Player determines whether he will receive additional vessels and/or aircraft in accordance with the special rules governing the Scenario being played.

3. Victory Determination Phase: During this Phase, each Player determines whether the special conditions for ending the Scenario prematurely have been fulfilled. If these conditions have been fulfilled, the Scenario ends immediately and the victor is determined in accordance with the Scenario Victory Conditions.

[5.0] COMMAND GENERAL RULE:

During the Command Stage of each Game-Turn, each Player must simultaneously and record the Movement, Search, Combat, and Command operations which each ship will execute during the appropriate Phase or Segment of the current Game-Turn. The manner in which a given ship’s commands are recorded may involve the use of various markers and or written notations plotted for each individual ship on the Command Track. Command requirements differ according to the type of ship and the chronological time period portrayed by the Scenario being played. These distinctions are fully explained in the following Cases.

C. SEARCH STAGE

1. Order Decision Phase: During the Command Decision Phase, the opposing Players must simultaneously and secretly determine and record the Movement and Search operations which each of the ships currently in play will execute during the remainder of the current Game-Turn.

2. Surface Phase: The Surface Player records the commands of each Escort vessel separately by choosing one Maneuver marker, one Speed marker, and one Search marker for each Escort and placing these markers face-up but underneat the Escort so that this information is temporarily hidden from the Submarine Player. If the Surface Player also has one or more Carrier Submarine ships in play, all such ships will execute the same command as determined by the Surface Player and records this command by choosing one Maneuver marker and one Speed marker and places these markers underneath any one of the non-Escort vessels currently in play.

Note: In all non-contemporary Scenarios, each ship must be assigned both a Maneuver marker and a Speed marker during the Command Decision Phase. In contemporary Scenarios, ships require only Speed markers; no Maneuver markers are used. Note also that Search markers are never assigned to Capital or Convoy ships.

3. Submarine Phase: During the Command Decision Phase, the Submarine Player must simultaneously determine the Movement and Search commands for each submarine, but the manner in which the recorded given Submarine’s commands depends upon whether or not that submarine is currently on the map in a face-up mode. For each submarine which is on the map in a face-up mode, the Submarine Player chooses one Maneuver marker, one Speed marker, and one Search marker and places these markers face-up underneath the submarine so that this information is temporarily hidden from the Surface Player.

Note: In all non-contemporary Scenarios, each face-up submarine which is on the map must be assigned both a Maneuver marker and a Speed marker, but not a Search marker. In contemporary Scenarios, each face-up submarine is assigned a Speed marker and a Search marker but not a Maneuver marker. No markers are used to record the commands of a face-down submarine or a submarine which is not deployed on the map during the Command Decision Phase (see Case 5.13).

4. Command Decision Phase: During the Command Decision Phase, for every submarine which is currently in play including those currently on the map and any which are not currently on the map because they are current undetected by the Surface Player, the Submarine Player must record all of the following Command information for each submarine on each individual submarine’s Command Track:
A. Maneuver
B. Depth
C. Facing
D. Speed
E. Location

Note: All of this Command information must be recorded for each submarine when playing a non-contemporary Scenario. In contemporary Scenarios, the concepts of Maneuver, Depth, and Facing are completely deleted from the game; however, the Submarine Player must additionally record:

F. Search

The procedure for recording Command information on a submarine’s Command Track is fully explained in Cases 5.4 and 5.5.

[5.14] At the end of the Command Decision Phase, after all Movement and Search commands have been recorded, the Command markers for each ship on the map are simultaneously revealed by placing these markers face-up and on top of their assigned ship counter.

Note: The Command information which is recorded on the Submarine Command Tracks is not revealed, although the Command markers assigned to submarines which are presently on the map must be revealed at the end of the Command Decision Phase.

[5.2] COMBAT DECISION PHASE

PROCEDURES

During the Combat Decision Phase, the opposing Players simultaneously and secretly determine and record the Combat operations (or missions) which each of the ships currently in play will execute during the current Game-Turn.

[5.21] During a contemporary Scenario, all Combat missions are recorded in writing on the Command Track which corresponds to the ship executing the mission. Each weapon type carried by a contemporary ship is allocated a separate mission notation column on the Contemporary Ship Command Track. During the Combat Decision Phase, the Player simply plots the Identity Code of the target vessel in the mission notation column of the weapon type he wishes to employ.

Example: On Game-Turn 3, the Surface Player wishes his E1 Escort vessel (representing a U.S. destroyer) to launch an Asroc attack on an Enemy submarine bearing the Identity Code “S3.” He simply notes the mission by writing “S3” opposite Game-Turn 3, under the Weapon Number he had chosen to represent Asroc on the Command Track corresponding to his E1 Escort vessel.

Note: A contemporary ship may only plot a Combat mission against an Enemy ship which it detected during the Search Stage of the previous Game-Turn (see Case 8.1).

[5.22] During a non-contemporary Scenario, all anti-submarine Combat missions employing either Depth Charges or Heavy Thrown Weapons (ATW) must be recorded in writing on the Command Track which corresponds to the Escort vessel executing the mission. The Command Track for a non-contemporary surface ship contains an Underwater Weapons Record (UWR) which is used to record all Depth Charge and ATW Combat missions. The numbers printed horizontally across the top of the UWR represent each Movement Point expended by the corresponding Escort during a given Game-Turn (indicated by the Game-Turn number printed at the extreme left of the UWR). During the Combat Decision Phase, the Surface Player must first determine the path of movement a given Escort will execute during the ensuing Command Execution Phase. If he then desires this Escort to execute any Depth Charge or ATW attacks during the current Game-Turn, he must record the appropriate information under the Movement Point number which represents exactly when and where the Escort will execute these attacks during the Command Execution Phase. The manner in which an Underwater Weapon mission is recorded is as follows:

A. Each Escort Vessel may drop one or more Depth Charge patterns during the Command Execution Phase according to the restrictions of Case 7.1. During this phase, the Surface Player records a Depth Charge attack by writing the Depth Charge Pattern Number and the Depth Level at which the pattern will be detonated under the Movement Point corresponding to the time and place where the Escort will drop the pattern during the Command Execution Phase.

Example: On Game-Turn 3 the Surface Player wishes to drop Pattern #5 (representing 5 depth charges) in a hex which Escort 1 will enter upon expending its first Movement Point, and he wishes to detonate this pattern at Depth Level 2. He records this attack by making the following notation, “$/2!” which is plotted opposite Game-Turn 3, under Movement Point 1 on the Underwater Weapons Record of Escort 1.

B. Each Escort Vessel may be equipped with one type of Heavy Thrown Weapon (ATW) — either Hedgehog, Mousetrap, or Squid — according to the restrictions of the Ship and Weapon Data Summary and the historical date of the Scenario. The Surface Player records an ATW attack by noting the first letter of the employed weapon opposite the Game-Turn number and under the Movement Point corresponding to the time and place where the Escort will launch the ATW attack during the Command Execution Phase. If Squid is employed, the Surface Player must designate the detonation Depth Level exactly as a Depth Charge attack is recorded. No detonation Depth Level is recorded for either Hedgehog or Mousetrap attacks (due to the fact that these weapons are designed to explode on contact with a submerged target rather than at a pre-set depth).

Note: Unlike a depth charge attack which is executed in the hex occupied by the attacking vessel at the time and place assigned by the indicated Movement Point, an ATW attack is executed in the hex directly in front of the attacking vessel at the time and place the vessel expended the indicated Movement Point (see Case 7.12B).

C. The Command Track for a non-contemporary surface ship contains an Underwater Weapons Inventory (UWI) directly under the Underwater Weapons Record. During the Combat Decision Phase, as each Underwater Weapon attack is recorded on the UWR, the Surface Player should note the expenditure of various weapons by checking the appropriate boxes on the Underwater Weapons Inventory. Depth Charge expenditure is determined by the Pattern Number of each attack (i.e., one Pattern #5 attack represents the expenditure of five depth charges) except in the case of Pattern L, which represents one extra large depth charge which is separately denoted on the Underwater Weapons Inventory. ATW weapons are expended at the rate of one for each ATW attack.

Note: An Escort vessel never carries more than one Pattern L and may make only one Pattern L attack per game.

[5.23] During a non-contemporary Scenario, all submarine combat missions employing Torpedoes must be recorded in writing on the Command Track which corresponds to the submarine executing the mission. The Command Track for each non-contemporary submarine contains a Torpedo Combat Record (TCR) which is used to record all Torpedo Combat missions. At the extreme left of the Torpedo Combat Record are the abbreviations “B1” to “B8” and “S1” to “S4” representing up to eight tracks in stern torpedo tubes. To the right of each torpedo tube are four narrow notation columns labeled: “Launch, Speed, Range and Maneuver” and a wider fifth column which is used to record the Identity Number of the Torpedo counter representing the actual torpedo and indicating its power source (steam or electric), trigger type (magnetic or contact), and special steering or guidance capabilities (homing or zig-zag). During the Combat Decision Phase, the Submarine Player must determine which submarines will execute torpedo attacks during the current Game-Turn. A given submarine may execute one torpedo attack from each loaded torpedo tube during Single Game-Turn or torpedo tubes from several tubes (aboard the same vessel) may be combined into a single spread attack. The manner in which torpedo attacks are recorded is as follows:

A. The current Game-Turn number is recorded in the Launch notation column of the Torpedo Combat Record opposite the torpedo tube which is executing the attack.

B. The Submarine Player chooses one of the speed settings available to the type of torpedo being employed (from the Torpedo Statistics section of the Ship and Weapon Data Summary) and records this number in the Speed notation column of the Torpedo Combat Record.

C. The Submarine Player chooses one of the range settings available for the type of torpedo being employed (also from the Ship and Weapon Data Summary) and records this number in the Range notation column of the Torpedo Combat Record.

D. The Submarine Player chooses one of seven possible maneuver settings as prescribed below and records the appropriate abbreviation in the Maneuver notation column of the Torpedo Combat Record:

<table>
<thead>
<tr>
<th>Maneuver</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hard Port</td>
<td>HP</td>
</tr>
<tr>
<td>Hard Starboard</td>
<td>HS</td>
</tr>
<tr>
<td>Port 60</td>
<td>P6</td>
</tr>
<tr>
<td>Starboard 60</td>
<td>S6</td>
</tr>
<tr>
<td>Port 30</td>
<td>P3</td>
</tr>
<tr>
<td>Starboard 30</td>
<td>S3</td>
</tr>
<tr>
<td>Steady Course</td>
<td></td>
</tr>
</tbody>
</table>

Note: No abbreviation (or simply a dash) is used to denote a Steady Course maneuver. Players should refer to Case 7.22 for the explanation of how torpedoes execute an assigned maneuver.

E. The Submarine Player chooses one Torpedo counter which represents the type of torpedo being employed and records the Identity Number of this Torpedo counter in the final notation column of the Torpedo Combat Record.

F. Torpedos fired from the same vessel, on the same Game-Turn, and which are assigned the same spread, range, and maneuver may be combined in what is called a “spread attack.” Each torpedo tube which is firing part of a spread attack is assigned the Identity Number of the same Torpedo counter which will be used to represent a number of torpedoes rather than a single weapon (see Case 7.221). Note: Bow and Stern tubes may not be combined into a spread attack.

G. When torpedoes are fired in a spread, the Submarine Player must determine and record whether the spread is narrow or standard spaced. If a narrow spread is desired, the letter “N” should be recorded next to the Identity Number of the Torpedo counter in the final notation column of the Torpedo Combat Record. No record is required if the spread is standard spaced.
H. All notations made on the Torpedo Combat Record should be made in pencil if the Players are using the Optional Torpedo Reloading Rule (see Case 7.28).

I. A submarine may only initiate Torpedo Combat missions if it is at Depth Level 0 or 1 during the Combat Decision Phase. A submarine may not be assigned to execute Torpedo Combat missions if it is at a Depth Level greater than Depth Level 1 during the Combat Decision Phase (Exception: see J below).

J. The Ship and Weapon Data Summary indicates the Availability Date on which submarines of various nations were equipped with Sonar equipment. A sonar equipped submarine may be assigned a Torpedo Combat mission while operating at Depth Level 2; however, the die roll used to resolve unsonar-guided attacks is always increased by two in addition to all other modifications (see Case 7.24).

K. The Submarine Player may, if he so desires, delay the launching of a given Torpedo Combat mission for a pre-determined time period during the Game-Turn in which the mission is launched by recording any number less than the Speed setting of the mission next to the Game-Turn number in the Launch notation column of the Torpedo Combat Record. During the Game-Turn in which a delayed mission is launched, the delay number is subtracted from the Speed setting to determine the Movement Allowance the torpedo(s) possesses during the Launch Game-Turn (only). Note that delayed torpedos are always considered to be moving at the assigned Speed setting, but their Movement is retarded during the Launch Game-Turn due to the delayed launching of the mission.

[5.4] MOVEMENT COMMANDS

During the Command Decision Phase, the opposing Players simultaneously and secretly determine and record the Movement commands for each ship which is currently in play. The Movement commands for each surface ship and each submarine which is currently face-up on the map are denoted by placing a Maneuver marker and/or a Speed marker directly underneath each ship counter. At the end of the Command Decision Phase, these Command markers are simultaneously revealed by replacing the markers face-up and on top of the ship counters at which time the markers may be freely examined by the opposing Players. The Movement commands for all submarines which are currently in play are recorded in writing on the submarine Command Tracks where in addition to Maneuver and Speed, a notation is made indicating the submarine's Depth, Facing, and map sheet location, all of which will describe a given submarine's exact position and orientation at the end of the Command Execution Phase of the current Game-Turn. Note that when playing a contemporary Scenario, no Maneuver, Depth or Facing commands are used or required.

[5.41] Maneuver commands are used to indicate the direction in which a given ship will be moved during the Command Execution Phase. There are a total of seven different Maneuver commands any one of which may be assigned to a ship during the Command Decision Phase. Each Maneuver command is represented by a marker or by an abbreviation which is written in the appropriate column of the ship's Command Track, as indicated below.

<table>
<thead>
<tr>
<th>Maneuver</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hard Port</td>
<td>HP</td>
</tr>
<tr>
<td>Hard Starboard</td>
<td>HS</td>
</tr>
<tr>
<td>Port 60</td>
<td>P6</td>
</tr>
<tr>
<td>Starboard 60</td>
<td>S6</td>
</tr>
<tr>
<td>Port 30</td>
<td>P3</td>
</tr>
<tr>
<td>Starboard 30</td>
<td>S3</td>
</tr>
<tr>
<td>Steady Course</td>
<td></td>
</tr>
</tbody>
</table>

Note: No marker or abbreviation is used to denote a Steady Course command.

[5.42] Speed commands are used to indicate the speed at which a given ship will move during the Command Execution Phase. This rate is measured in Movement Points ranging from a minimum of zero Movement Points to a maximum of eight Movement Points. During the Command Decision Phase, each ship is assigned a Speed command by use of the appropriate numerical Speed marker or by writing the ship's speed in the appropriate column of the ship's Command Track. No marker is used to denote a speed of zero although the written notation "0" is used on a ship's Command Track. Note that a ship's Speed command may never exceed its maximum speed indicated for that ship in the Ship and Weapon Data Summary. Players should refer to the Movement Rules for additional information on how Movement commands are executed during the Command Decision Phase.

[5.43] During the Command Decision Phase of a non-contemporary Scenario, the Submarine Player is required to record the Depth which each submarine will occupy at the end of the Command Execution Phase. This is always noted in the appropriate column of the submarine's Command Track. There are a total of eleven Depth Levels ranging from Depth Level 0 (which represents the surface of the ocean) to a Depth Level 10 which represents a maximum depth of 1000 feet. Each ship level represents approximately 120 feet except for the first two levels, which represent the surface and periscope depth (down to 60 feet) respectively. Note that the Depth Level assigned to a given submarine during the Command Decision Phase represents the Depth that submarine will occupy during and at the conclusion of the Command Execution Phase of the same Game-Turn. Players should refer to Case 6.4 for additional details on Depth restrictions.

[5.44] During the Command Decision Phase of a non-contemporary Scenario, the Submarine Player is required to record the Facing (or orientation) of each submarine at the end of the Command Execution Phase of the current Game-Turn. The Submarine Player determines this by visualizing the result of each submarine's Movement commands and determining in which direction the bow (or front) of the submarine will face after executing the entire Movement command. This direction must be compared to the compass rose printed on the map sheet and the submarine's Facing is noted as one of the six abbreviated compass directions: E = East, W = West, NE = Northeast, NW = Northwest, SE = Southeast, SW = Southwest.

[5.45] During the Command Decision Phase of all Scenarios, the Submarine Player is required to record the direction in which each submarine will occupy at the end of the Command Execution Phase. He determines this in the same manner as for Facing; however, the notation he makes on the Submarine's Command Track indicates the Hex Number of the submarine's final Location (and an identifying code distinguishing which map sheet if the Scenario requires the use of more than one map sheet).

[5.5] SEARCH COMMANDS

During the Command Decision Phase, the opposing Players simultaneously and secretly determine and record the Search commands for each ship which is currently in play. The Search commands for each surface ship and each submarine which is currently face-up on the map are denoted by placing a Search marker directly underneath each ship counter. The Search commands for all submarines which are currently in play are always also recorded in writing on the submarine Command Tracks. At the end of the Command Decision Phase, all Command markers are simultaneously revealed. Note that when playing a non-contemporary Scenario, only Port and Starboard Search commands are utilized and such commands are only assigned to Surface or Escort vessels; submarines and other types of surface ships are never assigned Search commands during non-contemporary Scenarios. In contemporary Scenarios, only Active and Passive Search commands are utilized and either or both Search commands may be assigned to a given ship according to that ship's capacities as indicated in the Ship and Weapon Data Summary (see Section 12.0).

[6.0] SHIP MOVEMENT

GENERAL RULE:

During the appropriate Segment of the Command Execution Phase each Player executes the Movement commands of each ship according to the restrictions of the Command and Movement Rules. Ships are moved individually in any order the Owning Player desires. Undetected submarines are not placed or moved on the map, but are considered to automatically execute their assigned Movement commands. Aircraft are moved according to the restrictions of Case 9.12 Contact markers which may or may not represent real submarines, are moved according to the restrictions of Case 8.25.

Note: In non-contemporary Scenarios, if either Player announced his intention to execute any Combat during the Combat Decision Phase, the opposing Player is required to indicate the path of Movement of each ship moving on the map by placing numerical Speed markers in each hex which documents the Movement of the ship expanded in the hex. Of course, Convoy ships executing the same Movement commands are only required to indicate one ship's path of Movement with each ship in the Convoy duplicating that path at various locations on the map. Similarly, this procedure is greatly simplified if the Players informs his opponent as to which ships he is incapable of attacking in which case no documentation is made for such ships. The purpose of Movement documentation is to ensure a means of determining if weapons launched during either the Combat Decision or Command Execution Phase intercept a ship at the same instant both the ship and the weapon are present. This is always noted in the appropriate column of the submarine's Command Track. There are a total of eleven Depth Levels ranging from Depth Level 0 (which represents the surface of the ocean) to a Depth Level 10 which represents a maximum depth of 1000 feet. Each ship level represents approximately 120 feet except for the first two levels, which represent the surface and periscope depth (down to 60 feet) respectively. Note that the Depth Level assigned to a given submarine during the Command Decision Phase represents the Depth that submarine will occupy during and at the conclusion of the Command Execution Phase of the same Game-Turn. Players should refer to Case 6.4 for additional details on Depth restrictions.

[6.1] BASIC RESTRICTIONS OF SHIP MOVEMENT

[6.11] During the appropriate Segment of the Command Decision Phase, each ship must execute
the Movement Command assigned to it during the Command Decision Phase. In executing a given ship's Movement commands, the Player is restricted by the ship's Maneuver and/or Speed commands as well as the ship's Turning Radius as defined in the Ship and Weapon Data Summary.

[6.12] The Maneuver Command assigned to a ship restricts the direction in which that ship may be moved during the Command Execution Phase. Note that Maneuver commands are not used in non-contemporary Scenarios.

[6.13] The Speed Command assigned to a ship indicates the rate of speed at which that ship is considered to be moving during the Command Execution Phase. In addition, a ship's Speed command indicates the exact number of Movement Points that ship must expend during the Command Execution Phase. Basically, a ship spends one Movement Point for each hex it enters during the Command Execution Phase.

[6.14] The Turning Radius of a ship determines its ability to turn within a given hex. Basically, a ship spends one Movement Point to turn one hexide while its Turning Radius determines the maximum number of hexides it may turn within a given hex. Note, however, that in a contemporary Scenario a ship is not assigned a Turn Radius and may freely turn in any desired direction.

[6.15] In non-contemporary Scenarios, all ships are subject to Facing restrictions which require that the ship's bow points to a specific hexide. In non-contemporary Scenarios, Facing affects Movement, Combat and Search. There are no Facing requirements or effects for contemporary Scenarios.

[6.16] In non-contemporary Scenarios, all submarines are considered to move in three dimensions including that of depth on or below the surface of the ocean. In contemporary Scenarios, all submarines are considered to always operate beneath the surface; however, no record of this is maintained, and submarine depth has no effect on play.

[6.17] During the Command Execution Phase, if two or more ships occupy the same hex, a collision may result (see Case 7.4).

[6.2] HOW SHIPS EXECUTE MANEUVER COMMANDS

[6.21] A ship or submarine which executes a Steady Course command must expend its full Movement Allowance moving in the direction the ship's bow faces at the start of the Command Execution Phase.

[6.22] A surface ship which executes a Port 30 or Starboard 30 command must turn one hexide in the assigned direction during the Command Execution Phase and must end the Phase facing identically to its orientation at the start of the Command Execution Phase if at all possible (i.e., the ship may not end the Phase facing any other direction if it can avoid doing so by expending its Movement Allowance in a different manner or sequence).

[6.23] A surface ship which executes a Port 60 or Starboard 60 command must turn one hexide in the assigned direction during the Command Execution Phase and must end the Phase facing in this exact direction (i.e., sixty degrees to port or starboard of the ship's original facing).

[6.24] A surface ship which executes a Hard Port or Hard Starboard command must turn two hexides in the assigned direction during the Command Execution Phase and must end the Phase facing in the assigned direction and 120 degrees to port or starboard of the ship's original facing.

[6.25] A submarine moving on the surface (i.e., at Depth Level 0) executes Maneuver commands in the same manner as a surface ship.

[6.26] A submerged submarine (Depth Level 1 or greater) which executes a Port 30 or Starboard 30 command must expend its first Movement Point as though executing a Steady Course command; it must then expend its second Movement Point turning one hexide (60 degrees) in the assigned direction and must end its Movement facing in this direction.

[6.27] A submerged submarine which executes a Hard Port or Hard Starboard command must expend its first Movement Point turning one hexide (60 degrees) in the assigned direction; it must then expend its second Movement Point turning one additional hexide in the assigned direction and it must end its Movement facing in this direction.

[6.28] A submerged submarine which executes a Hard Port or Hard Starboard command must expend its first Movement Point turning one hexide (60 degrees) in the assigned direction; it must then expend its second Movement Point turning one additional hexide in the assigned direction and it must end its Movement facing in this direction.

[6.29] In non-contemporary Scenarios, each ship is assigned a Turn Radius which determines its ability to turn within a given hex. All submarines possess an "A" Turn Radius. All Escort vessels possess a "B" Turn Radius. All other surface ships possess a "C" Turn Radius. The manner in which a ship executes its Maneuver command is affected by the ship's Turn Radius as explained in the following:

A. A ship which possesses an "A" Turn Radius may turn a maximum of two hexides (120 degrees) in any hex it occupies during the Command Execution Phase.

B. A ship which possesses a "B" Turn Radius may turn a maximum of one hexide (60 degrees) in any hex it occupies during the Command Execution Phase.

C. A ship which possesses a "C" Turn Radius may turn a maximum of one hexide (60 degrees) in any hex it occupies during the Command Execution Phase, however, it may not turn in two consecutive hexes unless it is moving at a speed of three or less.

D. Regardless of its Maneuver, Turn Radius, or Speed, no ship may turn more than two hexides (120 degrees) during a single Command Execution Phase.

[6.3] HOW SHIPS EXECUTE SPEED COMMANDS

[6.31] The Speed command assigned to a ship determines the total number of Movement Points the ship must expend during the Command Execution Phase. This total is also called the ship's Movement Allowance. A ship may never expend more or fewer Movement Points than its total Movement Allowance during the Command Execution Phase.

[6.32] The minimum Movement Allowance which a ship may be assigned is zero Movement Points. A ship which possesses this Movement Allowance must remain stationary during the Command Execution Phase. Any ship in any Scenario may be assigned a Movement Allowance of zero with one exception: during a non-contemporary Scenario, a submerged submarine may be assigned a Movement Allowance of zero only if it begins and ends the Command Execution Phase at the same Depth Level as the ocean bottom (as determined in the Non-Contemporary Scenario rules).

[6.33] The maximum Movement Allowance which a ship may be assigned is limited to the Maximum Speed indicated for that type of ship in the Ship and Weapon Data Summary. Note that in non-contemporary Scenarios, submarines possess two Maximum Speeds: one for operating on the surface and another for operating submerged. A submarine may only be assigned its Maximum Surface Speed if it remains at Depth Level 0 throughout the Command Execution Phase.

[6.34] During the Command Stage of a contemporary Scenario, a ship may be assigned any Speed command equal to or less than the Maximum Speed the ship is capable of. During the Command Stage of a non-contemporary Scenario, the Speed Command assigned to a ship may increase or decrease that ship's Movement Allowance by a maximum of one Movement Point greater or less than the ship's Movement Allowance for the previous Game-Turn.

[6.35] The maximum speed of a ship may be involuntarily and permanently reduced as a result of damage inflicted by Combat (see Case 7.51).

[6.36] A ship spends one Movement Point for each hex it enters during the Command Execution Phase. In addition, during a non-contemporary Scenario, a ship spends one Movement Point for each hexide it turns toward during the Command Execution Phase. Thus, a surface ship which executes a Hard Port or Hard Starboard command spends two Movement Points to turn 120 degrees in addition to one Movement Point expended for each and every hex it enters during the Phase. During a contemporary Scenario, a ship spends one Movement Point for each hex it enters; however, a ship may turn as far as the Player desires, and no additional Movement Points are expended for turns executed during a contemporary Scenario.

[6.4] HOW SUBMARINES EXECUTE DEPTH COMMANDS

[6.41] The Depth Level assigned to a given submarine during the Command Decision Phase represents the Depth that submarine will occupy during and at the conclusion of the Command Execution Phase of the same Game-Turn. Thus, a submarine which is assigned a Depth Level of 2 during the Command Decision Phase of the second Game-Turn will be considered to occupy that Depth Level from the start of the Command Execution Phase of Game-Turn 2 until the start of the next Command Execution Phase on Game-Turn 3. Notice, however, that during the Combat Decision Phase, a submarine is considered to be at the Depth Level assigned during the Command Decision Phase of the preceding Game-Turn. Thus, a submarine which begins the Command Stage at Depth Level 1 may fire torpedoes and dive to Depth Level 2 during the same Game-Turn.

[6.42] A submarine may never voluntarily increase or decrease depth by more than one Depth Level in a single Game-Turn.

[6.43] A submarine does not expend Movement Points to change depth.

[6.44] Each type of submarine has a Maximum Safe Depth (MSD) rating indicated in the Ship and Weapon Data Summary. A submarine's MSD rating indicates the maximum Depth Level to which the submarine may dive without risking any possibility of damage. If a submarine is deeper than its MSD during the Terminal Stage of any Game-Turn, the Submarine Player must immediately determine if it suffers damage by rolling the die and consulting the Damage Table (see Case 7.52). In resolving the possibility of damage, the Submarine Player determines the depth of the submarine and then subtracts the submarine's MSD rating from this Depth Level number. The result is located on the Effectiveness Line of the Damage Table. The Submarine Player then rolls the die and locates the result under the appropriate Effec-
tiveness number. The numerical result achieved by this procedure represents the number of Durability Points which are immediately deducted from the submarine's Durability Track.

Note: The Submarine Player resolves this procedure secretly without informing his opponent of any information concerning the submarine's position, depth, or durability.

[6.45] The MSD rating of a submarine is reduced by one for every Durability Point the submarine loses as a result of damage due to either excess depth or combat.

[6.46] For each Scenario, the depth of the ocean floor is indicated. The Depth Level of the ocean bottom is the maximum depth a submarine may operate at. A submarine may never be assigned a Speed command of zero unless it is operating at Depth Level 0 or at the Depth Level of the ocean bottom.

Note: In certain Scenarios, the Depth Level of the ocean bottom exceeds 1140 feet and is therefore referred to as "unlimited."

[6.47] No Depth commands or restrictions are used when playing a contemporary Scenario.

[6.5] HOW FACING AFFECTS SHIP MOVEMENT

[6.51] Each ship counter must always be positioned so that the bow of the ship points to a specific hexidec.

[6.52] During the Command Execution Phase, a ship may only enter a hex by moving across the hexidec facing the bow of the ship. To enter a hex other than the hex facing the ship's bow, the ship must execute a turn (see Case 6.2).

[6.43] Facing is ignored when playing a contemporary Scenario.

[7.0] COMBAT

GENERAL RULE:

During the Combat Decision Phase, the opposing Players simultaneously and secretly determine and record the Combat missions which each of the ships currently in play will execute during the Combat Stage of the Game-Turn (see Section 5.2). At the end of the Combat Decision Phase, each Player must verbally notify his opponent if he is planning to execute any type of Combat during the current Game-Turn. If neither Player intends to execute an attack, the Combat Stage is deleted during the current Game-Turn. All Combat missions are considered to be executed during the Command Execution Phase; however, each mission is resolved during the appropriate Phase of the Combat Stage. There are four distinct types of Combat: Underwater Weapon Combat, Torpedo Combat, Gunny Combat, and Contemporary Combat (which is the only type used during a contemporary Scenario). Each type of Combat is executed and resolved differently as explained in the following cases.

Players should note that although the various ships execute pre-planned missions sequentially during the course of a Game-Turn, all ship movement and combat activities are considered to be occurring simultaneously during the same period of time. This concept by the Ships is particularly important to appreciate when playing a non-contemporary Scenario because although all combat is resolved after ships have been moved, each Player must attempt to deliver his attacks at a given instant during the Command Execution Phase in order to contact an Enemy target vessel with either Torpedo or Underwater weapons. When it is verified that a weapon intercepted a target vessel within a given hex during the vessel's movement, the probability of the weapon contacting the vessels is resolved using the appropriate Combat Table while the effect of a weapon/target contact is obtained from a separate Damage Table. Note that Gunny and Contemporary Combat are not subject to the restrictions implied above.

CASES:

[7.1] UNDERWATER WEAPONS

Underwater weapons are anti-submarine weapons which may only be employed by Escort vessel during a non-contemporary or non-ATW mission. There are two types of underwater weapons: Depth Charges (DC) and Air-Thrown Weapons (ATW). The Depth Charge, a high explosive weapon designed to automatically detonate at a preset depth, was generally launched or dropped from the side or stern of an anti-submarine vessel as it travelled directly over a submerged Enemy submarine. Because the chance of a direct hit was small, depth charges were generally dropped in groups or patterns which increased the probability of either a hit or a near miss which might prove lethal to the submarine. During World War II, a variety of new underwater weapons were developed which enabled an Escort to execute a depth charge attack prior to passing over the submarine at which point the Escort's underwater detection equipment would lose contact with the target. In addition, these ahread thrown weapons were generally designed to detonate only on contact with the target, thus lessening the likelihood of one exploding disturbing the water — another condition which hindered underwater detection.

[7.11] UNDERWATER WEAPON Capabilities

For each type of Escort vessel listed in the Ship and Weapon Data Summary, three Underwater weapon statistics are indicated; the total number of depth charges carried by the vessel, the range of DC patterns the Escort is capable of utilizing, and, finally, the ATW equipment representing either Hedgehog (H), Mousetrap (M), or Squid (S). All of this information should be recorded on the Escort's Command Track at the start of the Scenario according to the explanation provided in Section 11.0. In recording and utilizing this data, Players should refer to the following supplementary notes:

A. Unless contradicted by the Scenario rules, each Escort vessel is considered fully stocked with depth charges at the start of a Scenario.

B. There are a maximum of four different DC patterns which are designated "L", "2", "4", and "S". Pattern L represents one large depth charge which is distinctly indicated on the Underwater Weapons Inventory (see Case 5.22 C). The number assigned to the other three patterns represents the number of standard individual depth charges expended in the pattern (e.g., Pattern 2 represents two DCs).

C. The Ship and Weapon Data Summary indicates which DC patterns may be utilized by a given type of Escort vessel. For example, an Escort assigned patterns 2, 4, and 5 never uses Pattern L.

D. An Escort vessel which is capable of using Pattern L may only use this pattern once during the entire game. Pattern L may be used in conjunction with any other DC pattern or ATW.

E. An Escort vessel may use a maximum of two Pattern 2 attacks, or one Pattern 4 attack, or one Pattern 5 attack, during a given Game-Turn according to the restrictions of (C) above (Exception: see F).

F. If an Escort's assigned patterns are followed by the "X2" symbol in the Ship and Weapon Data Summary, the Escort may use a maximum of four Pattern 2 attacks, or two Pattern 4 attacks, or two Pattern 5 attacks, during a given Game-Turn.

G. The Ship and Weapon Data Summary indicates the type of ATW equipment available to a given type of Escort vessel. However, ATW equipment may not be used when playing a Scenario which predates the introduction date of the specific weapon indicated. The introduction dates for all weapons are also noted in the Ship and Weapon Data Summary.

H. The Ship and Weapon Data Summary also indicates the entire inventory of Underwater weapons utilized by each nation as well as the introduction date for each of the various weapons and the Effectiveness Rating of each weapon. In general, the weapons assigned to a given ship are the latest, most effective weapons available at the time period represented by the Scenario in play.

I. An Escort vessel which was assigned a Speed Command of four or less may be assigned to execute a maximum of two Underwater Weapon missions upon the expiration of any single Movement Point during the Combat Decision Phase. An Escort vessel which was assigned a Speed Command of five or greater may be assigned to execute a maximum of one Underwater Weapon mission upon the expiration of any single Movement Point during the Combat Decision Phase.

K. An Escort vessel may never be assigned to execute more than one ATW mission during a single Game-Turn.

[7.12] How Underwater Weapon Missions Are Executed

During the Command Execution Phase, each Escort vessel which was assigned an Underwater Weapon mission during the Combat Decision Phase physically executes the mission on the map by deploying Speed and Underwater Weapon markers which indicate when and where each anti-submarine attack is delivered during the Escort's movement. For each Movement Point expended by the Escort vessel, an appropriate Speed marker is placed on the map in the hex in which the vessel expended the Movement Point. Underwater Weapon markers are placed on the Unterwater Weapons Information during the preceding Combat Decision Phase (see Case 5.22). These Weapon markers should be deployed face-up (indicating the DC Pattern or the type of ATW employed). Finally, the Surface Player should deploy a second Speed marker under each DC Pattern (or Squid) marker which indicates the Depth Level at which the weapon is assigned to detonate. In preparing the documentation of Underwater Weapon missions, Players should refer to the following supplementary notes:

A. The Surface Player must execute each Underwater Weapon mission exactly as it was recorded during the preceding Combat Decision Phase. No substitutions or alterations of preassigned commands may be made during the Command Execution Phase.

B. An ATW marker is always placed in the hex directly in front of the bow of the Escort vessel executing the ATW mission rather than in the hex in which the Escort occupies upon expending the Movement Point assigned to the ATW mission.

C. All Underwater Weapon missions are resolved during the Surface Phase of the Combat Stage following the Command Execution Phase in which the missions are executed and documented.
[7.13] How Underwater Weapon Missions are Resolved

Each Underwater Weapon mission is resolved individually during the Surface Phase of the Combat Stage according to the following procedures:

During the Surface Phase of the Combat Stage, the Surface Player resolves one attack for each Underwater Weapon marker deployed on the map by rolling one die and locating the resulting number under the appropriate weapon column on the Underwater Weapons Table (see Case 7.15). The indicated result is applied according to the following explanatory notes:

A. If the indicated result is "-", there is no possibility of damage to a submarine regardless of the submarine's position at the instant of the attack.

B. If the indicated result is "•", the die is immediately rolled again. If the result is 1, 2, or 3, the first result is now considered to be "H" (see C, below).

C. If the indicated result is "H", the Surface Player immediately proceeds to the Damage Resolution Procedure (see Case 7.5). Note, however, that submarine will not sustain any resulting damage unless the Submarine Player secretly verifies that the Underwater weapon actually intercepted a submarine during the Command Execution Phase (see D, below).

D. Players should note that each Underwater weapon type is assigned an Effective Depth Rating in the Ship and Weapon Data Summary. If an Underwater weapon is assigned to detonate beneath the Depth Level equivalent to its Effective Depth Rating, the die roll used to resolve the attack is increased by one. Averaged against weapons, however, are totally ineffective at all Depth Levels greater than Depth Level 3.

E. If the result of an Underwater Weapon attack is an "H" the Surface Player immediately proceeds to the Damage Resolution Procedure to obtain a result which indicates the number of Durability Points lost from a submarine if the submarine was actually intercepted by the Underwater Weapon attack during the Command Execution Phase. The Surface Player is the only one to determine if an Underwater Weapon attack actually intercepted a submarine during the Command Execution Phase.

Each time the Surface Player resolves an Underwater Weapon attack he must determine the time period in which the attack was executed and verbally notify the Submarine Player of the result. The time period in which an attack was executed is determined by dividing the speed of the ship which executes the attack into the total time period represented by the Game-Turn (90 seconds). The result of this division is always rounded off to the nearest whole number. The result of this procedure indicates the time period (measured in seconds) in which the attacking ship expended each Movement Point during the Command Execution Phase. Thus a ship assigned a Speed Command of 6 expends one Movement Point every 15 seconds. In this example, the ship spends its first Movement Point during the first 15 seconds of the Game-Turn and the ship is considered to occupy the hex in which it expended its first Movement Point from 0 to 15 seconds inclusive. The ship expends its second Movement Point from 15-30 seconds inclusive, etc. A ship is always considered to expend its final Movement Point during the time period ending on the 90 second limit of the Game-Turn.

After establishing the time period in which an Underwater Weapon attack is executed, the Surface Player notifies the Submarine Player by stating the time period and depth level at which the attack is executed. The Submarine Player must then determine if any submarine occupied the hex in which the attack is being executed during the same time period in which the attack was executed. This is determined by first checking if a submarine occupied the attacked hex at any time during the Command Execution Phase. If not, the attack has no effect. If a submarine did occupy the attacked hex, the Submarine Player uses the same procedure as the Surface Player to determine the exact time period during which the submarine occupied the attacked hex. If it is determined that a submarine occupied the attacked hex at any time during the time period in which the attack was executed, the Submarine Player then checks the submarine's Command Track to determine if the submarine occupied the Depth Level at which the attack was detonated. If the submarine occupied the same Depth Level at which the attack was detonated, the Submarine Player secretly decreases the Effectiveness Rating of the submarine by the amount obtained from the Damage Resolution Procedure. Note that the Submarine Player is not required to reveal the position, depth level, or damage sustained by a submarine during the entire Underwater Weapon Resolution Procedure.

F. A submarine automatically sustains damage resulting from the Damage Resolution Procedure if it occupied the hex in which a Hedgehog or Mousetrap attack was executed during the same time period as the execution of the attack if the submarine's Depth Level was 1, 2, or 3 and the result indicated on the Underwater Weapons Table was an "H." If the submarine's Depth Level was greater than 3, it is not affected by the ATW attack.

G. A submarine sustains damage resulting from a DC or Squid attack only if it occupied the attacked hex during the time period in which the attack was executed and occupied the same Depth Level as the level at which the attack was executed during the Command Execution Phase.

H. An Underwater Weapon attack has no effect on any ship or submarines on the ocean surface (at Depth Level 0).

[7.14] Explosive Sweeps

During World War I, the primary anti-submarine weapon was the Sewing Machine, which was simply an explosive loaded net which was dragged behind an Escort vessel. When a submarine was "netted," the sweep was detonated. Explosive Sweeps may only be employed by non-contemporary Escort vessels during World War I Scenarios, in accordance with the following restrictions:

A. During the Command Decision Phase, the Surface Player may deploy an Explosive Sweep counter on any Escort vessel currently in play. Once deployed, an Explosive Sweep may not be withdrawn for the remainder of the game (Exception: see G, below).

B. An Escort vessel employing an Explosive Sweep must document its Movement during each Command Execution Phase.

C. An Escort vessel employing an Explosive Sweep may be assigned a maximum speed of four Movement Points.

D. During the Surface Phase of the Combat Stage, the Submarine Player must determine if any submarine occupied the hex during the time period in which the attack was executed during the Command Execution Phase. A submarine can be intercepted by an Explosive Sweep only if it occupied a given hex during the same time period as a sweeping Escort vessel during the Command Execution Phase and the submarine was operating at a Depth Level 1 or 2 during that Command Execution Phase.

E. The Submarine Player must immediately notify the Surface Player if a submarine was intercepted by an Explosive Sweep by designating the hex in which the interception occurred.

F. When notified of an Explosive Sweep interception, the Surface Player immediately employs the Damage Resolution Procedure to determine the damage inflicted on the intercepted submarine. In doing so, the Surface Player uses the Effectiveness Rating of the Explosive Sweep which is indicated in the Ship and Weapon Data Summary.

G. If a submarine is intercepted by an Explosive Sweep, the Escort vessel operating this sweep is considered to have lost its Explosive Sweep capability for the remainder of the game, and the Explosive Sweep counter is immediately removed from the map.

H. The Ship and Weapon Data Summary indicates the Effectiveness Rating and Availability Date for all Explosive Sweep weapons.

[7.15] Underwater Weapons Affect the Ocean

During the Surface Phase of the Combat Stage, each DC pattern or Squid attack is resolved, the counter representing the attack is immediately inverted indicating the water disturbance caused by the attack. The inverted counter, known as a Disturbed Water marker, has several effects on play as explained below.

A. The effects of Disturbed Water on various Search procedures are explained in Section 8.0.

B. When an Explosive Sweep is detonated, a Disturbed Water marker is placed in the hex in which the Sweep detonated (see Case 7.14).

C. When a "H" (Hit) result is achieved due to a Hedgehog or Mousetrap attack, a Disturbed Water marker is placed in the hex where the attack was executed. If such an attack does not produce an "H" result, no marker is deployed.

D. Disturbed water may also result from the use of contemporary weapons (see Case 7.67).

E. Each Disturbed Water marker is removed from the map during the Marker Removal Phase of the Terminal Stage.

[7.17] How Simultaneity Affects the Use of Underwater Weapons (Use of this rule is Optional)

As noted earlier, during a non-contemporary Scenario, all ship movement and combat activities are considered to be occurring simultaneously during the same period of time represented by the Game-Turn. This concept affects the use of Underwater Weapons in the following manner.

A. During the Surface Phase of the Combat Stage, Underwater Weapon missions should be resolved in the sequence in which they are considered to have been executed during the Command Execution Phase. Thus, each mission is resolved in sequence according to the time period during which the mission was executed (although missions executed during the same time period may be resolved in any manner the Surface Player desires).

B. For ease of play, the rules stipulate that all Underwater Weapon missions are resolved prior to Torpedo Combat missions during the Combat Stage. However, it is possible for an Escort vessel to be intercepted and sunk by a Torpedo Combat mission during a time period which precedes the time period in which this same Escort vessel executed an Underwater Weapon mission. In any such situation, the Underwater Weapon mission should be considered as never having been executed. Similarly, a submarine may be sunk by an Underwater Weapon mission executed prior to the...
time period in which the submarine launches a delayed Torpedo Combat mission in which case the torpedo(s) mission is negated. To determine this, the Submarine Player must determine the time period in which the Torpedo mission is actually launched by dividing the mission's Speed setting into 90, rounding off the result, and multiplying this result by the prerecorded delay number (see Case 5.23 K).

C. Damage inflicted as a result of Gunnedry Combat takes effect at the end of the Command Execution Phase; thus it has no effect on the execution of Torpedo or Underwater Weapon missions.

[7.2] TORPEDO WEAPONS

Torpedos are anti-surface weapons which may only be employed by submarine vessels during a non-contemporary Scenario. There are basically three different types of torpedos used in the game: Standard torpedos, Homing torpedos, and Zig-Zag torpedos. The standard torpedo, resembling a miniature submarine, was either steam or electronically powered and used either a magnetic or contact trigger mechanism to detonate a high explosive warhead upon contact with a target vessel. While the Homing torpedo, developed during World War II, was an electronically powered, acoustically guided weapon, primarily designed for use against rapidly maneuvering Escort vessels. The Zig-Zag torpedo, also developed in the 1940s, was a magnetic-powered, pattern-running torpedo. Standard torpedos were generally launched from the surface or from periscope depth from a submarine approaching at 90 degrees of the course of its target, although most torpedos contained a steering mechanism which allowed them to direct the target at different angles. In addition, some torpedos were equipped with both bow and stern tubes which increased the choice of firing positions; although the periscope depth was heavily favored for accuracy. Because firing aspect and extended range could decrease accuracy, torpedos were usually fired in salvos (or spreads) from as close as to its chosen target as the submarines could safely approach. Once launched, a torpedo would run a pre-set course until it either struck a target or exhausted its range.

[7.21] Torpedo Capabilities

For each type of submarine listed in the Ship and Weapon Data Summary, three sets of statistics are indicated: the total number of torpedos carried by the submarine, the number of bow (B) stern (S) tubes, and the number of stern (S) bow (B) tubes. In addition, the Ship and Weapon Data Summary indicates certain characteristics of torpedoes. The Summary also indicates that a submarine's torpedoes are equipped with the bow and stern tubes, as well as the maximum range and speed of each type of torpedo. These statistics are used to determine the effectiveness of torpedoes in a scenario. The torpedos are generally launched from the surface or from periscope depth from a submarine approaching at 90 degrees of the course of its target. Although most torpedos contained a steering mechanism which allowed them to direct the target at different angles. In addition, some torpedos were equipped with both bow and stern tubes which increased the choice of firing positions; although the periscope depth was heavily favored for accuracy. Because firing aspect and extended range could decrease accuracy, torpedos were usually fired in salvos (or spreads) from as close as to its chosen target as the submarines could safely approach. Once launched, a torpedo would run a pre-set course until it either struck a target or exhausted its range.

B. During each Command Execution Phase, a torpedo possesses a Movement Allowance equal to its assigned Speed setting. During the Command Execution Phase, a torpedo expends one Movement Point in each hex it enters in. In executing its assigned Maneuver, a torpedo is never required to expend more than one Movement Point in each hex it enters regardless of any turning activity required to execute the required Maneuver. When a torpedo enters a hex, it exhausts its Range Allowance, it is immediately considered expended and has no further effect on play for the remainder of the game.

D. The Range Allowance of a given torpedo is a number of Movement Points equal to its assigned Range setting. Thus, a torpedo with a Range setting of 30 may expend a maximum of 30 Movement Points. Note, however, that a torpedo with an assigned Speed setting of 6 would remain in motion throughout six Game-Turns in order to exhaust its Range Allowance.

E. If, in executing its assigned Maneuver, a torpedo exits the map prior to exhausting its Range Allowance, the torpedo is considered expended and has no further effect on play. Note that a torpedo expends one Movement Point to exit the map.

F. The Torpedo Maneuver diagram (see Fig. I) illustrates how a standard torpedo executes its assigned Maneuver on the Game-Turn it is launched. A torpedo which is launched from a bow tube and assigned a Steady Course Maneuver executes its first Movement Point entering the hex labeled "Bow" and proceeds to move directly downward the hex row by the bow of the submarine during the Combat Decision Phase in which the torpedo was launched. A torpedo which is launched from a stern tube and assigned a Port 30, Port 60, or Hard Port Maneuver, executes its first Movement Point by moving to the hex labeled "Port," after which it proceeds directly downward the hex row indicated by

---

FIG. I Torpedo Maneuver Diagram

---
The chosen Maneuver as indicated in the diagram. A torpedo which is launched from a bow tube and assigned a Starboard Maneuver, expends its first Movement Point entering the hex labeled "Bow Starboard," after which it proceeds as indicated. A torpedo which is launched from a stern tube executes its assigned Maneuver by expending its first Movement Point entering the appropriate "Stern" hex and proceeding directly down the hexrow indicated in the diagram. Note that once a torpedo exits the first hex it entered, it must continue moving in a straight line for the duration of its Range Allowance (Exceeding see stern tube entry). When the torpedo proceeds back along the same hex row in the opposite direction from that travelled during the preceding Combat Execution Phase.

G. During each Combat Decision Phase following the Phase in which it is launched, a Zig-Zag torpedo automatically executes a 180 degree turn. During the ensuing Command Execution Phase, the torpedo proceeds back along the same hex row in the opposite direction from that travelled during the preceding Combat Execution Phase.

H. A Homing torpedo executes its assigned Maneuver exactly like a standard torpedo, however, the procedure for resolving the interception of a vessel and a Homing torpedo differs from the procedure used for standard and Zig-Zag torpedoes (see Case 7.23).

I. Torpedoes fired from the same vessel, on the same Game-Turn, and which are assigned the same speed, range, and Maneuver, are considered a single "spread attack." A spread of torpedoes may be represented on the map by a single Torpedo counter of the appropriate type under which a Speed marker is placed which represents the total number of torpedoes contained in the spread. If one or more torpedoes represented in a spread are detonated, the Speed marker should immediately be changed to indicate the reduced number of torpedos remaining in the spread.

J. Players should note that a Torpedo counter is never placed on the map unless the torpedo(s) are represented by the appropriate hex which is within the Torpedo Detection Range of a surface vessel during the Surface Detection Segment of the Search Stage (see Case 8.37). The Submarine Player bears the responsibility of mentally keeping track of the movement of each torpedo and determining if any torpedo(s) intercept a vessel during the Command Execution Phase. To assist in making this determination, he may request the Surface Player to document the Movement of one or more of his vessels during any Command Execution Phase in which torpedoes are in motion. The Submarine Player can then determine mentally the course and speed of the torpedo(s) and judge if any surface vessel intercepted a torpedo while both objects were in motion during the Command Execution Phase. If no interception occurred, the Submarine Player does nothing. If the Submarine Player verifies any interception, the result of this interception is resolved during the Submarine Phase of the immediately following Combat Stage (see Case 7.23).

K. Although torpedoes are considered to be in motion during the Combat Execution Phase, the Submarine Player determines the results of any interception of a torpedo and a vessel during the Submarine Phase of the Combat Stage following the Command Execution Phase in which the interception occurred (see Case 7.23).

[7.24] Torpedo Combat Resolution Procedure: During the Submarine Phase of the Combat Stage, the Submarine Player resolves each situation in which a surface vessel intercepted a torpedo (or spread) in the sequence in which each interception occurred during the preceding Command Execution Phase according to the following procedure:

Procedure: The Submarine Player resolves each interception separately by rolling one die, modifying the result for each of the various characteristics indicated below and then locating the modified result under the appropriate Target Bearing/Target Type column on the Torpedo Combat Table. If the indicated result is "-", the torpedo(s) misses the target and remains in motion. If the indicated result is "H" or "2H", the Submarine Player immediately proceeds to the Damage Resolution Procedure (see Case 7.5) to determine the damage inflicted on the target vessel. Note that one torpedo is expended for each "H" result obtained, while additional unexpended torpedos in a spread are considered to miss the vessel and remain in motion. The use of the Torpedo Combat Table is further explained in the following supplementary notes:

A. The Ship and Weapon Data Summary indicates the Target Type of every class of vessel used in the game.

B. The Target Bearing Diagram (see Fig. II) indicates the Target Bearing of a vessel when it is intercepted by a torpedo or spread entering the interception hex from any of the six adjacent hexes.

FIG. II

C. The die roll used to resolve a given torpedo (or spread) attack is increased and/or decreased cumulatively according to the following criteria:

-2 if the vessel is intercepted by a spread of five or more torpedoes
-1 if the vessel is intercepted by a spread of three or more torpedoes
-1 if the vessel is intercepted by one or more Homing torpedoes
+1 if the vessel is intercepted by a single torpedo
+1 if the vessel is intercepted by a Narrow spread of two or more torpedos (see D, below)
+1 if the intercepting torpedo possesses a magnetic trigger mechanism
+1 if the intercepting torpedo executed a Port or Starboard Maneuver for each elapsed Game-Turn since the Game-Turn in which the intercepting torpedo(s) was launched
+2 if the intercepting torpedo(s) was launched from a submarine at Depth Level 2

D. If the vessel is intercepted by a Narrow spread, the number of "H" (Hit) results obtained is doubled, although the number of Hit results ob-
tained may never exceed the number of intercepting torpedoes.

[7.25] Torpedo Combat Table
(see separate sheet)

[7.26] How Torpedo Countermeasures Affect Torpedo Combat
During World War II, an acoustic countermeasure was developed for use on Escort vessels which nullified the effectiveness of Homing torpedoes. In Upset, this equipment is represented by a FOXer counter. The Ship and Weapon Data Summary indicates the Availability Date for such equipment for the nations which developed it. During a Scenario which occurs after this Availability Date, FOXer may be used by eligible Escort vessels as explained in the following notes:

A. During the Command Decision Phase, the Surface Player may deploy a FOXer counter on any Escort vessel currently in play. Once deployed, FOXer may not be withdrawn from a vessel for the remainder of the game.

B. An Escort vessel employing FOXer has its Maximum Speed reduced by two. The use of FOXer also hinders an Escort's underwater detection capability (see Case 8.24).

C. The die roll used to resolve a situation in which an Escort vessel equipped with FOXer intercepts a Homing torpedo is not modified to account for the torpedo's steering mechanism.

[7.27] How Torpedo Combat May Cause Broaching
Use of this rule is Optional

"Broaching" is a term used to describe a situation in which a submarine actually breaks the surface of the ocean after launching torpedoes due to the weight loss in the submarine. Broaching occurs as explained below:

A. During the Command Decision Phase, if a submarine at Depth Level 1 launches a Torpedo Combat mission, the Submarine Player immediately rolls one die. If the modified die roll is less than the number of torpedoes launched by the submarine, the submarine is considered to have broached the surface (although its actual Depth Level is unaffected).

B. Whenever a submarine breaches with Visual Sighting Range of a surface vessel, the Submarine Player must immediately verbally inform the Surface Player of the hex occupied by the submarine.

C. The die roll used to determine broaching is modified as follows:

+1 if the submarine's Efficiency Rating is "A."
0 if the submarine's Efficiency Rating is "B."
-1 if the submarine's Efficiency Rating is "C."

[7.28] How a Submarine's Torpedo Tubes are Reloaded (Use of this rule is Optional)
The rate at which a submarine can reload its torpedo tubes is determined by the submarine's Efficiency Rating as explained in the following notes:

A. A submarine which possesses an "A" Efficiency Rating can reload one Torpedo tube in six Game-Turns.

B. A submarine which possesses an Efficiency Rating of "B" can reload one Torpedo tube in seven Game-Turns.

C. A submarine which possesses an Efficiency Rating of "C" can reload one Torpedo tube in eight Game-Turns.

D. The maximum number of Torpedo tubes which can be reloaded simultaneously aboard any given submarine is two.

E. Bow and Stern Torpedo tubes may be reloaded simultaneously.

F. A Torpedo tube may begin reloading on any Game-Turn after launching a Torpedo Combat mission. A Torpedo tube is considered reloading after the appropriate number of Game-Turns during the Terminal Stage.

G. A Torpedo tube may not begin reloading until its previous Combat mission is fully detonated or exits the map.

H. When a Torpedo tube begins reloading, the Submarine Player erases the Launch Game-Turn notation of the tube's previous mission and records the Game-Turn notation on which the tube will complete reloading.

I. During the Terminal Stage, when a Torpedo tube finishes reloading, the Submarine Player fully erases the tube's previous mission. During the next Combat Decision Phase (or any subsequent Decision Phase), the tube may be assigned a new Torpedo Combat mission.

J. The Ship and Weapon Data Summary indicates the total number of torpedos carried aboard a given type of submarine. The Submarine Player must keep track of the total torpedos each submarine launches and reduce the total torpedo supply accordingly. Note that, unless contradicted by the Scenario, if each submarine is considered fully loaded with torpedos at the start of a Scenario. A submarine's torpedo tubes are all considered loaded at the start of a Scenario, thus the total number of available reloads is equal to the original total minus the number of Torpedo tubes the submarine possesses.

K. Note that use of this rule will make it impossible to verify Torpedo Combat missions in the manner described in Case 7.23 B.

[7.3] GUNNERY COMBAT

Gunnery Combat is a special type of Combat which may be employed only by non-contemporary vessels which are considered on the ocean's surface (Depth Level 0) during the Command Execution Phase. Gunnery Combat is not considered a Combat mission and does not require any type of recorded notation or marker. Thus, a vessel may execute Gunnery Combat in combination with other Combat missions during the same Game-Turn.

[7.31] Gunnery Weapons

The Ship and Weapon Data Summary indicates the Gunnery Effectiveness Rating for every vessel class used in the game. This number should be recorded on the Command Track of the corresponding vessel at the start of the game. When a vessel executes Gunnery Combat and does not receive an "H" (Hit) from the Gunnery Combat Table, the firing vessel's Gunnery Effectiveness Rating is used in the Damage Resolution Procedure to determine the damage inflicted on the Enemy target vessel (see Case 7.5). Note that Capital ships and Convoy vessels are provided with a corresponding Command Track. Thus, the Surface Player must refer directly to the Ship and Weapon Data Summary to obtain the Gunnery Effectiveness Ratings for such ships.

[7.32] How Gunnery Combat is Executed

All Gunnery Combat is executed at the start of the Command Execution Phase according to the following restrictions:

A. Each ship on the ocean's surface which possesses a Gunnery Effectiveness Rating may execute one Gunnery Combat attack during the Command Execution Phase.

B. In order to execute a Gunnery Combat attack, the firing ship must be within Visual Sighting Range of the target ship (see Case 8.35). Of course, the target ship must also be on the ocean's surface during the Command Execution Phase.

C. Each ship's Gunnery Combat is resolved separately using the procedure in Case 7.33.

D. All Gunnery Combat is considered to be simultaneous. All damage inflicted due to Gunnery Combat is considered to occur and take effect at the end of the Command Execution Phase.

E. In lieu of a normal Gunnery attack, an Escort vessel may fire Starshell. For each Starshell fired, the Surface Player may deploy one Starshell counter anywhere on the map. During a Night Scenario, any vessel on the ocean's surface which occupies a hex containing a Starshell counter, or any adjacent hex, is considered a daylight target for range and sighting purposes.

F. The Ship and Weapon Data Summary indicates the Availability Date for Starshell for each nation.

[7.33] How Gunnery Combat is Resolved

When conducting Gunnery Combat, the attacking Player determines the range (in hexes) from the firing ship to the target ship and the Ocean Condition indicated in the Scenario Rules. He then rolls one die, modifying the result for the special criteria listed below. The adjusted die roll is then located on the appropriate column of the Gunnery Combat Table. If the indicated result is "-", the attack has no effect. If the indicated result is "H", the attacking Player immediately proceeds to the Damage Resolution Procedure. Any damage inflicted takes effect at the end of the current Command Execution Phase. The die roll used to resolve a Gunnery attack is cumulatively increased or decreased as follows:

Subtract one from the die roll if:
1. The firing ship's Efficiency Rating is "A."
2. The firing ship possesses 271, 5G, or SU Radar.
3. The target ship is an unarmed Convoy ship.

Add one to the die roll if:
1. The firing ship's Efficiency Rating is "C."
2. The firing ship's Gunnery Effectiveness Rating is 10 or greater.

[7.34] Gunnery Combat Table (see separate sheet)

[7.4] RAMMING AND SHIP COLLISIONS

[7.41] During World War II, ramming was an effective, if somewhat risky, Escort tactic which was frequently employed against a surfaced submarine. In Upset, whenever one surfaced vessel intercepts another surfaced vessel during the Command Execution Phase (by occupying the same hex during the same time), the vessels are assumed to have inadvertently or purposely collided. The effect of any such collision is determined at the end of the Command Execution Phase according to the following procedure:

[7.42] Ramming and Ship Collision Procedure

For each vessel involved in a collision, the Surface Player determines the Target Type Value (in dictated below) and multiplies this value by the speed at which the vessel was moving during the Command Execution Phase. The resulting number is then located at the top of the Damage Table. The Surface Player rolls one die and locates the result under the appropriate column on the Damage Table. The numerical result indicated on the Damage Table represents the number of Durability Points of damage inflicted on the intercepted vessel. This procedure is then immediately repeated to determine the damage inflicted on the remaining vessel(s) involved in the collision. The
Target Type Value of a given vessel is determined as follows:

<table>
<thead>
<tr>
<th>Target Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>3</td>
</tr>
<tr>
<td>C</td>
<td>2</td>
</tr>
<tr>
<td>D</td>
<td>1</td>
</tr>
<tr>
<td>Submarine</td>
<td>1</td>
</tr>
</tbody>
</table>

[Historical Aside: In reality, ramming was a most dangerous tactic. In March 1943, Commander “Harry” Tait, skipper of H.M.S. Harvester, rammed and sunk the U-boat with which he had been engaged in a desperate engagement. Harvester was moving moderately quickly at the moment of collision, and her momentum carried her over the submarine. Harvester’s propellers and shafts were virtually destroyed as a result. The ship lay dead in the water — the worst possible case amid a roving wolfpack. One of the U-boats, U-431, quickly dispatched her with a single torpedo. Harvester went down with most of the ship’s company, including Tait.]

[7.5] DAMAGE

Anytime a non-contemporary vessel suffers an “H!” (Hi) result due to an Underwater Weapon attack, Torpedo or Gunery Combat, the attacking Player immediately uses the Damage Resolution Procedure to determine the damage inflicted on the target vessel.

Procedure: The attacking Player locates the Effectiveness Rating of the employed weapon type at the top of the Damage Table. The attacking Player then rolls one die and locates the result under the appropriate Effectiveness Rating column. The resulting number represents the number of Durability Points which are immediately subtracted from the Durability Value of the target vessel.

[7.51] How Damage Affects Vessels

The effect of damage inflicted on a vessel varies according to the type of vessel involved as explained in the following notes:

A. For each Durability Point of damage inflicted on a submarine, the submarine’s Maximum Safe Depth is reduced by one.

B. For each Durability Point of damage inflicted on a surface vessel, the vessel’s Maximum Speed is reduced by one.

C. Whenever a vessel’s Durability Value is reduced to zero, the vessel is considered sunk and is immediately removed from play (see F, below).

D. The initial Durability Value of each class of vessel is listed in the Ship and Weapon Data Summary. The Durability Value of a vessel is indicated on its Command Track by circling the appropriate number on the Durability Track. For each Durability Point lost by the vessel, the highest remaining Durability Value number is circled to indicate the vessel’s remaining Durability Value.

E. In general, no Command Track is provided for Capital or Convoy ships which are moving identically as a single convoy. Thus, damage inflicted on such ships is recorded by placing a Speed marker which indicates the reduced Maximum Speed of the damaged ship directly under the Ship counter. In addition, to allow for easy identification of damaged Convoy ships, a Straggler marker is placed on top of the Ship counter. The Surface Player may move such Stragglers in disregard of the convoy’s assigned commands during the Command Execution Phase if he so desires.

Note: Players may also wish to record damage inflicted on Convoy ships on a separate sheet of paper.

F. Whenever a surface vessel is sunk, the Ship counter is immediately removed from the map and a Survivors counter is immediately deployed in the hex the sunk vessel formerly occupied. Survivors may be rescued by an Escort vessel which spends three entire Command Execution Phases remaining in the hex occupied by the Survivors counter. During this period, the Escort vessel may not be assigned any type of Combat mission. At the conclusion of the third Command Execution Phase, the Survivors counter is placed underneath the Escort vessel to indicate that these survivors are now aboard the Escort. A given Escort must rescue one group of survivors at a time and may carry a maximum of three groups of survivors. If an Escort which is carrying survivors is sunk, all Survivors counters being carried plus one additional Survivors counter is deployed in the hex the Escort occupied when sunk.

G. When a Capital ship is sunk, the Surface Player rolls one die and deploys a number of Survivors counters equal to the number indicated on the die.

H. Survivors are automatically eliminated if an Underwater weapon attack is executed in the hex they occupy.

I. Whenever an Underwater weapon attack is executed in a hex which was occupied by a submerged submarine during the time period the attack was delivered, the Submarine Player may deploy an Oil Slick marker in the attacked hex if he so desires. Note, however, that when a submerged submarine suffers any damage due to an Underwater weapon attack, the Submarine Player is required to place an Oil Slick marker in the hex in which the attack was executed.

Note: The purpose of deploying an Oil Slick when no damage is actually sustained is to mislead the Surface Player concerning either the Depth Level or damage status of the submarine under attack.

J. Oil Slick markers are removed from the map during the Marker Removal Phase of the Terminal Stage. Survivors counters are never removed from the map (Exception, see H).

[7.52] Damage Table (see separate sheet)

[7.6] CONTEMPORARY COMBAT

Contemporary Combat is a special type of Combat which may be employed only by contemporary vessels and aircraft. Contemporary Combat, which is executed and resolved in a different manner from non-contemporary Combat, is the only type of Combat used in a Contemporary Scenario.

[7.61] Contemporary Weapons

Contemporary weapons include a large variety of ship-to-ship missiles, modern Homing torpedoes, and Depth Charges. The Ship and Weapon Data Summary indicates all of the following information which is transcribed on the Contemporary Command Track representing each vessel at the start of a Contemporary Scenario:

A. The various Weapon types each vessel class or aircraft type is equipped with. The maximum number of different weapon types a given vessel carries is three.

B. The Accuracy Rating of each Weapon type expressed as either “A” (Best), “B,” “C,” or “D” (Worst).

C. The Maximum Range of each Weapon type expressed as a number of hexes.

D. The Ammunition Resupply Rating of each Weapon type expressed as a number between zero and five.

E. The Defense Rating of each vessel class expressed numerically as either “A” (Best), “B,” “C,” or “D” (Worst).

F. The number and type of aircraft each vessel class is equipped with.

[7.62] How Contemporary Combat Missions are Executed

All Contemporary Combat missions are recorded during the Combat Decision Phase in accordance with the procedures given in Case 5.2. All Contemporary Combat missions are executed at the start of the Command Execution Phase according to the following restrictions:

A. Each Combat mission must be resolved separately, against the recorded target vessel, using the procedure given in Case 7.63.

B. Each Weapon type aboard an attacking vessel or aircraft may only be used once during a single Command Execution Phase and may only be used against the target vessel recorded under that Weapon type during the preceding Combat Decision Phase.

C. Different Weapon types aboard an attacking vessel or aircraft may only be used against a single Enemy vessel during a given Command Execution Phase (i.e., a vessel may not attack two or more Enemy vessels during the same Command Execution Phase).

D. All Contemporary Combat is considered to be simultaneous. Any damage inflicted due to Contemporary Combat is considered to occur and take effect at the end of the Command Execution Phase.

E. The execution of each Combat mission is subject to the Ammunition Resupply restrictions (see Case 7.64).

[7.63] How Contemporary Combat Missions are Resolved

All Contemporary Combat missions recorded during the Combat Decision Phase are executed and resolved, individually, at the start of the Command Execution Phase (prior to any Movement) of the same Game-Turn. Players may resolve their pre-recorded missions in any sequence; however, all Contemporary Combat is considered simultaneous. Damage inflicted due to Contemporary Combat resolution takes effect at the end of the Combat Execution Phase in which the mission is executed. Thus, a vessel which is sunk as a result of Enemy attacks is nonetheless able to execute and resolve its pre-recorded missions during the same Command Execution Phase. All Contemporary Combat missions are resolved according to the following procedure:

Procedure: For each pre-recorded mission, the attacking Player cross-references the Accuracy Rating of the employed Weapon with the Defense Rating of the assigned target vessel. The attacking Player then rolls one die and locates the resulting die roll under the proper resolution column on the Contemporary Combat Table. If the indicated result is “A,” “B,” “C,” “D,” “E,” the attack has no effect on the target vessel. If the indicated result is an “H,” “Hi,” the Durability Value of the target vessel is immediately reduced by one.
How Ammunition Resupply Affects Contemporary Combat

Each weapon type carried by a vessel or aircraft possesses an Ammunition Resupply Rating which indicates the comparative supply and reloading facilities available for that weapon type on a given vessel. The first time a given vessel executes a Combat mission using a particular weapon, the Resupply Rating for that weapon is ignored. The second (and each subsequent) time a given vessel attempts to use a given weapon, the attacking Player must first execute a qualifying die roll which is equal to or less than the weapon’s Resupply Rating. If the qualifying die roll is made, the Combat mission is executed normally and the Resupply Rating of the employed weapon is reduced by one. When the mission is executed, the attacking Player should immediately circle the Identity Code of the target vessel as recorded on the attacking vessel’s Command Track to indicate the actual expenditure of the weapon. If the qualifying die roll is not made, the Combat mission may not be made during the Command Execution Phase and the Resupply Rating is not reduced because the weapon is not expended. A vessel which is unable to execute a Combat mission due to Resupply fatigue may be assigned a different Combat mission during the Sub-Combat Decision Phase. The unexecuted mission is considered aborted and in no way affects the vessel’s subsequent Combat capabilities. Note that once the Resupply Rating of a weapon is reduced to zero on a given vessel, the vessel may never be assigned a Combat mission using that weapon. Note also that the Resupply Rating of a given weapon need not be actually reduced on a vessel’s Command Track since the process of circling target vessels which are actually attacked provides a record of the number of weapons expended.

How Damage Affects Contemporary Vessels

The Durability Value of a contemporary vessel indicates the number of “H” (Hit) results required to sink the vessel. For example, a vessel which possesses an initial Durability Value of 3 is considered sunk after sustaining three “H” results. The initial Durability Value for each type of contemporary vessel is indicated below:

<table>
<thead>
<tr>
<th>Type of Vessel</th>
<th>Initial Durability Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aircraft carrier</td>
<td>3</td>
</tr>
<tr>
<td>Cruiser, Submarine</td>
<td>2</td>
</tr>
<tr>
<td>Destroyer, Frigate</td>
<td>1</td>
</tr>
</tbody>
</table>

The Durability Value of a vessel is indicated on its Command Track by circling the appropriate number on the Durability Track. For each Durability Point lost by the vessel, the highest remaining Durability Value number is circled to indicate the vessel’s remaining Durability Value. The following notes further clarify the effects of Damage on contemporary vessels:

A. For each Durability Point of damage inflicted on a contemporary vessel, the vessel’s Maximum Speed, Active Detection Value, Passive Detection Value, and Ammunition Resupply Rating are each reduced by one.

B. Damage may never be repaired during the course of a Scenario.

C. Whenever a vessel’s Durability Value is reduced to zero, the vessel is considered sunk and is immediately removed from play.

How Contemporary Weapons Affect the Ocean

Whenever a Contemporary Combat mission is executed, a Disturbed Water marker is immediately placed in the hex occupied by the target vessel regardless of the result of the Combat mission. The effects of Disturbed Water on various Search procedures are explained in Section 8.0. Each Disturbed Water marker is removed from the map during the Marker Removal Phase of the Terminal Stage.

SEARCH, SIGHTING, AND DETECTION

COMMENTARY:
The Search, Sighting and Detection rules govern the ability of vessels and aircraft to locate and destroy Enemy vessels which are either surfaced or submerged. There are basically two types of Detection capabilities used in Upscopic: non-contemporary detection capabilities, and contemporary detection capabilities. During a non-contemporary Scenario, the detection capabilities of vessels are subdivided into Surface Detection capabilities (which include Visual Sighting and Radar Detection) and Underwater Detection capabilities (which primarily concern the use of active underwater echo ranging equipment such as American SONAR and British ASDIC). During a Contemporary Scenario, vessels and aircraft may only employ Contemporary Detection capabilities which simulate the use of both active and passive advanced sonar equipment.

Players should pay particular attention to the fact that during any Scenario, submarines are never deployed on the map unless currently detected by the vessels or aircraft controlled by the Surface Player. In contrast, all surface vessels always remain on the map, although a given vessel may not necessarily be considered detected by an Enemy submarine.

GENERAL RULE:

During the Command Decision Phase, the opposing Players simultaneously and secretly determine and record the Search missions which each of the ships currently in play will execute during the Search Stage of the current Game-Turn according to the following explanatory notes:

A. There are basically two types of Contemporary Search Commands (and missions): Active Search Commands and Passive Search Commands.

B. During the Command Decision Phase, each contemporary vessel which is currently on the map is assigned either an Active or Passive Search Command by placing the appropriate Search marker directly under the Ship counter. At the end of the Command Decision Phase, these markers are revealed and replaced on top of the same Ship counter.

C. During the Command Decision Phase, the Search Command assigned to a submarine which is not currently on the map is recorded in writing on the submarine’s Command Track. The abbreviation “A” is used to denote an Active Search Command. The abbreviation “P” is used to denote a Passive Search Command. The abbreviation “AP” is used to denote that the submarine is assigned to execute both an Active and a Passive Search Command during the Search Stage of the current Game-Turn.

D. If a vessel’s Active and Passive Detection Values are both parenthesized in the Ship and Weapon Data Summary, the vessel may be assigned to execute both an Active and Passive Search mission during the same Game-Turn. If a vessel which is currently on the map is assigned both Search Commands, both the Active and Passive Search marker are placed under that vessel during the Command Decision Phase.

E. If a vessel is not assigned a Detection Value in the Ship and Weapon Data Summary, it may not be assigned to execute a Search mission employing that Detection capability during the Command Decision Phase. For example, the U.S. Nimitz class aircraft carrier possesses neither type of Detection Value and thus may never be assigned a Search Command.

F. The assignment of Search Commands is at the Player’s discretion. A vessel is never required to execute a Search mission.

How Contemporary Search Missions are Executed

Contemporary Search missions are recorded during the Command Decision Phase in accordance with the following procedures:
with the procedure given in Case 8.12. All Contemporary Search missions are executed during the Search Stage as explained in the following notes:

A. Each vessel (or aircraft) executes and resolves its pre-recorded Search mission(s) separately during the appropriate Detection Segment of the Search Stage, using the procedure given in Case 8.14.

B. Each Search mission assigned to an aircraft is executed during the Air Phase of the Search Stage. Each Search mission assigned to a surface vessel is executed during the Surface Phase of the Search Stage. Each Search mission assigned to a submarine is executed during the Submarine Phase of the Search Stage.

C. All Active Search missions are executed during the Surface Detection Segment of the appropriate Search Stage Phase. All Passive Search missions are executed during the Underwater Detection Segment of the appropriate Search Stage Phase.

D. The order in which different vessels execute Search missions during a given Detection Segment is left to the Player’s discretion. However, it is suggested that search missions be resolved according to the sequence of the Identity Numbers of the searching vessels.

E. All search missions are considered to occur simultaneously during the entire period represented by the Game-Turn. Each search mission is executed and immediately resolved during the appropriate Detection Segment of the Search Stage.

[8.14] How Contemporary Search Missions are Resolved

Contemporary search missions recorded during the Command Decision Phase are individually resolved during the appropriate Detection Segment of the same Game-Turn according to the procedure(s) given below:

A. If the searching vessel is currently on the map, the Player executing the search mission determines the appropriate Detection Value of the searching vessel (taking into account all of the appropriate modifiers) and verbally notifying the Enemy Player of the final adjusted Detection Value of the searching vessel. The non-searching vessel then calculates the appropriate Evasion Value of each of its vessels (taking into account all of the appropriate modifiers). The non-searching vessel then compares the Evasion Value of each of its vessels to the final adjusted Detection Value of the searching vessel. If the Evasion Value of a given vessel is equal or less than the Detection Value of the searching vessel, the vessel is automatically considered detected by the searching vessel (see E, below). If the Evasion Value of a given vessel exceeds the Detection Value of the searching vessel, the vessel has not been detected by the searching vessel.

Note: When calculating the Evasion Value of a vessel which is currently on the map, the non-searching Player should calculate aloud, allowing the searching Player to verify the computation. When calculating the Evasion Value of a vessel which is not currently on the map, the non-searching Player (who will always be the Submarine Player) must calculate mentally and honestly, and immediately inform the searching Player of successfully detected vessels (see C, D, below).

B. If the searching vessel is not currently on the map, the Player executing the search mission (who will always be the Submarine Player) mentally determines both the Detection Value of the searching vessel and the Evasion Value of each Enemy vessel using the same procedure given in (A) above to determine which, if any, Enemy vessels are successfully detected by the searching vessel. In this situation, however, the searching Player is not obligated to reveal which vessels are detected by the searching vessel.

C. When a vessel is detected, the searching Player immediately records its Identity Number on the Command Track of the searching vessel opposite the current Game-Turn Number. Note that during the Command Decision Phase, a vessel may only be assigned to execute a Contemporary Combat mission against an Enemy vessel which it detected during the Search Stage of the preceding Game-Turn (see Case 5.21).

D. When a vessel which is not currently on the map (which may only be a submarine) is detected, it is immediately deployed face-up (with its Identity Number showing) in the hex it occupied at the end of the Command Execution Phase. This hex should have been recorded on the submarine’s Command Track during the Command Decision Phase (see Case 5.45).

Note: The False Contact/Dummy Submarine markers are never used during a Contemporary Scenario. Whenever a submarine is deployed on the map, it is deployed face-up, revealing its Identity Number.

E. Any submarine which is currently on the map but which was not assigned by at least one Enemy vessel (or aircraft) during the Search Stage is removed from the map during the Marker Removal Phase of the same Game-Turn. A submarine which is not deployed on the map during the Command Stage is considered undetected for all purposes until it is detected by an Enemy vessel (or aircraft) during a subsequent Search Stage.

F. When a vessel executes a Contemporary Search mission, its appropriate Detection Value (DV) is cumulatively modified by the following criteria:

1. A vessel’s DV is reduced by 1 if its speed is 1 or 2.
2. A vessel’s DV is reduced by 2 if its speed is 3 or 4.
3. A vessel’s DV is reduced by 2 if the Water Condition is Erratic (see Case 8.4).
4. A vessel’s DV is reduced by 3 if the vessel occupies a Disturbed Water Zone (see Case 8.43).
5. A vessel’s DV is reduced by 1 for each Durability Point of damage it has suffered (see Case 8.4).
6. A vessel’s DV is not reduced for speed if the vessel’s speed is zero, or if the vessel’s Detection Value is followed by an asterisk in the Ship and Weapon Data Summary.
7. A vessel’s DV may never be decreased below zero.

G. When an Enemy vessel executes an Active Search mission, each Friendly vessel (whether currently on the map or not) is assigned an Evasion Value (EV) by cumulatively tabulating the following criteria:

1. Regardless of the EV indicated in the Ship and Weapon Data Summary, the basic EV for any vessel is determined by counting the number of hexes from the searching vessel (exclusive) to the hex occupied by the vessel whose EV is being determined (inclusive) and dividing the result by three (rounding fractions up). Thus, the basic EV of a vessel which is from zero to three hexes distance from the searching vessel is 1; from four to six hexes 2, etc. Note: When determining the basic EV of a vessel which is not currently on the map, the non-searching (Submarine) Player should refer to the vessel’s Command Track to determine its location.

2. The basic EV of a vessel is increased by 3 if the vessel occupies a Disturbed Water Zone (see Case 8.43).

H. When an Enemy vessel executes a Passive Search mission, each Friendly vessel (whether currently on the map or not) is assigned an Evasion Value (EV) by cumulatively tabulating all of the following criteria:

1. The basic EV for any vessel is determined by counting the number of hexes from the searching vessel (exclusive) to the hex occupied by the vessel whose EV is being determined (inclusive) and dividing the result by 10 (rounding fractions up). Thus the basic EV of a vessel which is from zero to ten hexes distance from the searching vessel is 1; from eleven to twenty hexes 2, etc. Note: When determining the basic EV of a vessel which is not currently on the map, the non-searching (Submarine) Player should refer to the vessel’s Command Track to determine its location.

2. The basic EV derived in Step 1 is now increased by the EV assigned to the vessel by the Ship and Weapon Data Summary.

3. The basic EV of a vessel is increased by 3 if the vessel occupies a Disturbed Water Zone (see Case 8.43).

4. The basic EV of a vessel is decreased by 2 if the vessel is assigned an active Search mission for the current Game-Turn.

5. The basic EV of a vessel is decreased by 3 if the vessel executed a Combat mission during the current Game-Turn.

6. The basic EV of a vessel is automatically considered to be 0 if the vessel remained stationary during the current Game-Turn and was not assigned an Active Search mission and did not execute a Combat mission during the current Game-Turn.

[8.2] UNDERWATER DETECTION

Underwater Detection is a special type of Search mission which may be employed only by non-contemporary Escort vessels. When an Underwater Detection mission is assigned to an Escort vessel, the vessel uses its Underwater Detection capabilities to locate submerged Enemy submarines. When an Escort vessel executes an Underwater Detection mission, it may locate "true" or "false" sonar contacts. A true contact represents an actual submarine Ship counter-bearing the number of hexes to port or starboard. A false contact represents an artificial sonar reception which resembles an actual submarine (such contacts are produced by a variety of causes including erratic or disturbed water conditions, fish, shoals, etc.). A false contact is represented by a "dummy" submarine counter posessing a blank underside. A false contact is always deployed face-down on the map while a true contact may be deployed either face-up or face-down, or may not even be deployed on the map, if currently undetected.

[8.21] Underwater Detection Capabilities

Non-contemporary Escort vessels are the only vessels which may execute Underwater Search missions. The Underwater Detection capabilities of a given Escort vessel are derived from various data indicated in the Ship and Weapon Data Summary which is always described on the Escort’s Command Track at the start of the Scenario. Each Escort’s Underwater Detection capabilities are determined according to the following criteria:

A. The Ship and Weapon Data Summary indicates the Underwater Detection Range of various types of Sonar equipment. An Escort vessel is always considered equipped with the latest available Sonar equipment at the time the Scenario depicts. When an Escort vessel executes an Underwater Detection mission, it produces a limited Search Zone on either its Port or Starboard side, the dimensions of which are prescribed by the
Underwater Detection Range of the Escort's Sonar equipment. This range is measured in hexes (not including the hex the Escort occupies), and indicates the width of the Escort's Search Zone as illustrated in Fig. III.

B. The Scenario rules indicate the Efficiency Rating of each Escort vessel participating in the Scenario. The basic Underwater Detection Value (UDV) of an Escort vessel is three if it possesses a "C" Efficiency Rating, four if it possesses a "B" Efficiency Rating, and five if it possesses an "A" Efficiency Rating. The UDV of an Escort vessel determines its ability to detect submerged vessels within its Search Zone during the Search Stage (see Case 8.24). Note that an Escort's UDV is subject to modification (see Case 8.24B).

[8.22] How Underwater Detection Missions are Assigned

During the Command Decision Phase, the Surface Player secretly determines and records the Search missions which each of the Escort vessels currently in play will execute during the Search Stage of the current Game-Turn according to the following explanatory notes:

A. During a single Command Decision Phase, a given Escort vessel may be assigned to execute either a Port or Starboard Underwater Search mission by placing the appropriate Port or Starboard Search marker directly under the Ship counter. At the end of the Command Decision Phase, this marker is revealed and replaced on top of the same Ship counter.

B. Only Escort vessels may be assigned to execute an Underwater Search mission.

C. The assignment of Underwater Search Commands is at the Surface Player's discretion. A vessel is never required to execute an Underwater Search mission.

[8.23] How Underwater Search Missions are Executed

All Underwater Search missions are recorded during the Command Decision Phase in accordance with the procedure given in Case 8.22. All Underwater Search missions are executed during the Search Stage as explained in the following notes:

A. Each Escort vessel executes and resolves its pre-ascertained Search mission separately during the Underwater Detection Segment of the Surface Phase of the Search Stage.

B. As each Escort vessel's Search mission is executed, the Surface Player should use three blank counters to distinguish the Escort's Search Zone on the map (refer to Fig. III).

C. The order in which different vessels execute Search missions during a given Detection Segment is left to the Surface Player's discretion, however, it is suggested that Search missions be resolved according to the sequence of the Identity Numbers of the searching vessels.

D. All Search missions are considered to occur simultaneously during the entire period represented by the Game-Turn. Each Search mission is immediately resolved as it is executed according to the procedure given in Case 8.24.

[8.24] How Underwater Detection Missions are Resolved

All Underwater Detection missions recorded during the Command Decision Phase are individually resolved during the Underwater Detection Segment of the Surface Phase of the Search Stage according to the procedure(s) given below:

A. The Surface Player determines the Underwater Detection Value (UDV) of the searching vessel (taking into account all of the appropriate modifiers) and verbally notifies the Submarine Player of the final adjusted UDV of the searching vessel. The Submarine Player then calculates the Evasion Value (EV) of each submarine (whether currently on or off the map) which occupies a hex within the Search Zone of the searching vessel. The Submarine Player now compares the EV of each submarine in the Search Zone to the UDV of the searching vessel. If the EV of a given submarine is equal to or less than the UDV of the searching vessel, the submarine is automatically considered detected by the searching vessel (see additional notes, below). If the EV of a given submarine exceeds the UDV of the searching vessel, the submarine is not detected by the searching vessel.

Note: When calculating the Evasion Value of a submarine, the Submarine Player must calculate mentally and honestly, obeying the requirements stipulated below.

B. The basic Underwater Detection Value (UDV) of an Escort vessel is three if it possesses a "C" Efficiency Rating, four if it possesses a "B" Efficiency Rating, and five if it possesses an "A" Efficiency Rating. When an Escort vessel executes an Underwater Detection mission, its UDV is adjusted by cumulatively tabulating all of the following criteria:

1. The UDV of an Escort vessel is reduced by 1 for each Speed Point assigned to it during the current Game-Turn.
2. The UDV of an Escort vessel is reduced by 1 for each surfaced vessel which occupies a hex within its Search Zone (i.e., any vessel at Depth Level 0).
3. The UDV of an Escort vessel is reduced by 3 if the Escort occupies a Disturbed Water Zone (see Case 8.43), or is currently operating Foxer equipment (see Case 7.26).
4. The UDV of an Escort vessel is increased by 1 if the vessel is equipped with Improved Sonar. 

Note: The Ship and Weapon Data Summary indicates the Availability Date of various Improved Sonar equipment. Escorts of a given nation are considered to possess Improved Sonar equipment during any Scenario which occurs after the indicated Availability Date.

5. An Escort's UDV may never be decreased below zero, or increased above six.

C. When an Escort vessel executes an Underwater Detection mission, each hex within its Search Zone is assigned an Evasion Value based upon the Ocean and Water Conditions present in the hex. The general Ocean and Water Conditions throughout the map are prescribed by the Scenario rules. Ocean conditions are defined as Calm, Medium, or Heavy. Water conditions are defined as Normal or Erratic (see Case 8.4). The Evasion Value of a given hex is calculated by cumulatively tabulating the appropriate criteria indicated below:

1. The basic Evasion Value of any hex is 1 if the Ocean Condition is Calm.
2. The basic EV of any hex is 2 if the Ocean Condition is Medium.
3. The basic EV of any hex is 3 if the Ocean Condition is Heavy.
4. The EV of every hex is increased by 2 if the Water Condition is Erratic.
5. The EV of a given hex is increased by 3 if the hex is located in a Disturbed Water Zone (see Case 8.43). 

D. The Evasion Value of a submarine is equal to the Evasion Value of the hex it occupies during the Search Stage (Exception: see 8.24E).

E. The Evasion Value of a submarine is automatically considered if the submarine fulfills any of the following criteria:

1. The submarine's speed is zero.
2. The submarine's depth is twice or more as great as the range in hexes between the hex occupied by the searching vessel (exclusive) and the hex occupied by the submarine (inclusive).
3. The submarine occupies the same hex as the searching vessel.

F. When an Escort vessel executes an Underwater Detection mission, the Submarine Player calculates the Evasion Value of each submarine.
(whether currently on or off the map) which occupies a hex within the Escort’s Search Zone and immediately performs any function stipulated by the following explanatory notes:

1. If the EV of any submarine which is within the Escort’s Search Zone is greater than the Escort’s UDV, the submarine is immediately removed from the map. If a submarine is not currently on the map and fulfills this condition, it remains undetected and off the map.

2. If the EV of any submarine which is within the Escort’s Search Zone is equal to the Escort’s UDV, the submarine is immediately deployed face-down on the map indicating its actual Location and Facing, but not its I.D. Number. If the submarine is currently on the map and fulfills this condition, it remains on the map in a face-down position (if previously face-up, it is re-positioned face-down).

3. If the EV of any submarine which is within the Escort’s Search Zone is less than 3 and is also less than the UDV of the Escort, the submarine is immediately deployed face-up on the map indicating its actual Location and Facing, as well as its I.D. Number. If the submarine is currently on the map in a face-up position, it is re-positioned face-up.

4. If the EV of any submarine which is within the Escort’s Search Zone is 3 or greater but is also less than the UDV of the Escort, the submarine is immediately deployed face-up on the map indicating its actual Location and Facing, but not its I.D. Number. If the submarine is currently on the map in a face-up position, it is re-positioned face-down.

5. In addition to the effect of the above rules, if any hex within an Escort’s Search Zone possesses an EV of 3 or greater, the Submarine Player may deploy one False Contact/Dummy Submarine counter in any hex within the Search Zone which possesses an EV which is equal to or less than the UDV of the searching Escort. Note: the deployment of such a False Contact is entirely at the Submarine Player’s option. Once deployed on the map, a False Contact marker functions exactly as an actual submarine (see Case 8.25).

6. If an Escort vessel is equipped with Depth Detecting Sonar, a Speed Marker (indicating the Depth Level of the Sonar Contact) must be placed below any submarine the Escort detects. If the Escort detects a False Contact, the Submarine Player may deploy any Depth marker he desires under the False Contact marker. The Surface Player may freely examine the Depth marker under any submarine counter on the map by asking the Submarine Player to reveal the Depth marker anytime during the Search Stage. Note: the Ship and Weapon Data Summary indicates the Availability Date of various Depth Detecting Sonar Equipment. An Escort of a given nation is considered to possess Depth Detecting Sonar during any Scenario which occurs after the indicated Availability Date. Only Escort vessels equipped with Depth Detecting Sonar are capable of discerning the Depth Level of detected sonar contacts.

7. At the end of the Underwater Detection Segment of the Surface Phase of the Search Stage, any submerged submarine or False Contact marker which is currently on the map is removed from the map if it was not detected by an Escort vessel during the Underwater Detection Segment.

[8.25] How False Contacts Affect Play
During the Underwater Detection Segment of the Surface Phase of the Search Stage, the Submarine Player may deploy False Contact markers according to the restrictions of Case 8.24F(5). The use of False Contact markers is fully explained in the following notes:

A. During the Command Execution Phase, the Submarine Player may move each False Contact marker currently on the map in any manner in which a submerged actual submarine could maneuver given an assigned Speed Command of two or less. Note, however, that no Command Marker or written record is used in conjunction with a False Contact marker.

B. During the Search Stage, a face-down False Contact marker is treated exactly as if it were an actual submarine in every respect except that it is immediately removed from the map in the instant it is turned face-up.

C. When an actual submarine is deployed face-down on the map, the Surface Player may not know if it is an actual submarine or a False Contact. Note that all Commands assigned to a face-down submarine are recorded on its Command Track rather than through the use of Command markers (see Case 5.12).

[8.26] Hydrophones
Hydrophones, or passive listening equipment which detected the engine noise of vessels, was the only type of Underwater Detection equipment available during World War I. Although the approximate bearing of a submerged submarine could be detected using hydrophones, the submarine’s range and depth remained unknown. It was almost impossible to execute an effective depth charge attack based on such information. Up until 1918, only two submarines were sunk by depth charges. Explosive sweeps offered an equally ineffective alternative. Thus, mines and gunfire were the main weapons employed against the World War I submarine. The following rules are used to simulate Underwater Detection via hydrophones during World War I Scenarios:

A. During the Underwater Detection Segment of the Search Stage, any submerged submarine is automatically considered detected if it occupies a hex within the Underwater Detection Range of any surfaced vessel. The following rules are used to simulate Underwater Detection via hydrophones during World War I Scenarios:

B. The Underwater Detection Range of a vessel equipped with “Early” hydrophones in ten hexes if the vessel is assigned a Speed Command of zero, and five hexes if the vessel is assigned a Speed Command of 1 or 2.

C. The Underwater Detection Range of a vessel equipped with “Advanced” hydrophones is fifteen hexes if the vessel is assigned a Speed Command of zero, and ten hexes if the vessel is assigned a Speed Command of one or two.

D. Any vessel assigned a Speed Command of three or more may not use its hydrophones.

E. The Ship and Weapon Data Summary indicates the Availability Date of “Early” and “Advanced” hydrophones.

F. A submarine may never be detected by hydrophones while assigned a Speed Command of zero (see Case 6.46).

G. When a submerged submarine is detected by a vessel equipped with “Early” hydrophones, the Submarine Player must notify the Surface Player of the submarine’s bearing in relation to each surfaced vessel which detects it. If a submarine is detected by a vessel equipped with “Advanced” hydrophones, the Submarine Player must inform the Surface Player of the submarine’s bearing and its range from the surface vessel. The accompanying Hydrophone Display (Fig. IV) illustrates how a submarine’s bearing and range are reported.

Note: A submarine detected by hydrophones is never actually placed on the map.

[8.3] SURFACE DETECTION
Surface Detection is a special type of Search mission which may be employed only by any non-contemporary surface vessel or any non-contemporary submarine at Depth Level 0 or 1. Unlike other Search missions, Surface Detection, which enables a surfaced vessel to detect opposing surfaced vessels, requires no pre-recorded Command or special execution procedure.

[8.31] Surface Detection Capabilities
In essence, each non-contemporary vessel possesses a Surface Detection Range which represents either visual or radar detection capabilities. The visual and radar detection ranges for all vessels are located on the Surface Detection Table. The Ship and Weapon Data Summary indicates the Availability Date of various radar equipment. All non-Convoy surface vessels and all submarines are considered to possess the latest radar equipment available at the time of the Scenario.

[FIG IV] Hydrophone Display
[8.32] How Surfaced Vessels are Detected
During the appropriate Surface Detection Segment of the Search Phase, a sur-
face vessel at or near Depth Level 0 or 1 is considered to have
automatically detected all other surfaced vessels within its Surface Detection Range. Thus, a sub-
marine at Depth Level 0 is automatically detected (and immediately placed face-up on the map
indicating its actual Location and Facing) if it occu-
pies a hex within the submarine’s Surface Detection Range during the Surface Detection Segment of the Submarine Phase of the Search Stage.
Similarly, a surface vessel is automatically detected by a submarine at Depth Level 0 or 1, if it
occupies a hex within that submarine’s Surface Detection Range during the Surface Detection Segment of the Submarine Phase of the Search Stage.

[8.33] How Surface Detection Effects Combat
The execution of torpedo and gunnery combat is dependent upon the vessel’s capability to visually
detect an Enemy target vessel as explained in the following notes:
A. In order to execute a Gunnery Combat attack, the firing ship must be within Visual Detection Range of the target ship at the start of the Command Execution Phase (see Case 5.231).
B. In order to record a Torpedo Combat mission, a submarine must be within Visual Detection Range of an Enemy vessel during the Combat Decision Phase. In addition, a Torpedo Combat mission may only be assigned a Maneuver which
was possible to intercept an Enemy vessel which was within the Visual Detection Range of the
launching submarine during the Combat Decision Phase (i.e., a submarine may not purposefully
launch a torpedo in a direction in which no Enemy vessel can be visually detected).

Note: This restriction is ignored when a Torpedo Combat mission is launched in accordance with
Case 5.231.
C. During the Surface Detection Segment of the Surface Phase of the Search Stage, the Submarine Player is required to deploy an appropriate Torpedo marker face-up on the map representing
each Torpedo Combat mission which occupies a hex within the Torpedo Detection Range of a sur-
face vessel (see Case 8.37). Note that any Torpedo marker on the map during the Marker Removal Phase is removed if not within the Torpedo Detection Range of a surface vessel.

[8.35] Visual Detection Table
(see separate sheet)

[8.36] Radar Detection Table
(see separate sheet)

[8.37] Torpedo Detection Table
(see separate sheet)

[8.4] HOW OCEAN AND WATER CONDITIONS AFFECT DETECTION
During the Search Stage, all search missions are generally affected by the Ocean and/or Water
Conditions present in the vicinity represented by the game map. During a non-contemporary
Scenario, the Ocean and Water Conditions are prescribed by the Scenario rules. During a contempo-
rary Scenario, the Ocean condition is ignored and the Water condition is prescribed by the
Scenario rules. The following rules define the nature of various Ocean and Water Conditions while the effect of these conditions on Search missions is explained in the rules sections concerning various Search missions.

[8.41] How Ocean Conditions are Determined
During a non-contemporary Scenario, the Ocean condi-
tion is ignored. During a non-contemporary
Scenario, the Scenario rules indicate the Ocean condition as either Calm, Medium, or Heavy. The Ocean conditions prescribed by the Scenario affect every hex on the map and persist throughout the entire Scenario.

[8.42] How Water Conditions are Determined
During any Scenario, the water condition is prescribed by the Scenario rules as either Normal or Erratic. The water condition presented by the Scenario affects every hex on the map and persists throughout the entire Scenario.

[8.43] How Disturbed Water Zones are Created
Disturbed Water markers are deployed on the map as a result of the execution of underwater weapons and Contemporary Combat missions (see Case 7.16). Any hex occupied by a Disturbed Water marker and the six hexes adjacent to this hex constitute a Disturbed Water zone. All Disturbed Water markers are removed from the map during the Marker Removal Phase of the Terminal Stage.

[9.0] AIRCRAFT

COMMENTARY:
While contemporary ship-borne and land-based aircraft are expected to perform a major tactical
anti-submarine role, during World War II, the introduction of land and carrier-based aircraft in
support of the convoys played a major strategic role in defeating the submarine threat. To further elaborate this distinction, it is necessary to phrase that the primary mission of contemporary aircraft is that of the submarine hunter-killer, while their World War II counterparts were mainly involved in keeping the submarines submerged, in which condition it was unable to maintain contact with its intended victims on the surface. Thus, in modern aircraft, which combines the tactical aspects of submarine warfare, the role of contemporary ASW aircraft is fully simulated, while the role of aircraft in non-contemporary Scenarios is minimally depicted.

GENERAL RULE:
During a Contemporary Scenario, the availability of aircraft is restricted to the ship-borne aircraft aboard the participating surface vessels and/or land-based aircraft whose availability is indicated in the Scenario rules. During a non-
Contemporary Scenario, the availability of aircraft is strictly regulated by the Scenario rules. The
rules governing the employment of aircraft are presented in the following Cases.

CASES:
[9.1] CONTEMPORARY AIRCRAFT
During a Contemporary Scenario, the availability of aircraft is restricted to the ship-borne aircraft
aboard the participating surface vessels and/or land-based aircraft whose availability is restricted by the Scenario rules. There are basically two types of contemporary aircraft: helicopter and fixed-wing aircraft. The Ship and Weapon Data Summary includes all of the required aircraft data including the type and number of aircraft carried aboard various classes of contemporary surface vessels. The back-printed Aircraft Counts, each of which bears a unique I.D. Number, are used to represent all of the various aircraft types which may participate in any given Scenario.

[9.11] Contemporary Aircraft Capabilities
The Ship and Weapon Data Summary indicates the number and type of aircraft carried aboard various classes of contemporary surface vessels. In another section of the Data Summary, the Speed, Search and Combat capabilities of each type of ship and land-based contemporary aircraft is documented. Before the start of a Contemporary Scenario, this information must be transcribed on the appropriate Contemporary Command Tracks as explained in the following notes:
A. The Command Track representing each contempor-
orary surface vessel contains an Aircraft Inven-
tory Record (AIR), which is used to record all data concerning each aircraft carried aboard the corresponding vessel. At the start of a Scenario, the Surface Player should select one Aircraft Counter to represent each aircraft carried by a given vessel. He then entered all of the following information on a separate line for each aircraft on the Aircraft Inventory Record of the vessel carrying the aircraft:
1. The aircraft’s I.D. Number.
2. The aircraft’s Type
3. The aircraft’s Maximum Speed as indicated in the Ship and Weapon Data Summary. Note that the letter “U” indicates that the aircraft’s Maximum Speed is limited.
4. The aircraft’s Active Detection Value (ADV).
5. The aircraft’s Passive Detection Value (PDV)
6. The Accuracy Rating of the aircraft’s Weapons.
7. The Power of the aircraft’s Weapons.
8. The Resupply Rating of the aircraft’s Weapons.
B. When land-based aircraft are available, the Surface Player should record the data for all such aircraft on a blank Command Track or a separate piece of paper.
C. Note that certain aircraft may be armed with either of two different weapons. The Surface Player should decide which weapon will be carried by a given aircraft prior to the start of the Scenario.

At the start of a Scenario, each Aircraft Counter is placed near the Aircraft Inventory Record of the vessel carrying it. The aircraft is considered aboard the vessel and may not move independently or execute any search or Combat mis-
sions. The manner in which aircraft are launched, moved independently, and landed is explained below:
A. During any Command Decision Phase, the Surface Player may take any single aircraft listed on a vessel’s Command Track and place the aircraft directly on top of the corresponding surface vessel. Once an aircraft has been so positioned, it is considered launched and may move independently during each ensuing Command Execution Phase.
B. Once an aircraft is launched, it may move in any direction on the map, any number of hexes equal to or less than its Maximum Speed, during each Command Execution Phase.
C. During any Command Decision Phase, any single aircraft which occupies the same hex as its “parent” vessel may be removed from the map. Once an aircraft is removed from the map in this manner, it is considered landed and aboard the corresponding surface vessel.
D. Land-based aircraft appear aloft on the map as indicated in the Scenario rules and may neither be flown nor removed from the land-based surface vessels. Land-based aircraft may be moved on the map exactly as ship-based aircraft.
E. Any aircraft which possesses an Unlimited Maximum Speed may end each Command Execution Phase in any hex on the map.
F. A ship-based aircraft may never be launched more than once during a given Scenario. A ship-
based aircraft is immediately removed from play if
its "parent" vessel is sunk. A ship-based aircraft must exit the map aboard its "parent" vessel when that vessel exits the map.

At the start of the Command Execution Phase, any aircraft currently on the map may execute one Contemporary Combat mission against any submarine it detected during the Search Stage of the preceding Game-Turn (see Case 9.14). A contemporary aircraft's Combat mission is resolved exactly as that of a contemporary vessel, except that no pre-recorded Command is required during the Combat Decision Phase. If necessary, the aircraft's Resupply Rating should be reduced after each Combat mission it successfully executes. Note: Aircraft may never be attacked by submarines during a Contemporary Scenario.

During the Command Decision Phase, the Surface Player may assign either an Active or Passive Search Mission to any aircraft currently on the map by placing the appropriate Search marker directly on top of the Aircraft counter. A contemporary aircraft's assigned Search mission is resolved exactly as that of a contemporary vessel, except that an aircraft which is assigned a Search mission may not be moved during the Command Execution Phase. In addition, the Surface Player is required to keep a written record on a separate sheet of paper, which documents which submarine(s) are detected by a given aircraft during each Game-Turn throughout the Scenario (see Case 9.13).

[9.2] NON-COCONTemporary AIRCRAFT
The effect of non-contemporary aircraft is represented only in Scenario 10.54 as explained in the Scenario rules.

[10.0] SCENARIOS
GENERAL RULE:
The Upscoped rules are used to play any of the Scenarios presented in this rules section. Each of these Scenarios constitutes a distinct game utilizing unique forces and special rules as required. The Scenarios are presented according to the format indicated in Case 10.1 and are categorized by type and era. There are three different types of Scenarios: Engagement Scenarios, Convoy Scenarios, and Campaign Scenarios, each of which is governed by the Scenario Type restrictions in that Scenario (see Case 10.2). At the start of any Scenario, the Players must decide who will be the Submarine Player and who will be the Surface Player. The players then select one appropriately coded ship counter to represent each vessel which participates in the Scenario. The identity of each non-Convoy Ship counter is transcribed at the top of an appropriate Command Track along with all other required data pertinent to the vessel represented by the ship counter (see Section 13.0). After both Players have completed their Command Track(s), the submarine and surface vessels are deployed according to the Scenario rules and the game is initiated according to the Sequence of Play (see Case 4.0).

CASES:

[10.1] SCENARIO FORMAT
Each Scenario is presented in the following format:

[10.22] Engagement Scenario Restrictions
During an Engagement Scenario, one Player is designated the Attacker and his opponent is designated the Defender. The Attacker's mission is generally to inflict the maximum possible damage on the defended vessel(s) while the Defender's mission is generally to ensure that his vessel(s) exit the map without suffering damage and/or to inflict the maximum possible damage on the attacking vessel(s). Unless specifically prohibited by the Scenario rules, either Player's vessels are permitted to exit the map at any time during an Engagement Scenario (by physically moving out of a map edge and off the map at a cost one Movement Point). Note, however, that the Defender Player gets Final Victory Points for the Durability Value of each defending vessel remaining on the map at the conclusion of the game, if there are no attacking vessels present on the map at this time.

At the conclusion of any Engagement Scenario, the following procedure is used to determine the winner of the Scenario and the level of victory achieved by that Player.

Engagement Scenario Victory Determination Procedure:

1. At the start of the Scenario, the defending Player records the total Durability Value of all of his vessels and records this Initial Victory Point total on a sheet of paper.
2. At the end of the Scenario, the defending Player records the total Durability Value of all of his vessels which have exited the Destination map edge(s) designated in the Scenario Rules.
3. The total derived in Step 2 is increased by one Point for each Durability Point of damage inflicted on Enemy vessels during the Scenario.
4. The total derived in Step 3 is the Final Victory Point total. This total is expressed as a percentage of the Initial Victory Point total by dividing the Initial Victory total into 100 times the Final Victory Point total.
5. The result obtained in Step 4 is the Victory Percentage Ratio. The winner of the Scenario and the level of victory achieved are obtained by locating the Victory Percentage Ratio on the following table.

<table>
<thead>
<tr>
<th>Victory Percentage Ratio</th>
<th>Victory Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>200% or greater</td>
<td>Defender Major</td>
</tr>
<tr>
<td>100% to 199%</td>
<td>Defender Minor</td>
</tr>
<tr>
<td>50%-99%</td>
<td>Attacker Minor</td>
</tr>
<tr>
<td>1%-49%</td>
<td>Attacker Major</td>
</tr>
<tr>
<td>0%</td>
<td>Attacker Total</td>
</tr>
</tbody>
</table>

[10.23] Convoy Scenario Restrictions
During a Convoy Scenario, the Surface Player is allocated a number of Capital or Convoy Ships as well as a number of Escort vessels. The Surface Player's mission generally involves the transit of his vessels across the map toward a designated map edge and eventually exiting the map. In doing this he must attempt to minimize the amount of damage which the Submarine Player will try to inflict on his vessels and maximize the amount of damage which he in turn inflicts on the participating submarine vessel(s). Note, however, that the Surface Player's primary mission is to exit the maximum possible number of Durability Points off the designated map edge. Unless specifically prohibited by the Scenario rules, the Submarine Player may voluntarily exit any or all of his vessels off any map edge at any time during the game (by physically moving them out of a map edge and off the map at a cost one Movement Point). Note, however, that the Surface Player receives...
final Victory Points for the Durability Value of each surface vessel remaining on the map at the conclusion of the game, if there are no submarines present on the map at this time. Note also, that no Victory Points are awarded for surface vessels which exit from any mapped area other than that designated in the Scenario rules.

At the conclusion of any Convoy Scenario, the following procedure is used to determine the winner of the Scenario and the level of victory achieved by that Player.

**Convoy Scenario Victory Determination Procedure**

1. At the start of the Scenario, the Surface Player records the total Durability Value of all surface vessels designated in the Scenario Rules and records this Initial Victory Point total on a sheet of paper.
2. At the end of the Scenario, the Surface Player records the total Durability Value of all surface vessels which have exited the Destination map edge designated in the Scenario Rules.
3. The total derived in Step 2 is increased by five Points for each Durability Point of damage inflicted on Enemy submarines during the Scenario.
4. The total derived in Step 3 is decreased by three Points for each unrescued Survivor group remaining on the map at the end of the Scenario.
5. The total derived in Step 4 is decreased by one fifth of a Point for each depth charge or one Point for each Ahead Torpedo Weapon expended by the Surface Player during the Scenario (rounding any remaining fraction up to the nearest whole number).
6. The total derived at the end of Step 5 is the Final Victory Point total. The Initial Victory Point total is now subtracted from the Final Victory Point total which produce either a positive or negative result.
7. The result obtained in Step 6 is the net Victory Point total. The winner of the Scenario and the level of victory achieved are obtained by locating the net Victory Point total on the following table.

<table>
<thead>
<tr>
<th>Net VP Total</th>
<th>Victor</th>
<th>Level of Victory</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 or greater</td>
<td>Surface</td>
<td>Major</td>
</tr>
<tr>
<td>10 to 19</td>
<td>Surface</td>
<td>Moderate</td>
</tr>
<tr>
<td>9 to 10</td>
<td>Surface</td>
<td>Minor</td>
</tr>
<tr>
<td>19 to 20</td>
<td>Submarine</td>
<td>Minor</td>
</tr>
<tr>
<td>29 to 30</td>
<td>Submarine</td>
<td>Moderate</td>
</tr>
<tr>
<td>30 or less</td>
<td>Submarine</td>
<td>Major</td>
</tr>
</tbody>
</table>

**[10.24] Campaign Scenario Restrictions**

There are two Campaign Scenarios included in Urges: Each of these consists of a series of Convoy Scenarios; each individual Convoy Scenario is governed by the Scenario rules as well as the special restrictions of Case 10.23.2.

**[10.3] WORLD WAR I SCENARIOS**

**[10.31] Channel Sweep 1915**

1. Scenario Description: Soon after midday on March 4, 1915, U-8 was sighted by the British destroyer Viking during a routine patrol in the English Channel. As the submarine submerged, Viking detonated its explosive sweep over the swirl left by the U-boat's periscope but no evidence of damage appeared. As the afternoon waned, the destroyer division consisting of Viking, Maori and Ghurka maintained a vigilant search for the elusive U-boat. Shortly before dusk, a periscope was spotted by the crew of the Maori. Trail their sweep, Maori and Ghurka maneuvered to intercept the shallow running enemy. At 5:00 P.M., Ghurka's sweep detonated and U-8 shot up to the surface almost immediately in the midst of heavy gunfire from the two destroyers. Finding escape impossible, the U-boat's crew abandoned ship only minutes before U-8 sank.

2. Scenario Type: Engagement

3. Date: March 4, 1915

4. Time: Day

5. Ocean Condition: Calm

6. Water Condition: Normal

7. Depth of Ocean: 1

8. Map Format: 1

9. Game Length: 10

10. Special Rules

a. The destroyers Maori and Ghurka are equipped with "Early" hydrophones and depth charges.

b. The Scenario automatically ends during the Victory Determination Phase of the Terminal Stage if any of the following conditions are fulfilled:

   - All of the surface vessels have either been sunk or have exited off the western mapedge, or
   - All of the submarines have been sunk.

11. Submarines (German/Attacker):

   - U-49: U Class, B Efficiency, Cmdr. Hartmann, Initial Deployment anywhere on northern mapedge at Depth Level 1, Speed 2.
   - U-63: U Class, B Efficiency, Cmdr. Schulte, Initial Deployment anywhere on western mapedge at Depth Level 1, Speed 2.

12. Surface Vessels (British/Defender):

   - Capital Ships: Falmouth: Light Cruiser, Initial Deployment anywhere exactly 10 hexes from eastern mapedge, Facing West, Speed 2.

   - Escort Vessels:

     - Pelican: Admiralty M Class Destroyer, A Efficiency, Initial Deployment within 5 hexes of Falmouth, Facing West, Speed 2.

     - Porpoise: K Class Destroyer, A Efficiency, Initial Deployment within 5 hexes of Falmouth, Facing West, Speed 2.

**[10.32] Ambush 1916**

1. Scenario Description: Following the inconclusive Battle of Jutland, the C-in-C of the German High Seas Fleet, Admiral von Scheer, planned another confrontation with Jellicoe's Grand Fleet. This time, however, Scheer's surface fleet would act as the bait which would entice the British into a deadly U-boat ambush. Early on August 19, 1916, the British light cruiser Nottingham became the first victim of the planned ambush. That same afternoon, a second light cruiser, the Falmouth, was crippled by two torpedoes fired by U-56 just as Jellicoe's orders turned the Grand Fleet north away from the ambush. Thus, the crippled Falmouth began her long voyage home guarded by the destroyers Pelican and Porpoise while three U-boats relentlessly stalked the wounded cruiser. Despite the valiant efforts of the British destroyers, the Falmouth finally succumbed to two more torpedoes fired by U-62 during the last leg of the fateful journey back to England.

2. Scenario Type: Engagement

3. Date: August 19, 1916

4. Time: Day

5. Ocean Condition: Calm

6. Water Condition: Normal

7. Depth of Ocean: 2

8. Map Format: 1

9. Game Length: 20

10. Special Rules

a. The Falmouth is automatically assigned a Speed Command of two and a Steady Course Maneuver throughout the Scenario.

b. The Falmouth's Durability Value is considered ten at the start of the Scenario.

c. The destroyers Pelican and Porpoise are equipped with "Early" hydrophones and depth charges.

d. The Scenario automatically ends during the Victory Determination Phase of the Terminal Stage if any of the following conditions are fulfilled:

   - All of the surface vessels have either been sunk or have exited off the western mapedge, or
   - All of the submarines have been sunk.

11. Submarines (German/Attacker):

   - U-49: U Class, B Efficiency, Cmdr. Hartmann, Initial Deployment anywhere on northern mapedge at Depth Level 1, Speed 2.
   - U-63: U Class, B Efficiency, Cmdr. Schulte, Initial Deployment anywhere on western mapedge at Depth Level 1, Speed 2.

12. Surface Vessels (British/Defender):

   - Capital Ships: Falmouth: Light Cruiser, Initial Deployment anywhere exactly 10 hexes from eastern mapedge, Facing West, Speed 2.

   - Escort Vessels:

     - Pelican: Admiralty M Class Destroyer, A Efficiency, Initial Deployment within 5 hexes of Falmouth, Facing West, Speed 2.

     - Porpoise: K Class Destroyer, A Efficiency, Initial Deployment within 5 hexes of Falmouth, Facing West, Speed 2.

**[10.33] "Probably Sunk"

1. Scenario Description: On March 11, 1918, while screening a light cruiser squadron off the English coast, the British destroyer Sturgeon sighted UB 54 off its port bow. As the submarine dived, the Sturgeon and her sister escorts, Retriever and Thruster, raced in above the doomed U-boat. The first attack was delivered by Sturgeon which dropped a shallow charge pattern directly over the diving sub. As the detonations subsided, UB 54 suddenly surfaced the surface showing obvious damage. Immediately diving again, the Geman submarine disappeared forever under the towering spray of Sturgeon's next attack. Although oil and wreckage covered the surface, neither survivors nor bodies were recovered. Thus the fate of UB 54 was officially recorded as "probably sunk" by the British Admiralty.

2. Scenario Type: Engagement

3. Date: March 11, 1918
4. Time: Day
5. Ocean Condition: Moderate
6. Water Condition: Normal
7. Depth of Ocean: 3
8. Map Format: 1
9. Game Length: 20
10. Special Rules
   a. All destroyers in this Scenario are equipped with “Advanced” hydrophones and depth charges.
   b. The Scenario automatically ends during the Victory Determination Phase if the Terminal Stage if any of the following conditions are fulfilled:
      All of the surface vessels have been sunk, or
      UB 54 has either sunk or exited off any mapedge.
11. Submarines (German/Defender):
    UB 54: UB Class, B Efficiency, Cmndr. Hecht, Initial Deployment in Hex 1723 at Depth Level 0, Speed 2.
12. Surface Vessels (British/Attacker):
    Escort Vessels:
    Sturgeon: Admiralty R Class Destroyer, A Efficiency, Initial Deployment in Hex 1730, Speed 4.
    Retriever: Thornycroft R Class Destroyer, A Efficiency, Initial Deployment in Hex 1030, Speed 4.
    Thruster: Admiralty R Class Destroyer, A Efficiency, Initial Deployment in Hex 2430, Speed 4.

[10.4] WORLD WAR II
MEDITERRANEAN SCENARIOS

[10.41] Persian Gulf 1940
1. Scenario Description: During the early days of World War II, the Italian submarine fleet was active in both the Mediterranean and the Atlantic. In June 1940, several patrols were executed in the Red Sea and the Indian Ocean as well. The Italian attempt to extend operations in this direction proved a failure which cost Italy four of the five boats sent. This Scenario simulates an engagement which occurred on June 23, between the submarine Torricelli and the British destroyers Kandahar, Khartoum, and Kingston. When the battle ended the Torricelli had been sent to the bottom while the Khartoum perished when Italian gunfire exploded her magazine. Throughout the action, the Torricelli remained surfaced and refrained from using her two remaining torpedoes.
2. Scenario Type: Engagement
3. Date: June 23, 1940
4. Time: Day
5. Ocean Condition: Calm
6. Water Condition: Normal
7. Depth of Ocean: 3
8. Map Format: 1
9. Game Length: 20
10. Special Rules
   a. The Torricelli is equipped with only two Veloce (Contact) torpedoes.
   b. The Scenario automatically ends during the Victory Determination Phase if the Terminal Stage if the Torricelli has either sunk or exited the southern mapedge.
11. Submarines (Italian/Defender):
    Torricelli: Brin Class, Efficiency C, Cmdr. Pelosi, Initial Deployment anywhere on the Northern mapeedge at least 15 hexes from either the east or west mapeedge at Depth Level 0, Facing Southeast, Speed 3.

[10.42] Attack on Force K
1. Scenario Description: Toward the end of November 1941, a British force of two cruisers and two destroyers was operating against Axis merchant shipping in the Mediterranean. On November 28, the British squadron, designated “Force K,” was intercepted by the Italian submarine Trieste. Although the British spent an anxious day trying to locate the submarine, the Trieste’s attack was unsuccessful. After the British opportunity to counterattack was foiled by erratic water conditions. Four months later, Trieste’s luck ran out during an encounter with the British submarine Upholder.
2. Scenario Type: Engagement
3. Date: November 28, 1941
4. Time: Day
5. Ocean Condition: Calm
6. Water Condition: Erratic
7. Ocean Depth: 5
8. Map Format: 1
9. Game Length: 20
10. Special Rules
   a. The two British cruisers operate as a convoy sharing the same Speed and Maneuver Command.
   b. The Scenario automatically ends during the Victory Determination Phase if all surface vessels are either sunk or have exited the eastern mapedge.
11. Submarines (Italian/Attacker):
    Trieste: Squalo Class, C Efficiency, Initial Deployment anywhere at least 15 hexes from the western mapedge at Depth Level 1, Speed 2.
12. Surface Vessels (British/Defender):
    Capital Ships:
    Ajax: Heavy Cruiser, Initial Deployment in Hex 1545, Facing East, Speed 4.
    Neptune: Heavy Cruiser, Initial Deployment in Hex 1945, Facing East, Speed 4.
    Escort Vessels:
    Kimberly: K Class, A Efficiency, Initial Deployment in Hex 0945, Facing East, Speed 4.

[10.43] Attack on the Malta Convoys
1. Scenario Description: “Operation Pedestal” was a British plan to run supplies to the beleaguered garrison of Malta in the central Mediterranean. Taking part in this convoy leaving Gibraltar on August 10, 1942, were thirteen transports, one tanker, two battleships, four carriers, seven cruisers and twenty-five destroyers. Part of the Italian blocking force was composed of seventeen submarines, including two German U-boats. In the face of extreme pressure from both air and sea, most of this convoy was forced to turn back to Gibraltar on August 12. Italian submarines, however, continued to harass the remainder of the convoy as it continued toward Malta. In one encounter, the submarines Di Sisto and Axis scored torpedoes hits on two battleships, light cruisers Cairo and Nigeria, as well as the tanker Ohio. As a result of such Italian efforts, “Operation Pedestal” delivered only three undamaged ships to Malta on August 13.
2. Scenario Type: Convoy
3. Date: August 12, 1942
4. Time: Day
5. Ocean Condition: Moderate
6. Water Condition: Erratic
7. Ocean Depth: 5
8. Map Format: 1
9. Game Length: 20
10. Special Rules
a. The four light cruisers, two tankers and one freighter are all considered Convoy ships which are governed by a single set of Speed and Maneuver Commands. The convoy’s maximum speed is three. The convoy is assigned a Steady Course Maneuver until a submarine is detected or a torpedo hit is achieved.
b. The Scenario automatically ends during the Victory Determination Phase if any of the following conditions are fulfilled:
   All surface vessels are either sunk or have exited the eastern mapedge,
   All submarines are sunk.
11. Submarines (Italian/Attacker):
    Axis: Audax Class, C Efficiency, Initial Deployment anywhere on the northern mapeedge at least 15 hexes from the western mapedge at Depth Level 1, Speed 2.
    Desei: Audax Class, C Efficiency, Initial Deployment anywhere on the southern mapeedge at least 15 hexes from the western mapedge at Depth Level 1, Speed 2.
12. Surface Vessels (British/Defender):
    The surface forces in this Scenario are composed of the convoy of four light cruisers, two tankers and one freighter, and three escort vessels. The convoy is arranged in three columns which enter on the western mapeedge according to the following explanation.
    Convoy Ships:
    Column 1: Cairo: Light Cruiser, Enters Hex 1545 on Game-Turn 1; Ohio: Slow Tanker, Enters Hex 1545 on Game-Turn 2; Manchester: Light Cruiser, Enters Hex 1545 on Game-Turn 3.
    Column 2: Clan Ferguson: Slow Freighter, Enters Hex 1745 on Game-Turn 2.
    Column 3: Kenya: Light Cruiser, Enters Hex 1945 on Game-Turn 1; Brisbane Star: Slow Tanker, Enters Hex 1945 on Game-Turn 2; Nigeria: Light Cruiser, Enters Hex 1945 on Game-Turn 3.
Note: All Convoy Ships enter Facing East, Speed 3.
13. Escort Vessels:
    Biester: Hunt II Class, A Efficiency, Enters Hex 0945 on Game-Turn 1, Facing East, Speed 3.
    Derwent: Hunt II Class, A Efficiency, Enters Hex 1745 on Game-Turn 1, Facing East, Speed 3.
    Winton: Hunt II Class, A Efficiency, Enters Hex 2545 on Game-Turn 1, Facing East, Speed 3.

[10.5] WORLD WAR II
ATLANTIC SCENARIOS

[10.51] Prien’s Last Patrol
1. Scenario Description: By March 1941, three outstanding U-boat captains had achieved the status of “Aces.” The trio included Gunther Prien who had sunk the British battleship Royal Oak at Scapa Flow and had also disposed of 245,000 tons of Allied merchant shipping. Joachim Schepke who had sunk 230,000 tons, and Otto Kretschmer who was credited with over 280,000 tons. During March, the three aces were simultaneously on patrol in the North Atlantic for the first time and each was seeking to be the first to sink 300,000 tons. In a single week, however, Prien and
Schepe would perish, Kreischer would be taken prisoner, and the myth of the U-boats’ invincibility would be shattered forever.

Just as night was falling on March 10, Prien’s boat, U-47, was preparing to attack a British convoy. All day the weather had been poor and visibility was severely limited. At dusk, however, the weather suddenly cleared and U-47 was spotted by the British destroyer *Wolverine* which immediately attacked. Totally surprised, Prien made a fatal mistake by ordering his boat to dive and thus sacrificing U-47’s surface speed. That advantage was permanently lost when *Wolverine’s* first depth charge attack damaged the U-boat’s propellers. Despite her damage, U-47 surfaced and tried to escape into the falling light but *Wolverine* relentlessly gained on the fleeing submarine forcing her to dive again. Crossing Prien’s diving point, *Wolverine*’s second depth charge attack ended Prien’s brilliant career. The hero of Scapa Flow would hunt no more.

2. **Scenario Type**: Engagement
3. **Date**: March 10, 1941
4. **Time**: Day (see below)
5. **Ocean Condition**: Heavy
6. **Water Condition**: Normal
7. **Ocean Depth**: Unlimited
8. **Map Format**: 1
9. **Game Length**: 20
10. **Special Rules**
    a. Game-Turns 11-20 are Night Game-Turns.
    b. The Scenario automatically ends during the Victory Determination Phase if U-47 is sunk or has exited the eastern mapege or the *Wolverine* is sunk.
11. **Submarines (German/Attacker)**:
    - U-47: VIIC Class, B Efficiency, Cmdr. Rehwinkel, Initial Deployment anywhere at least 15 hexes from the western mapege at Depth Level 10, Speed 3.
12. **Surface Vessels (US/Defender)**:

**[10.53] The Defense of Convoy ONS 138**

1. **Scenario Description**: By October 1942, the Battle of the Atlantic had reached a critical stage for the Allies. In this month alone, ninety-one merchant ships — 585,000 tons — went to the bottom as a result of the U-boat campaign. A typical convoy of this period was ONS 138, a slow convoy from Liverpool to New York. On its first day out of England, the formation ran into bad weather and was scattered. The escorts allocated to this convoy could do little more than “sheepdog” work. Eventually, the weather cleared to an unseasonable degree, leaving perfect conditions for the U-boats to attack. The convoy was a scattered convoy and a calm ocean. Escort Group B2, led by *Hesperus* under the command of Captain Donald Macintyre, successfully fended off attacking wolf packs with little blood drawn on either side. A typical action involved *Hesperus*, *Whitehall* and *Vanessa* against U-301. The escort’s mission was to keep U-boats out of the convoy range of the convoy. The unseasonably hot weather and calm ocean produced horrendous sonar conditions, although the three ships managed to keep U-301 from reaching the convoy. Eventually, the U-boat, severely shaken by depth charges, departed in search of easier prey.

2. **Scenario Type**: Engagement
3. **Date**: October 23, 1942
4. **Time**: Day
5. **Ocean Condition**: Calm
6. **Water Condition**: Erratic
7. **Ocean Depth**: Unlimited
8. **Map Format**: 1
9. **Game Length**: 20
10. **Special Rules**
    a. At the start of the Scenario, the Submarine Player places five designated Submarine counters (S1-S5), and five Dummy Submarine counters in a cup. During the Reinforcement Phase of each odd numbered Game-Turn, the Submarine Player picks one counter from this cup, keeping the result hidden. Whenever the Submarine Player picks a designated submarine, he records its I.D. Number on a Command Track (along with all other necessary information). On the following Game-Turn, the submarine may enter the map in any hex on the northern mapege, either on the surface or submerged at the Submarine Player’s option. On the Game-Turn a submarine enters the map, it becomes subject to the standard rules governing Command, Movement, etc.
    b. In this Scenario, the standard Engagement Scenario Victory Conditions are slightly modified as follows: The Submarine Player is considered the Defender and his Initial Victory Point total is determined by totalling the Durability Values of any submarines which enter the map during the course of the Scenario. When determining the Submarine Player’s Final Victory Point total, the Durability Value of each submarine which exited off the southern mapege prior to the end of the game is doubled.
    c. The Scenario automatically ends during the Victory Determination Phase if three or more submarines have exited off the southern mapege prior to the end of the game.
11. **Submarines (German/Defender)**:
    - Note: Each submarine in this Scenario is Type VIIC, B Efficiency. Each designated Submarine counter represents an actual U-boat as indicated in the following schedule:
      - S1 = U260
      - S2 = U301
      - S3 = U620
      - S4 = U660
      - S5 = U706
12. **Surface Vessels (British/Attacker)**:
    - Escort Vessels:
      - *Whitehall*: W Class, A Efficiency, Initial Deployment anywhere at least 20 hexes from the northern mapege, Speed 4.
      - *Vanessa*: V18 Class, A Efficiency, Initial Deployment anywhere at least 20 hexes from the northern mapege, Speed 4.

**[10.54] Crisis Convoy: Campaign Scenario**

1. **Scenario Description**: During the period between February and May 1943, the Battle of the Atlantic, the longest and perhaps the most important battle of the Second World War, reached its crisis. Prior to early 1943, the lack of long range air and naval escorts left the North Atlantic merchant convoys vulnerable to the German “wolfpack” tactics. The earlier convoy battles had been extremely one-sided in the U-boats’ favor, and their success had brought Britain to the brink of ruin by the beginning of 1943. Five months later, however, the introduction of better equipped and more numerous naval escorts in conjunction with increasing numbers of land and carrier based air escorts, had reversed the tide of the Atlantic conflict and imperiled Germany’s ability to sustain her U-boat effort. To simulate the turning point in the Battle of the Atlantic, we have devised a Campaign game consisting of seven individual Scenarios all of which depict the passage of HX 231, a fast eastbound convoy of 60 merchant ships and six escort vessels which departed Halifax, Nova Scotia in late March and arrived in English home waters in early April 1943. Although during this period more than 100 German U-boats were hunting in the North Atlantic, the principal enemy of HX 231 was the German wolfpack named *Low-Backs* (Lionheart). The average strength of 15 submarines first contacted HX 231 on April 4, 1943. Three days later, in the face of increasing air and naval support, the wolfpack’s attack subsided and 52 of the original merchantmen gained the safety of Britain’s Western Approaches. For this convoy, the crisis was ended. For the U-boat crews, it was only beginning.

2. **Scenario Type**: Basically, this campaign game consists of seven individual Scenarios which are played in succession to form a full Campaign Scenario. Each of the seven individual Scenarios is considered a Convoy Scenario for Victory Determination purposes. The overall Victory Conditions for the entire Campaign game are indicated at the end of this Scenario.
3. **Date**: Each individual Convoy Scenario represents a brief battle period within a twelve hour span of time. The first of the seven Scenarios represents the night of April 4, 1943. The second and
third Scenarios represent the day and night of April 5. The fourth and fifth Scenarios represent the day and night of April 6. The sixth and seventh Scenarios represent the day and night of April 7. Thus each odd numbered Scenario represents a night period and each even numbered Scenario represents a day period.

4. **Time**: The first, third, fifth and seventh Scenarios occur at night. The remaining Scenarios occur during daylight.

5. **Ocean Condition**: The Ocean Condition for all seven Scenarios is Moderate.

6. **Water Condition**: The Water Condition for all seven Scenarios is Normal.

7. **Ocean Depth**: The Ocean Depth for all seven Scenarios is 230 yards.

8. **Map Format**: The Map Format for all seven Scenarios is 2 L.

9. **Game Length**: The Game Length for each individual Scenario is 20.

10. **Special Rules**: There are a number of special procedures used to initiate and regulate the play of each individual Scenario as delineated in the following Notes.

a. During each Scenario, it is postulated that Convoy HX231 will transit the area patrolled by the German wolfpack. There is, however, a variable chance that the German wolfpack will be sighted by one or more German submarines. Thus, to initiate each Scenario, the Submarine Player first prepares his patrol line using the procedure indicated in 11, below. The Surface Player then rolls one die to determine what portion of the German patrol line the convoy encounters. If the Surface Player rolls a six, the convoy is considered to have outflanked the German patrol line and the Scenario representing the current 12 hour period is cancelled (not played). If the Surface Player rolls any other number, the three submarines representing the intercepted portion of the patrol line are allotted to the Submarine Player and all of the remaining Submarine counters are removed from play. The Submarine Player then secretly reveals the underside of each of the three counters allotted to him and prepares a Command Track for each real submarine among this group, keeping any False submarines he received face-down near the edge of the map. If there are no real submarines among the three allotted, the Submarine Player is considered to have passed through the German patrol line without being spotted and the Scenario representing this 12 hour period is cancelled.

b. If there is one or more real submarines among the intercepted portion of the German patrol line, the Players are required to play a twenty Game-Turn Scenario which represents a short battle period during the 12 hour time span represented by the current Scenario. If the convoy passes through the German patrol line without being spotted, the current Scenario is cancelled and play proceeds to the next Scenario. When the convoy is intercepted by one or more real submarines, Players immediately refer to Scenario Rules 11 and 12 to determine the composition and deployment of the opposing forces.

c. During the course of the full Campaign game, the Submarine Player must keep track of the number of torpedoes on each submarine. As each torpedo is launched, one is subtracted from that submarine's torpedo inventory. Once all of a given submarine's torpedoes have been expended, that submarine is considered unavailable for the remainder of the Campaign game. The Submarine Player may never transfer torpedoes from one submarine to another. At the start of the Scenario, each submarine is considered to be carrying its maximum number of torpedoes as indicated in the Ship and Weapon Data Summary.

d. During the course of the Campaign game, a submarine or Escort vessel whose Durability has been reduced due to damage possesses a limited ability to repair itself and resurface its Durability Value. A vessel whose possession is an "A" Efficiency Rating may repair one Durability Point of damage during a 12 hour period. A vessel which possesses a "B" Efficiency Rating may repair one Durability Point of damage during a 24 hour period. A vessel which possesses a "C" Efficiency Rating may repair one Durability Point of damage during a 36 hour period. If a Player wishes to repair damage on a given vessel, he records the vessel's I.D. Number and the date on which repair work is initiated on a sheet of paper. While repairing damage, a vessel is considered unavailable for Scenario participation. Note that a vessel may never repair more than three Durability Points of damage during the entire Campaign game.

e. At the start of each daylight Scenario, after the Submarine Player prepares his patrol line, the Surface Player may remove one Submarine counter from the patrol line for each Air Escort assigned to the convoy during that Scenario. The Surface Player simply removes the chosen counters from the German patrol line without revealing their identity. Note that the Surface Player may remove a maximum of one counter from each portion of the German patrol line (i.e., a maximum of one from each three submarine group in the patrol line). Note also that these submarines are considered temporarily unavailable during the current Scenario, only. The Surface Player receives Air Escorts as follows: one during the day of April 1; two during the day of April 2; three during the day of April 3; No Air Escort is provided during Night Scenarios.

f. During the last four Scenarios (April 6-7), the Surface Player receives four additional naval Escort vessels which represent a Support Group of four British destroyers sent to reinforce HX231. These vessels are fully documented in 12, below.

g. During the course of the Campaign game, if any real submarine is sunk during a Scenario, that submarine is considered unavailable for the remainder of the Campaign game.

h. During the course of the Campaign game, the Surface Player must keep track of the number of Underwater Weapons on each Escort vessel. At the start of the first Scenario, each Escort vessel is considered to be carrying its maximum number of Depth Charge and Ahead Thrown Weapons as indicated in the Ship and Weapon Data Summary. Once an Escort has expended all of its available Underwater Weapons, it may not execute Underwater Combat missions for the remainder of the Campaign game.

i. During each individual Scenario, all Convoy Ships are automatically assigned a Steady Course Maneuver and a Speed of three for the first five Game-Turns. For the remainder of the game, the convoy may be assigned a Speed of four and may be assigned any Maneuver the Surface Player desires.

j. During each individual Scenario, no submarine may be assigned a Combat Mission during the first five Game-Turns.

11. **Submarines (German)**: During the Campaign game, each submarine is assigned a Patrol Group Number and an individual I.D. Number to distinguish a given submarine within its Patrol Group. These assignments are as follows:

**Patrol Group 1:**
- S1 = U191
- S2 = U168
- S3 = U630

**Patrol Group 2:**
- S1 = U635
- S2 = U706
- S3 = U260

**Patrol Group 3:**
- S1 = U564
- S2 = U592
- S3 = U572

**Patrol Group 4:**
- S1 = U530
- S2 = U563
- S3 = U594

**Patrol Group 5:**
- S1 = U584
- S2 = U632
- S3 = U415

Note: All submarines are Type VII Class, B Efficiency.

**How Submarine Availability Is Determined.**

At the start of each Scenario, the Submarine Player places all 15 Submarine counters face-down adjacent to the map. After thoroughly mixing them, the 15 counters are arranged in a single line in five groups of three counters apiece. Each group of three counters represents one of the five Patrol Groups indicated above. Thus, each group is assigned a number from left (1) to right (5). The resulting line of Patrol Groups is an abstract representation of the German patrol line formed to intercept Convoy HX231. When the patrol line is formed, the available submarine which possesses the second lowest I.D. Number may enter under the same restrictions. During the third Game-Turn, the available submarine which possesses the third lowest I.D. Number may enter under the same restrictions. Note that no more than one submarine may enter from the same mapeged. Note also that False submarines from the intercepted Patrol Group are never permitted to enter the map in this manner (these represent real submarines which are unable to find the convoy).

12. **Surface Vessels (British):**

Convoy Ships:
Convoy HX231 is initially composed of 38 freighters, 22 tankers, and six Escort vessels all of which participate in the first Scenario which is played. At the start of each subsequent Scenario, the convoy consists of all vessels which exited the eastern mapeged prior to the end of the preceding Scenario plus the vessels which compose the Support Group which are available during each of the April 6-7 Scenarios. Any vessel which is sunk or fails to exit the eastern mapeged during a given Scenario is unavailable for the remainder of the Campaign game. All such vessels are considered sunk for Victory Determination purposes.
Escort Vessels. (B7 Group, Cmdr. Peter Gretton):
Tay: River Class Frigate, A Efficiency, Cmdr. R.E. Sherwood
Alisma: Flower Class Corvette, A Efficiency, Cmdr. G.M. Rose.
Loosestrife: Flower Class Corvette, C Efficiency (Cmdr. unknown)
Support Group (Available April 6-7, only):
Eclipse: E Class Destroyer, B Efficiency, Cmdr. E. Mack.
Fury: F Class Destroyer, B Efficiency, Cmdr. C.W. Campbell.
Inglefield: I Class Destroyer, B Efficiency, Cmdr. A.G. West
Air Escorts (days only):
April 5: 1
April 6: 2
April 7: 3

How Surface Vessels Enter the Map.
During each of the first five Game-Turns, the Surface Player must enter 12 Convoy Ships on the western map edge. Each vessel must enter exactly four hexes from another entering vessel, and no vessel may enter through a hex which is within 10 hexes of either the northern or southern map edges. All vessels entering after the first Game-Turn must enter through hexes entered during the first Game-Turn so that at the end of Game-Turn 5, there are 12 columns of Convoy Ships each containing five vessels. A maximum of two tankers may enter the map through the same hex. All Convoy Ships enter the map Facing East, Speed 3.

At the start of each Scenario, the Surface Player may deploy up to three Escort vessels anywhere within 10 hexes of the western map edge. Each of these vessels is deployed Facing East, Speed 3. Any of the other available Escort vessels may enter anytime during the first six Game-Turns through any hex on the western map edge, however, an Escort vessel may never enter the map through a hex which is within three hexes of a hex occupied by a Convoy Ship. Each Escort vessel enters the map Facing East, Speed 3.

13. Campaign Game Victory Conditions: The winner and level of victory achieved in each individual Scenario is determined according to the Convoy Scenario Victory Determination rules indicated in Case 10.23. At the end of each Scenario, one player is awarded Campaign Game Victory Points according to the following schedule: At the end of the Scenario representing the night of April 7, the Player with the most Victory Points is considered the winner of the full Campaign game.

The Scenario Winner receives Campaign Game Victory Points as follows:
1 Victory Point for each Minor Victory
2 Victory Points for each Moderate Victory
3 Victory Points for each Major Victory

Note: Neither Player receives Victory Points for any Scenario which is cancelled.

[10.55] Carrier Patrol
1. Scenario Description: On the morning of March 1, 1944, the U.S. Escort carrier Block Island and her screen of five destroyers found what they were looking for — U-boats. The engagement began when U-709 was detected by radar while maneuvering to attack the carrier. Within moments a full-scale gunnery battle was underway. With shells bursting everywhere, U-709 quickly submerged and disappeared from view. In hot pursuit, the U.S. destroyers Thomas, Boswick, and Bronstein began a vicious depth charge attack unaware that a second submarine, U-603, had blundered into the raging battle. The destroyers continued attacking repeatedly until a deafening explosion convinced the Bronstein's crew that the menace had been defeated. In fact, Bronstein had sunk U-603. Aboard the Thomas, however, the presence of U-709, was detected and subjected to a heavy depth charge attack. A moment later, a second explosion ensured that the Block Island's escort group was entitled to a double victory celebration.

2. Scenario Type: Engagement
3. Date: March 1, 1944
4. Time: Night
5. Ocean Condition: Moderate
6. Water Condition: Normal
7. Ocean Depth: Unlimited
8. Map Format: 1
9. Game Length: 20
10. Special Rules
a. The Scenario automatically ends during the Victory Determination Phase if either vessel is sunk or the Plunger has exited the northern map edge.

11. Submarines (U.S./Defender):
Plunger: P Class, B Efficiency; Enters on Game-Turn 1 anywhere on the southern map edge at least 15 hexes from both the eastern and western map edges at Depth Level 1, Speed 2.

12. Surface Vessels (Japanese/Attacker):
Escort Vessels:
PC-1: PC-1 Class, B Efficiency; Initial Deployment anywhere within 15 hexes of Hex 1723, Speed 3.

[10.62] The Sinking of the Yorktown
1. Scenario Description: Early in the morning of June 6, 1942, the commander of the Japanese submarine I-168, spotted a target he could not allow to escape. In the periscope, Yahachi Tanabe saw the carrier Yorktown, under tow after suffering damage during the Battle of Midway. Directly alongside the Yorktown was the destroyer Hammann which was supplying power. After making a careful approach, I-168 obtained an excellent firing position and launched four torpedoes at the carrier. The first torpedo hit the Hammann, sinking it immediately. Two torpedoes continued on to hit the Yorktown, and these hits, combined with her Midway damage, sank the precious American carrier. Within minutes, the Japanese submarine was subjected to a hard pounding attack delivered by Yorktown's five other escorts, but I-168 made good her escape and returned to Japan with only minimal damage.

2. Scenario Type: Engagement
3. Date: June 6, 1942
4. Time: Day
5. Ocean Condition: Moderate
6. Water Condition: Normal
7. Ocean Depth: Unlimited
8. Map Format: 1
9. Game Length: 20
10. Special Rules
a. I-168 is equipped with Type 95-1 (Contact) torpedoes. The submarine's bow and stern torpedo tubes are considered loaded at the start of the Scenario but may not be relocated during the Scenario.

b. The Hammann may be assigned a Maximum Speed of three during the Scenario and must be assigned a Steady Course Maneuver until the sub-
a. The two Japanese troopships are considered a single convoy sharing the same Speed and Maneuver Commands.

b. The Scenario automatically ends during the Victory Determination Phase if the Guadacanal has sunk or both Japanese troopships have either sunk or exited off the west edge of the map.

11. Submarines (United States):
   - **Gleaves** Class, B Efficiency; Enters on Game- Turn 1 anywhere on eastern mapeged at least 14 hexes from the western mapeged, Facing West, Speed 3.

12. Surface Vessels (Japanese):
   - **Katori** Class, B Efficiency:
     - 
     - 

13. **PC-1 destroyers**: PC-1 Class, B Efficiency:
    - Enter on Game- Turn 1 anywhere on eastern mapeged at least 14 hexes from the northern and southern mapegeds, Facing West, Speed 3.

14. Escort Vessels:
   - 
   - 

[10.64] The Last of the Growler
1. Scenario Description: By late 1944, the Americans had adopted pack tactics for submarine operations in the Pacific. It was during one of these operations that the U.S. submarine Growler went to the bottom. Early on November 8, 1944, the Growler, commanded by Thomas Oakley, spotted a small Japanese convoy. Oakley immediately dispatched his sighting report to two additional submarines which were currently assisting the Growler. As the Hardhead, commanded by Francis Greenup, and the Hake, commanded by Frank Haylor, proceeded toward the Growler, a series of explosions rocked the ocean. Assuming they had heard Growler's torpedoed strike home, the American subs hurried forward to pick off any remaining Japanese stragglers. Arriving in sight of the convoy, Greenup selected a slow tanker which he sunk immediately. Displaying their usual acumen, the Japanese escorts quickly counterattacked Hardhead with a savage depth charge run. The Hake which had just arrived in the vicinity was forced to go deep as a result of the Japanese attack, and remained pinned for the remainder of the day while the escorts blanketed the area with over 250 depth charges. After finally escaping without serious damage, both Hake and Hardhead vainly attempted to contact the Growler but Oakley's boat and crew were never seen again.

2. Scenario Type: Convoy
3. Date: November 8, 1944
4. Time: Day
5. Ocean Condition: Calm
6. Water Condition: Normal
7. Ocean Depth: Unlimited
8. Map Format: 1
9. Game Length: 20
10. Special Rules
   - 
   - 

[10.65] Wolfpacks in the Pacific Campaign Scenario
1. Scenario Description: By the end of 1944, the Americans had developed an effective "wolfpack" system in the Pacific. During the first half of November 1944, the existence of such a wolfpack provides an excellent framework for a series of hypothetical operations which can be played successively as an extensive Campaign game. During the period between November 1-15, six U.S. submarines were operating as a pack in an area astride the shipping lanes between Japan and the Philippines. Although the largest. notably involves only four of the six American subs, the opportunity for the entire pack to act in unison was not improbable. During this two-week period, the Americans ran up an impressive total, sinking 11 ships for an aggregate total of 32,500 tons. The Japanese heavy cruiser Kumano was also damaged during the same period. Basically, this Campaign game consists of a series of fifteen Scenarios, each of which represents one day of operations for the U.S. wolfpack.

2. Scenario Type: Campaign. Note that each of the fifteen individual Scenarios is considered a Convoy Scenario for Victory Determination purposes. The overall Victory Conditions for the entire Campaign game are indicated at the end of this Scenario.
3. Date: Each individual Convoy Scenario represents one day between November 1-15, 1944. Thus, the first Convoy Scenario represents the operations of November 1, 1944, while the fifteenth Scenario represents November 15, 1944.
4. Time: To determine the Time of Day during which a given Scenario takes place, the Surface Player rolls one die at the start of the Scenario. If the die roll is four or less the Scenario occurs during daylight. If the die roll is greater than four, the Scenario occurs at night.
5. Ocean Condition: To determine the Ocean Condition in which a given Scenario takes place, the Surface Player rolls one die. If the result is three or less, the ocean is calm. If the result is four or five, the Ocean is Moderate. If the result is six, the
Ocean is Heavy.

6. Water Condition: To determine the Water Condition which affects a given Scenario, the Surface Player rolls one die. If the result is five or less, the Water is Normal. If the result is six, the Water is Erratic.

7. Ocean Depth: To determine the Ocean Depth which affects a given Scenario, the Surface Player rolls one die. The resulting number is the Depth Level of the Ocean Bottom.

8. Map Format: The Map Format for each Scenario is 1.

9. Game Length: The Game-Length for each Scenario is 20.

10. Special Rules: There are a number of special procedures used to initiate and regulate the play of each individual Scenario as delineated in the following Notes.

   a. For each day between November 1-15, it is postulated that a Japanese convoy will transit the area patrolled by the U.S. wolfpack. There is, however, only a chance that this convoy will be sighted by one or more American submarines. Thus, to initiate each Scenario, the Submarine Player first determines the number of American submarines available on the date of the Scenario for reconnaissance using the procedure indicated in 11, below. After determining the number of available submarines, the Submarine Player rolls one die. After modifying this die roll as indicated below, if the result is equal to or less than the number of submarines available, the Japanese convoy is considered spotted and the Scenario representing the passage of this convoy is played according to the standard game rules and all other Special Rules pertaining to this Scenario. If the modified die roll is greater than the number of submarines available, the convoy is considered to have completed its mission un molested and no activity is simulated using the game components. The die roll used to determine if the convoy is spotted is modified as follows:

   +1 if the Ocean Condition is Moderate
   +2 if the Ocean Condition is Heavy
   +3 if the Scenario occurs at Night

   b. Whenever a Japanese convoy is spotted, the players are required to play a twenty-Game-Turn Scenario which represents a short battle period during one day within the two week time period represented by the full Campaign Game. If the Japanese convoy is not spotted, the Scenario simulating the passage of that convoy is not played and play proceeds to the next day's Scenario. When a convoy is spotted, players immediately refer to Scenario Rules 11 and 12 to determine the composition and deployment of the opposing forces.

   c. During the course of the full Campaign game, the Submarine Player must keep track of the number of torpedoes on each submarine. As each torpedo is launched, one is subtracted from that submarine's torpedo inventory. Once all of a given submarine's torpedoes have been expended, that submarine is considered unavailable for the remainder of the Campaign game. The Submarine Player may never transfer torpedoes from one submarine to another. At the start of the Campaign game, each submarine is considered to be carrying its maximum number of torpedoes as indicated in the Ship and Weapon Data Summary.

   d. During the course of the Campaign game, a submarine whose Durability Value has been reduced due to damage possesses a limited ability to repair itself and recover its Durability Value. A submarine's ability to repair damage is dependent on its Efficiency Rating. A submarine which possesses an A Efficiency Rating may repair one Durability Point of damage per day. A submarine which possesses a B Efficiency Rating may repair one Durability Point of damage per two days. If the Submarine Player wishes to repair damage on a given submarine, he records the Submarine's I.D. Number and the date on which repair work is initiated on a sheet of paper. While repairing damage, a submarine is considered unavailable for daily Scenario participation. Note that a submarine may never repair more than three Durability Points of Damage during the entire Campaign game.

   e. During each individual Scenario, all Convoy Ships are automatically assigned a Steady Course Maneuver and a Speed of three for the first three Game-Turns. For the remainder of the game, the convoy may be assigned a speed of four and any Maneuver the Surface Player desires.

   f. During each individual Scenario, no submarine may be assigned a Combat mission during the first three Game-Turns.

11. Submarines (United States):

   During the Campaign game, each U.S. submarine is assigned an I.D. Number and a Schedule of Availability as follows:


How Submarine Availability is Determined:

At the start of each Scenario, the Submarine Player rolls one die. Between November 1-5, this die roll is reduced by two. After November 5, the die roll is not modified. Each submarine whose I.D. Number is equal or less than the modified die roll is available for participation in that day's Scenario. This procedure is repeated at the start of each daily Scenario.

How Submarines Enter the Map:

During the first Game-Turn of each Scenario, the available submarine which possesses the lowest I.D. Number enters the map either surface or submerged anywhere on the northern or southern mapeged which is at least 10 hexes from both the eastern and western mapegedes. During each subsequent Reinforcement Phase, the Submarine Player rolls one die. A submarine whose I.D. Number matches this die roll may enter the map during the immediately following Game-Turn under the same restrictions as described above. The Submarine Player continues this procedure until all available submarines have gained entry onto the map.

Note: Once a submarine enters the map, it may not voluntarily exit the map for the remainder of the Scenario.

12. Surface Vessels (Japanese):

   Convoy Ships:

   At the start of each Scenario, the Surface Player rolls one die to determine the number of vessels which compose the convoy. If the result is a 1-2, the convoy consists of a single heavy cruiser. If the result is greater than one, the Surface Player picks an equal number of Ship counters from a cup in which four freighters and two tankers have been placed prior to the start of the Scenario. These randomly chosen Ship counters represent the Convoy Ships which participate in the Scenario.

   Escort Vessels:

   At the start of each Scenario, the Surface Player rolls one die to determine the number of Escort vessels available during the Scenario. The Surface Player receives a number of Escort vessels equal to the number obtained from this die roll which may represent any Japanese Escort vessels available before 11/44 as indicated in the Ship and Weapon Data Summary.

How Surface Vessels Enter the Map:

During each of the first three Game-Turns, the Surface Player may enter up to four vessels anywhere on the eastern mapeged. Vessels may never enter the map through adjacent hexes. Vessels may never enter the map through hexes which are more than four hexes apart. After the first Game-Turn, Convoy Ships may only enter through hexes which were entered on Game-Turn 1. All surface vessels must enter the map on or before the third Game-Turn. All vessels enter the map facing West at a Speed of three.

Note: Each daily Scenario automatically ends during the Victory Determination Phase if all surface vessels have either been sunk or have exited off the western mapeged.

13. Campaign "Game Victory Conditions:

   The winner and level of victory achieved in each daily Scenario is determined according to the Convoy Scenario Victory Determination rules indicated in Case 10.23. At the end of each daily Scenario, one Player is awarded Campaign Game Victory Points according to the following schedule. At the end of the Scenario representing November 15, the Player with the most Victory Points is considered the winner of the full Campaign Game.

   The Scenario Victory receives Campaign Victory Points as follows:

   1 Victory Point for each Minor Victory
   2 Victory Points for each Moderate Victory
   3 Victory Points for each Major Victory

Note: Neither Player receives Victory Points for any days in which the Japanese convoy was not spotted.

[10.7] CONTEMPORARY SCENARIOS

[10.71] Look Out, Cleveland!

1. Scenario Description: On December 7, 1981, a Russian ballistic missile armed submarine is cruising off the northeastern American coast. Since the beginning of the month, the Soviet crew has been aware that their vessel has been under constant surveillance by an American task force of three Spruance Class destroyers. For the past 24 hours, all vessels have been on special alert as the two superpowers approach the brink of a nuclear holocaust. Should Armageddon occur, the Russian submarine will attempt to oblitera a large mid-western city.

2. Scenario Type: Engagement
3. Date: December 7, 1981
4. Time: Not applicable
5. Ocean Condition: Not applicable
6. Water Condition: Normal
7. Ocean Depth: Not applicable
8. Map Format: 1
9. Game Length: 10
10. Special Rules:
   a. At the start of the Scenario, the Surface Player places five blank counters and one Disturbed
Water Marker in a cup. During the Command Decision Phase of each Game-Turn, the Surface Player draws one counter from the cup, keeping the result hidden from the Submarine Player.

b. No vessel may be assigned a Combat mission until the Disturbed Water Marker is removed from the cup. Once the Disturbed Water Marker is removed from the cup, all surface vessels may be assigned Combat missions according to the standard rules. Once a surface vessel executes a Combat mission, the submarine may be assigned Combat missions according to the standard rules.

c. The aircraft aboard the U.S. destroyers are not considered operational during this Scenario.

d. No vessel may exit the map during this Scenario.

e. If the submarine has not been sunk by the end of the tenth Game-Turn, the Surface Player automatically loses both the game and Cleveland, Ohio.

11. Submarines (Soviet/Defender):
One Delta Class Ballistic Missile Submarine: Initial Deployment anywhere within three hexes of Hex 1723, Speed 1.

12. Surface Vessels (U.S./Attacker):
Three Spruance Class Destroyers: Initial Deployment anywhere within 15 hexes of the western map edge, Speed 1.

[10.72] The Denmark Strait Engagement
1. Scenario Description: In order to attack NATO shipping in the event of war, Russian submarines must transit several straits, all of which are patrolled by NATO navies. The date is June 22, 1982. An undeclared "hot" war has broken out in Central Europe on June 20. Immediately, a flotilla of Russian subs stationed in the North Sea has moved south of the Arctic Circle for passage into the Atlantic. Most proceed through the passage between Iceland and the Faeroe Islands. However, a few attempt to make the more treacherous passage between Iceland and Greenland — through the Denmark Strait. Here, the U.S. Navy maintains a Hunter-killer group of one destroyer and two frigates. Supported by Orion anti-submarine patrol aircraft squadrons VP-6 stationed in Reykjavik, the American must attempt to prevent the Russians from making a successful passage into the Atlantic where the subs' cruise missiles could wreak havoc on NATO shipping.

2. Scenario Type: Engagement
3. Date: June 22, 1982
4. Time: Not Applicable
5. Ocean Condition: Not Applicable
6. Water Condition: Normal
7. Ocean Depth: Not Applicable
8. Map Format: 2L
9. Game Length: 20

10. Special Rules
a. The aircraft aboard the Nimitz are not considered operational during this Scenario. The aircraft aboard the U.S. cruisers are operational during this scenario.

b. The Scenario automatically ends during the Victory Determination Phase if the Nimitz exits the eastern map edge or if both Soviet submarines have been sunk.

11. Submarines (Soviet/Attacker):
Two Attack Submarines: Charlie Class, Initial Deployment anywhere within 10 hexes of the eastern map edge, Speed 0.

12. Surface Vessels (U.S./Defender):
Capital Ships:
Nimitz: Aircraft Carrier, Nimitz Class, Enters on first Game-Turn anywhere on the western map edge at least 10 hexes from both the northern and southern map edges, Speed 3.

Cruisers:
Virginia: Virginia Class, Enters on first Game-Turn anywhere within 5 hexes of the Nimitz, Speed 3.
California: California Class, Enters on first Game-Turn anywhere within 5 hexes of the Nimitz, Speed 3.
South Carolina: South Carolina Class, Enters on first Game-Turn anywhere within 5 hexes of the Nimitz, Speed 3.

[10.8] MULTI-PLAYER SCENARIOS
In any Scenario in which more than one submarine participates, one or more submarines may be assigned to each participating Player. Similarly, in any Scenario concerning more than one Escort vessel, one or more Escort vessels may be assigned to each participating Player. Note, however, that at the start of the Scenario, one Escort vessel must be chosen to represent the Escort Commander. The Player who controls this vessel also controls all Convoy ships which participate in the Scenario.

[10.9] SCENARIO COMPOSITION
In addition to the given Scenarios, Players should feel free to research and compose a limitless number of alternate Scenarios using the bibliography and the Ship and Weapon Data Summary included in Upscope! The wide diversity of Ship and Weapon characteristics included in the Data Summary allow Players to simulate virtually any historical or contemporary situation involving submarine warfare.

[11.0] NON-CONTEMPORARY SHIP AND WEAPON DATA SUMMARY
(see Rules Booklet insert)

[12.0] CONTEMPORARY SHIP AND WEAPON DATA SUMMARY
(see Rules Booklet insert)

[13.0] COMMAND TRACKS
(see Rules Booklet insert)

UPSCOPE! BIBLIOGRAPHY

Primary Sources


Duckworth, A.D. "British Submarine Design During the War," *The Institute of Naval Architects*, vol. 89, July 1947, p. 149.


Waddington, R.H. *Operational Research in WW II*, London: H.M.S.O.

Secondary Sources


—*Warships of WWII*, London: Ian Allen, 1964

**Periodicals**

*Aviation and Marine*

*International Defense Review*

*Navy International*

*Warship International*

*Warship*

*U.S. Naval Institute Proceedings*

**Movies**

*The Cruel Sea*

*The Enemy Below*

*In Which We Serve*

**Simulations**

*Rakety Kreyser, Simulations Canada*, 1977

*SSM, Game Designer’s Workshop*, 1975

*U-Boat, Avalon Hill, 1960*

*Submarine, Battelle, 1976*

**Abbreviations:**


**DESIGNER’S NOTES**

It is by no accident that *Upscape* has come to resemble a sister-game to *SPI’s Air War*. The design and design development of the two games soon revealed that their general conceptual aims were remarkably similar. Both games spare no expense to simulate reality, although the inherent complications of ASW warfare necessitated slight simplifications in *Upscape*. It was my general intention throughout to represent what it was like to command a pitching destroyer escort on the Atlantic or to peer through a periscope at a lucrative merchant ship 1,000 yards off the port beam. As soon as I began to design *Upscape* I ran into severe problems. I discovered that other submarine games had made tremendous simplifications in favor of game playability, with some of the most important aspects of submarine warfare omitted altogether. Still, I wanted to make *Upscape* completely unique, we basically ignored the other submarine games for the rest of the game’s design period. The game design immediately faced two major problems: the research problem and the playability problem. The research problem was more easily solved in that ship and weapon statistics and information are readily available. The more serious problems in the sonar and hydrophone research, but everything eventually fell into line. The erratic history of the playability problem brought to mind a graph of the N.Y Stock Market. One minute we were all convinced the game was a wonderful creation, and the next we all felt like going into our offices and ripping up all my preliminary rule shreds. Believe me, this game had me worried at times. But thanks to the example of *Air War* and the indefatigable gaming mind of Frank Davis, our tension headaches began to dwindle after a few months.

The game reached a critical stage when almost everyone at SPI agreed that the game should cover not only First and Second World War actions, but contemporary ASW material as well. This added a lot of work to the design. We had to go back to the drawing board for almost every rule written for the earlier game. We discovered that ASW techniques are so different today that what was required was basically a separate simulation. Again Frank did a wonderful job incorporating the modern material into the game (and into a single game).

When the game was finally handed over to Frank for development, its playability might still have been regarded as laughable. I have fond memories of Frank as an escort commander — running all over the ocean dropping hundreds of depth charges, never within two miles of a submarine. Meanwhile, the sub calmly sunk three or four ships in the convoy and exited the map. However, slowly but surely, Frank began to comprehend (and criticize!) the game. We had innumerable discussions about sonar, torpedoes, depth charges, and anything else Frank seemed ready to attack that day. In truth, it seems that Frank put one of the most massive efforts in the history of wargaming into *Upscape*! Without him, the game might never have gotten off the ground.

In the same vein as *SPI’s Air War*, we hope that *Upscape* will be the game to end all submarine games. It certainly will not appeal to all types of wargamers. However, its accuracy will hopefully generate a new type of realism in conflict simulations. As David Isby has stated, we have done the best possible job on this game. It is now up to you, the player, to take these ships under your command and into action.

**BACKGROUND Notes on Operations and Tactics**

Instead of writing a Player’s Notes section, we thought it would be appropriate to provide a detailed description of ASW operations and tactics as they were actually prescribed during the 1940’s. After all, the tactics practiced in real life situations are those which they will be repeating in a game of *Upscape* (hopefully).

**Attack Doctrine and Tactics**

**Attack on Enemy Submarines by Surface Craft**

1. The problem of anti-submarine attack consists of three phases.
   a. The sound search
   b. The procedure after contact is made until the attack is started.
   c. The procedure from the time the attack is started until the final charge is dropped.

2. Phase (a) is largely in the hands of sound operators who must be on the alert for the sound of the first faint echo, thus affording the conning officer the maximum amount of time for conducting his approach and making the attack.

3. The procedure for Phase (b) depends on the sound conditions for the area, the tactical situation at the moment and the range at which the contact was made. In general, the attacking ship must be maneuvered during Phase (b) to bring the contact ahead so that the ship is favorably pointed for an attack and so that a preliminary estimate can be made of the target’s course and speed.

4. The procedure during Phase (c) depends on the type of ASW weapon which is to be used. If the attack is to be made with stern-dropped or thrown charges, the problem is to place the stern of the attacking vessel on a collision course with a point projected ahead of the submarine a distance equal to the sub’s movement during the time required for the charges to sink to the proper depth and to release the charges when this point is reached.

5. If the smaller contact charges, fired from ATW, such as “hedgehog” or “mousetrap,” are employed, the problem is somewhat different. In this case, the attacking vessel must maneuver to arrive at a point which is at the proper range from the sub, while on a heading in the direction of the sub. The projector must be offset from the exact bearing of the sub by a small lead angle, depending on the speed and course of the target and the time of flight of the projectile.
6. The factors influencing the solution of the problems of Phases (b) and (c) are:
   a. Relative location of own ship and target.
   b. Enemy course.
   c. Enemy depth.
   d. Enemy speed.
   e. Own ship’s course.
   f. Own ship’s speed.
   g. Own ship’s turning circle.
   h. “Dead” time.
   i. Distance from sound projector to point of projection of charges.
   j. The time required for the charges to sink and explode. Any method developed for A/S attack which neglects any of the factors mentioned above is only approximate.

7. The tactical situation of valuable units when an initial contact is made will determine whether a deliberate or an urgent attack should be made. If it appears that a torpedo attack may be made before the A/S vessel can accurately place the depth of the charge pattern, an “embarrassing” pattern should be dropped immediately, followed by an urgent attack on the contact. If an urgent attack is to be made, the ship should be maneuvered at high speed into the best position to drop charges. If a deliberate attack is to be made, the attack team should begin immediately to follow out the ship’s standard procedure to track and attack.

8. In addition to the regularly installed equipment, the following gear should be provided on the bridge for ready instant use: A stopwatch, a red flashlight (for use during night attacks), simple tables, curves, or diagrams giving correct lead angles for various cases.

9. In order to properly evaluate the time range plot and to use information on range rate to estimate target movements, it is mandatory that the attack be conducted at a steady speed. This speed should be as high as practicable having due regard to the necessity of holding sound contact, the necessity for adequate verification of contact and estimation of the course and speed of the target during the approach to the firing point. To avoid the give-away of the commencement of an attack by a sudden increase in speed, if the A/S vessel is steaming at a relatively high speed when contact is made, when possible, hold this speed for the attack.

10. One of the most common errors in the attack is that the vessel gets on a collision course with the sub and stays there. If this is done, the charges explode far astern of the sub. A good maxim is “if in doubt, always err on the side of too much rather than too little lead.” Remember: Analysis shows that a great majority of misses are astern of the target and result directly from applying too little lead too late.

11. Analysis shows that most of the violent escape tactics used by enemy sub crews occur between the time the attack is launched and the time the depth charges actually explode. The longer this period, the more chance there is of missing the target. A destroyer, because of its larger turning circle, is forced to come to the attack course before the range is reduced below 700 yards. However, smaller craft can close the range to 400 yards before applying the final lead angle to the attack. To run in further than 300 yards is not advised because contact may be lost with the sub at 200 yards — 300 yards also puts the sub inside the turning circle of the attacking ship.

Deliberate Attack Procedure with Stern Charges

1. When contact is made, proceed as follows:
   a. When initial range is greater than 1,000 yards:
      i. Immediately change course to head directly for the sound contact.
   b. If steaming at a speed of 15 knots or greater, slow to 10 knots. Sound operator verify and classify the contact. Determine the direction in which the contact is moving by noting the direction and bearing changes.
   c. As soon as contact is definitely determined to be a sub and the direction of target movement is determined, immediately to attack speed. In any case, the attacking ship must make attacking speed when the range drops to 1,000 yards.
   d. Keep the attacking ship heading directly for the “leading cut-off” of the target.
   e. Maintain a steady attack speed.
   f. Estimate the lead angle necessary to head the ship along the attack course when some specific range is reached. Order the type of pattern to be used.
   g. When the attack course range is reached, turn smartly to the attack course and start a stop watch to determine drop time.
   h. Hold the attack course until the firing point is reached as indicated by the stop watch.
   i. After the selected pattern has been dropped, proceed on the attack course for about 300 yards. Reduce speed to 10 knots after barrage explodes and use standard procedure to regain contact.
   j. When initial range is less than 1,000 yards:
      i. Same as above, except reaction time is sharply reduced. Maintain slower search and attack speeds, as travelling too fast may make attack impossible.

Attack Procedure with Ahead-Thrown Charges

1. The principal advantage of attack with ATW is obtained by the reduction of “evasive” time, i.e., the time elapsing from the instant the attack is launched to the instant the charges explode. For a stopped charge, the distance travelled by the target during this time is a minimum of 300 yards, often much greater. Hence, the attack must be launched from a range of over 300 yards as the tactical limits of most A/S vessels preclude changes in that attack course within that range. Thus, an appreciable length of time must elapse after the attack has started for the attacking ship to reach the dropping point and for the charges to sink to the proper depth. In fact, if ATW can be fired from a range of about 300 yards and have a time-in-flight of only about 7 seconds in the air and a sinking rate of about 22 feet per second. This tremendous reduction in evasive time reduces materially the possible evasive maneuvers of the target after the attack is launched.

2. ATW will only explode when they come in contact with a target, but with the lateral dispersion obtained by a full pattern, experience has shown that there is a much better chance to obtain a contact explosion than to explode a stern-dropped pattern within lethality of the target. An additional advantage accrues from the use of ATW due to the fact that if a pattern misses the target, there is no explosion disturbance, and no results to make it difficult to maintain sound contact. (Ed. note: This was not true of the British “Squid” ATW, which exploded at a pre-set depth.)

3. The ATW attack can be carried out at a much slower speed than the normal attack, thereby giving the sound operator much better operating conditions (i.e., less water noise) and thereby increasing the chances of holding the contact. Ten knots is a good attack speed with ATW.

4. Since ATW are fused for contact, and since they sink rapidly, knowledge of the U-boat’s depth is much less important than in a normal depth charge attack.

5. Attacks with ATW must be accurately directed by sonar.

6. Although evasive time when using ATW attacks is small, it is still necessary to use a small lead angle in this attack, depending, of course, on the target’s bearing and range.

7. These charges have been fired against full-scale submerged models of subs. These trials show positively that a hit anywhere on its decks or tanks will result in lethal damage to the sub.

8. Note: Training attacks on subs have also indicated a consistently high degree of success, averaging about 35 percent. (Ed. note: In actual practice, ships never came close to this percentage.)

Useful Data and Information

1. In a coordinated ASW operation, never get behind a ship making an attack; this prevents him from dropping his depth charges.

2. Aircraft can be of great assistance in locating subs on the surface, or if not submerged at too great a depth (under good conditions, they have been located at depths of over 100 feet). The standard procedure for aircraft which have spotted a sub is for the plane to make repeated dives over the sub and to drop a smoke float as close as possible.

3. The speed used during an attack is a function of urgency of the situation as weighed against the increased accuracy possible when sound contact can be made. Speeds in excess of 15 knots are unacceptable during search sound. High speed in all stages of attack is mandatory when sight or sound contact is made within or near the torpedoe firing zone. In this case, the immediate embarrassment or confusion of the sub is more important than destruction.

4. False sound contacts will be common in coastal or island areas where large fish, plankton, pinacles, submerged valleys, persistent waves, water stratification, and marked local currents are to be expected. The most effective means of avoiding false contacts lies in giving sonar operators ample training time.

5. After an Attack:
   a. When the first attack has been made, your attack has probably only begun. A little oil in the water does not mean a dead sub. A skillful and experienced man is now going to pit his resourcefulness against yours. The chances are that you have no more than jarred him up a bit, and in doing so, you have of course lost contact with him, disturbed the water over quite an area, and passed beyond the spot where you last estimated him to be.
   b. The first and immediate task is to regain contact. Use standard sonar search procedure.
   c. You have a limitless supply of air and fuel and you can afford to take your time. A slow, deliberate stalking that ends with placing charges so close to the sub as to throw out circuit breakers, break pressure gauges, crack batteries, etc., is worth 20 random charges scattered over a mile of sea. The sub commander is not a novice. He can certainly tell from his hydrophones whether his opponent is a novice or not. But, much time your propellers pass over him, and when he sees the position is a non-miss, his morale is going to go down. There is nothing that will lift his spirits more than to hear charges going off miles away.
   d. Don’t give up the search. Keep him down. He can’t stay submerged forever.
6. **Summary:** The end aim of all ASW attacks is complete destruction of the enemy sub. This end may be obtained, in order of probability, through:

a. Destruction by ramming.
b. Destruction by ahead-throwing weapons.
c. Destruction by depth charges.
d. Destruction of morale through repeated damage, accumulated over a long period of time.
e. Destruction by exhaustion of U-boat’s batteries in combination with (c) and (d) above, leading to surrender.

**Submarine Tactics and Characteristics**

1. The sub is concerned with the following types of tactics:

   a. **Avoiding tactics:** Avoiding sound contact with the screen while gaining favorable attack or observation position on a moving fleet or fixed geographical point.
   
   b. **Piercing tactics:** Evading detection while piercing the screen to gain favorable attack position.
   
   c. **Evasive tactics:** Escaping depth-charge attack without injury after detection or torpedo attack.

2. Subs may employ some or all of the below listed measures to avoid sound detection or location:

   a. Run near the surface very deeply submerged in order to take advantage of types of water temperature gradients.
   
   b. Head parallel to the direction of a fixed echo beam to present the smallest possible target area.
   
   c. Attempt to enter and remain in a surface vessel’s wake immediately after penetrating the sound screen.
   
   d. Run at high speed to create a screen of turbulent water, then turn and run slowly behind and close to this turbulence.
   
   e. Lie on the bottom where depths and safety from observation and aircraft permit.
   
   f. Use pillenwerfers or other similar false mines.

**U-Boat Operations**

1. U-boats in the early part of WWII — as in the previous war — virtually attacked submerged and in daylight. Not fully realizing at that stage their danger from sound detection, they paid heavily. They soon changed their tactics, and by 1943 at least 75 percent of Allied losses were caused by surface attacks by night.

2. With her speed approximately double that of a convoy, a U-boat virtually becomes a surface-torpedo-boat with the extra assets of a very low silhouette and the power to dive should the necessity arise. However, she will still attack unescorted ships and stragglers from convoys with torpedos or gunfire in daylight, while valuable targets, even when escorted, may expect submerged daytime attacks.

3. Details of convoys are passed to U-boats in the area by their headquarters, this information being gained from reconnaissance aircraft and from other U-boats. When night attacks started, they were generally carried out by one or two U-boats. Later, with the larger forces at their command, it was common for a group of five or six subs to trail a convoy, the attacks being in some sense concerted, but more often “free for all.” Gunfire, detonations, or a burning ship may lead to the scene a U-boat which is off the scent.

4. It is impossible to lay down any hard and fast rule for a U-boat’s tactics by day or night — a successful sub commander is an individualist, and he seizes his opportunities as they arise.

**U-Boat Tactics**

**Daylight**

The sub captain will try to reach a position well ahead of his target. He may, at long range, be showing 3 to 5 feet of periscope, or he may remain at low buoyancy on the surface until the distance-to-target is 12-to-15 miles. He can probably dive before being spotted from the crow’s nest of a ship. He will gauge the enemy’s course and deployment of escorts. The periscope will be raised as seldom as possible during the run-in, perhaps every minute or so. It will probably not be up for more than 2 seconds at the time of attack. The U-boat’s course on firing will probably be within 20° of right angles to the target’s track. Having fired one or more torpedoes (these can be angled to give spread), her future movements cannot be foretold, her avoiding tactics depending on the position of the escorts.

**Night**

The U-boat captain will close in on a shadowed convoy on the surface at dusk, from any direction. If the target is a large, escorted convoy, she may fire a long-range salvo from the bow tube. In good visibility, the range may be as long as 4,500 yards. Normally, she would prefer to approach to within 1,000 yards, firing single or double aimed shots at individual ships. Having performed his task, the captain will retire at high speed — still on the surface, and presenting her stern to the wind and any pursuers.

**Note:** These notes are by no means intended to be all-encompassing. They should be viewed simply as the “history-within-the-game.” They are not panaceas for hard-core gamers who wish to play *Upscope!* competitively, but rather an indication to the reader of some of the rationales behind most of the design and developmental work in the game.

These notes are drawn in large measure from *Submarine Chaser Manual*, USGPO, Navy Department, 1943; see bibliography.

---

**UPSCOPE! DESIGN CREDITS**

Game Design: Joe Balkoski

Physical Systems and Graphics: Redmond A. Simonsen

Game Development: Frank Davis, Steve Ross

Playtesting: Frank Davis, Tom Kassel, Steve Ross

Production: Bill Bauer, Larry Catalano, Manfred F. Milkuhn, Steve Parsons, NormanPearl, Bob Ryers, Paul Vasquez
ABBREVIATED SEQUENCE OF PLAY

A. COMMAND STAGE
   1. Command Decision Phase
   2. Combat Decision Phase
   3. Command Execution Phase
      a. Air Segment
      b. Surface Segment
      c. Submarine Segment

B. COMBAT STAGE
   1. Air Phase
   2. Surface Phase
   3. Submarine Phase

C. SEARCH STAGE
   1. Air Phase
      a. Surface Detection Segment
      b. Underwater Detection Segment
   2. Surface Phase
      a. Surface Detection Segment
      b. Underwater Detection Segment
   3. Submarine Phase
      a. Surface Detection Segment
      b. Underwater Detection Segment

D. TERMINAL STAGE
   1. Marker Removal Phase
   2. Reinforcement Phase
   3. Victory Determination Phase