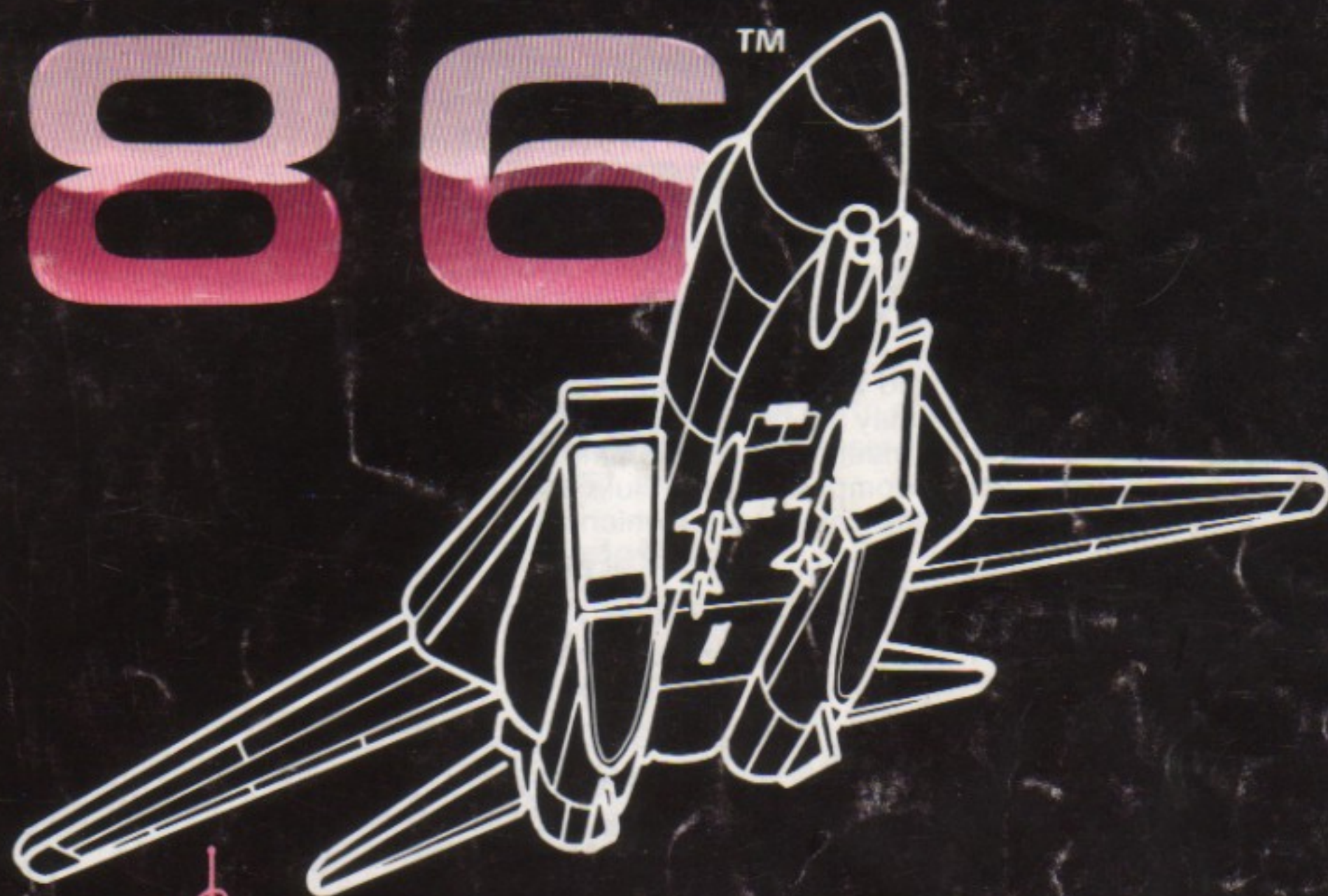


NORTH ATLANTIC '86™



STRATEGIC SIMULATIONS INC

MACINTOSH®
VERSION

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1.0 INTRODUCTION

NORTH ATLANTIC '86 is an operational-level game featuring combat between Soviet and NATO air, land, surface-naval and submarine forces for control of the North Atlantic. Every ship, airplane, or infantry company available to the local Soviet and NATO commanders is now under your control. You will need to organize your ships into task forces to perform various missions: sea lane interdiction, land bombardment, supply/troop transport, evacuation, etc. All play revolves around the creation and manipulation of these task forces and the effective concentration of air power. Included are campaign games covering September 7 to December 31, 1986 and November 1 to December 31, 1986; minigames covering the invasion of Iceland in November 1986; and a North Atlantic convoy operation in September 1986.

1.1 Description of Action:

Each game turn represents the passage of 12 hours. A game turn consists of: (1) building and adjusting friendly task forces; (2) moving your task forces; (3) launching air missions; (4) launching missile attacks; (5) combat resolution.

1.2 Talking to the Computer:

Before you can play North Atlantic '86, you must be familiar with the basic operations of your Macintosh®. In particular, you will need to know how to use the mouse to operate pull-down menus, select items inside dialogs, and be familiar with the keyboard. Refer to your Macintosh owner's manual if you are unfamiliar with the system's operation. NOTE: The sound effects are not operative on a Macintosh XL.

1.3 Saving a Game:

Upon completion of the combat phase of each turn, the computer will allow the player(s) to save the game in progress. Because of the limited space available on the North Atlantic '86 disk, you will need a scratch disk to store the saved game data. The disk must be initialized before starting the game (refer to your Macintosh owner's manual). Once the game is saved, you will be able to restart it from the point at which you left off by opening your save game file. If you have an external disk drive, you may place your save game disk into it after you have selected NEW GAME or SAVED GAME from the menu, otherwise the computer will tell you to swap disks when necessary.

IMPORTANT NOTE: If you wish to retrieve a saved game, you must be sure to end each gaming session by using the END GAME option and then the QUIT option. DO NOT JUST TURN OFF YOUR COMPUTER!

1.4 The Map:

The map is a 40 × 40 square grid representation of the North Atlantic Theatre. Each square measures 100km in width. Green squares are land; blue squares are ocean; white squares are bases; red squares are Soviet TFs; and black squares are NATO TFs. The range between squares is calculated between the center of the first square and the center of the second square. The number thus obtained is rounded up.

Example:



5 squares over and 1 square up equals range of 5.099, or 6.

1.5 Starting a Game:

To begin a game, insert your North Atlantic '86 disk in the internal drive and turn the power on, the game will begin automatically. NOTE: Do not run North Atlantic '86 with any co-resident programs; it needs 512K to operate properly. Mac Plus™ owners must use the control panel to be sure that disk cache is less than 512K. After selecting the scenario (see 3.1), you will be asked to enter a name to be used as the title of your

save game file. If you have only one drive, eject the game disk and insert your save disk before selecting the save game file name. If you have two drives, place your save disk in your external drive after selecting NEW GAME from the menu, and enter the name for your save file.

2.0 GENERAL DESCRIPTION

2.1 Parts Inventory:

- A. Game Box
- B. Rule Book
- C. 5¼" game disk
- D. Two map data cards

2.2 Passwords:

At the start of a non-solitaire game, both sides will be required to enter a password. The password may contain any combination of letters and numbers totalling less than 256 characters. It is important that both sides keep their passwords secret to ensure that the computer will give secret information only to the proper side. Some sample passwords are: "NATO", "1985", and "Q".

2.3 Abbreviations:

Abbreviations used in the game are explained below.

CVN	Nuclear Aircraft Carrier
CV	Aircraft Carrier
BB	Battleship
CGN	Nuclear Guided Missile Cruiser
CG	Guided Missile Cruiser
CL	Light Cruiser
DDG	Guided Missile Destroyer
DD	Destroyer
FFG	Guided Missile Frigate
FF	Frigate
SSNG	Nuclear Guided Missile Submarine
SSN	Nuclear Submarine
SS	Submarine
LST	Landing Ship Tank
LHA	Helicopter Assault Ship with Loading Dock
LPH	Helicopter Assault Ship
LPD	Landing Ship with Loading Dock
AP	Transport
AK	Cargo Ship
AO	Oiler
AE	Ammunition Ship
AKR	Vehicle Cargo Ship
AFS	Combat Stores Ship
TF	Task Force
CAP	Combat Air Patrol
SSM	Surface-to-Surface Missile
ASM	Air-to-Surface Missile
ASW	Anti-Submarine Weapon
SAM	Surface-to-Air Missile
AST	Anti-Submarine Torpedo
AAM	Air-to-Air Missile
IF	Infantry Companies on Board
SU	Supply on Board
DM	Damage Percentage
CAC	Combat Aircraft
UAC	Utility Aircraft

3.0 SEQUENCE OF PLAY

North Atlantic '86 is designed to be a two-sided game: Soviet vs. NATO. The NATO forces must be commanded by a human player. The Soviet forces may be commanded by either a human or the computer.

3.1 Scenario Selection Phase:

During the scenario selection phase, the player(s) select a scenario and determine the conditions under which the game will be played. The set-up may be changed by using the pull-down menus in the following order:

- (1) Select the campaign you want to play from the "Scenario" menu:
 - Campaign 1 (Sep 7 - Dec 31, 1986)
 - Campaign 2 (Nov 1 - Dec 31, 1986)
 - Convoy QR.44 (Sep 25 - Sep 30, 1986)
 - Iceland (Nov 11 - Nov 20, 1986)
- (2) Select the number of players or solitaire difficulty level from the "Settings" menu.
- (3) Select "New game" or "Saved game" from the "Game" menu.

3.2 Scenario Set-Up:

At the start of each game, the computer will assign all ships, aircraft, infantry and supplies to their set-up locations prior to the battle.

3.3 Sequence:

- A. NATO TF Adjustment Phase
- B. NATO Movement Phase
- C. Soviet TF Adjustment Phase
- D. Soviet Movement Phase
- E. Soviet Air Operations Phase
- F. NATO Air Operations Phase
- G. Combat Resolution Phase
- H. Save-Game Phase

3.4 Keeping Time:

An AM turn followed by a PM turn equals one day. The calendar is adjusted at the end of the PM turn.

4.0 TASK FORCE ADJUSTMENT PHASE

During this phase, the computer will display the map and all friendly active TFs, the date and time of the turn, the weather, and the current scores. If you wish to locate or select a particular friendly TF on the map, use the button which has the TF's number, on the right side of the map. The black square representing the TF on the map will blink. You may also select a TF on the map, by clicking upon its black square marker, and the corresponding button will be highlighted.

When your adjustment is complete, select "Continue" to go to the movement phase or "End game" to display the final score and leave the game.

4.1 The "Task Forces" Menu:

4.1.1 Form Task Force. If you are currently using the maximum number of TFs (Soviet = 9, NATO = 11), the computer will warn you and return to the main menu.

- A. The Soviet player may choose the port in which he will assemble the TF (Murmansk or Riga).
- B. Select the mission the TF will perform.
- C. The computer will list the ships that are eligible to perform the selected mission in the left part of the dialog window under the name of the selected port. The right part of the window (under the name of the new TF) will list the ships you have selected.
- D. Assemble your new TF by selecting ships with the mouse (the ship's characteristics will be displayed at the bottom of the window) and using the "Transfer >>" and "<< Transfer" buttons to move them between the port and the new TF.
- E. When all the ships you want are in the new TF window, press the "OK" button to go back to the main menu.

4.1.2 Combine Task Forces. Two TFs occupying the same grid location may be combined in the following way:

- A. Select "Gaining task force" and the "Merging task force" assuming that:
 - Submarine (U) TFs may not combine with non-submarine TFs.
 - Aircraft carriers may not combine with non-combat patrol (C) TFs.
 - Transports may not combine with non-transport (T) TFs.
- B. If the TFs are compatible, you may use the "Combine" button to merge them:
 - All ships in the "Merging TF" will be added to the "Gaining TF", and the "Merging TF" will be deleted.
 - If the "Merging TF" had a lower endurance than the "Gaining TF", the "Gaining TF" will assume the lower endurance.

4.1.3 Divide Task Force. Select the TF that you want to divide before choosing this option.

If you are currently using the maximum number of TFs (Soviet = 9, NATO = 11) the computer will warn you and return to the main menu.

- A. The computer will list the ships of the selected TF in the left part of the window (under the name of the new TF) will list the ships you have selected.
- B. Assemble your new TF by selecting ships with the mouse (the ship's characteristics will be displayed at the bottom of the window) and using the "Transfer >>" and "<< Transfer" buttons to move them between the old and the new TF.
- C. When all the ships you want are in the new TF window, press the "OK" button to go back to the main menu.

NOTE: If you are currently using fewer than your maximum number of TFs, then the "Divide TF" function may be used to "scuttle" crippled ships by selecting a ship and using the "Scuttle" button. Your opponent will receive one less victory point for ships that are scuttled than would ordinarily be awarded for a ship sunk involuntarily. (Your crew is assumed to have been removed safely.)

4.1.4 Examine Task Force. Choose this option from the menu or double-click over the TF's square on the map or over its button at the right of the map to have the computer list the ships of the selected task force with their characteristics.

4.1.5 Display Weapons. Select the TF that you want to look at before choosing this option.

The computer will list the ships of the selected task force in the left part of the dialog window. Select a ship and its weapons systems will be displayed. Press the "OK" button when you are done with this function.

The various weapons systems are described below:

1. **Main Guns:** Guns larger than 150mm. May be used for bombardment or surface combat.
2. **Light Guns:** Guns 50mm to 149mm. May be used for bombardment, surface combat or area defense flak.
3. **Missile Defense:** Combined rating of short-range guns and missiles used for self-defense. Based on quantity and quality of the systems involved.
4. **Helicopters:** Patrol/ASW helicopters carried by a particular ship or base. Used for both submarine and surface search and anti-sub attack.
5. **Air-Recon:** The reconnaissance aircraft carried by a particular carrier or base. Used for surface search only.
6. **Air-EW:** The electronic warfare aircraft carried by a particular carrier or base. Used to protect friendly CAP and strike aircraft from enemy missile attack.
7. **Air-ASW:** The anti-submarine patrol aircraft carried by a particular carrier or base. Used for long-range submarine search and anti-sub attack.
8. **Air Earlywarning:** The Early-Warning aircraft carried by a particular carrier or base. Allows a TF or base to react to incoming bomber or missile attack.
9. **SSM-System:** The Surface-to-Surface Missile carried by a particular ship. Displayed are NUMBER IN SALVO, TOTAL CARRIED and MISSILE RANGE in km. Used to attack enemy ships.
10. **ASW-System:** The Long-Range Anti-Sub missile system is displayed along with the system's range in km.
11. **SAM-System:** The Long-Range Surface-to-Air Missile system is displayed along with the range in km.
12. **AST-System:** The Anti-Submarine Torpedo System is displayed along with the torpedos' range in km. The MK.48, Tigerfish and 533mm Torpedoes may also attack surface ships.

13. **EW Strength:** The qualitative rating assigned for a ship's radar and ECM equipment. For submarines, this is the "quiet" rating.

14. **Sonar Strength:** The qualitative rating assigned for a ship's sonar equipment.

4.2 The "Ships" Menu:

4.2.1 Load Transports. Troops and supplies may be loaded onto ships which are located in a friendly port (America, Murmansk, Riga).

A. The Soviet player may choose the port in which he will assemble the TF (Murmansk or Riga).

B. The computer will list all the ships in the selected port with a cargo capacity greater than zero.

C. Select the ship you wish to load by clicking upon its name and use the arrows to load or unload infantry companies and/or supply units. Each infantry company represents 100 men.

D. You may not load a number of infantry companies or supply units greater than the number currently available in the selected port. Only supply units may be loaded into ships whose prefix begins with the letter "A" (e.g. AP, AK, AE)

4.2.2 Check Pipeline. Reinforcements and repaired ships will periodically be sent to ports you control. To check the status of these ships, you may wish to request the current condition of your ship "pipeline".

A. The Soviet player may choose the port in which he will assemble the TF (Murmansk or Riga).

B. Enter Ship Type Prefix: Enter "*" if you wish to view all ships in the pipeline. To view a particular type of ship, enter the first letters of the ship abbreviation. Example: Enter "C" to list CV, CVN, CVG, CGN, CG, and CL type ships or enter "CV" to list only aircraft carrier type ships.

C. Enter Maximum Delay Time: Enter a number if you do not wish to view any ships that will exceed this number of days in the pipeline.

D. The computer will list all ships currently in that port and all ships due to arrive there.

E. For ships in the repair, refit or reinforcement "pipeline", the computer will list the time in days before that ship can return or arrive.

4.2.3 Display sunk ships. The computer will list all ships that have been sunk and the points awarded for their sinking. During the Campaign scenarios, the computer will not list sunk cargo and amphibious ships.

4.3 The "Display" Menu:

4.3.1 Air group. The computer will display the number of each type of aircraft assigned to each friendly airbase or carrier that is active.

4.3.2 Bases. The computer will display the infantry companies, supply dumps, combat aircraft and utility aircraft available for each friendly base. For the NATO player, the computer will display the NATO Morale points.

4.3.3 Weapons. Same function as described in the section 4.1.5 but not limited to a particular TF.

5.0 TASK FORCE MOVEMENT

During this phase, the computer will display the map and all friendly active TFs, the TF's number, mission, endurance and movement points. TFs move by expending movement points. The number of movement points a TF is allowed is dependent on the TF's "fleet speed".

To move and stop your TFs, use the eight arrow buttons showing directions or the function buttons at the bottom of the screen.

5.1 Fleet Speed:

A. A TF's fleet speed is calculated as 30 knots or the speed of the slowest ship in the TF, whichever is lower.

5.2 Movement:

A. A TF receives one movement point for each 2½ knots of fleet speed. A TF will receive a *minimum* of three movement points.

B. A TF expends two movement points for each square moved in directions N, S, E, W.

C. A TF expends three movement points for each square moved in directions NW, NE, SW, SE.

D. A TF with fewer than two points remaining in its move may not move any further, but it may still "dock".

E. If you accidentally press the wrong key to move your TF, you may press the "Cancel" button and start your move over. This may not be done after you have docked or stopped a TF.

F. A TF may never enter a land square. TFs may move freely through any other square.

5.3 Entering Harbor — Unloading Ships:

A. A TF that begins its move on a friendly base square may enter the harbor and unload cargo by pressing the "Dock" button. For a TF that begins its move in a harbor and wishes to remain in the harbor, press the "Dock" button. For a TF that wishes to exit a harbor but remain in the same square, press the "Stop" button.

B. Each ship may unload a maximum of 18 infantry companies or 3 supply units or an equivalent combination of infantry and supply.

C. While "in harbor" a TF may never be attacked by enemy ships, submarines, or missiles.

D. While "in harbor" a TF's ships are more vulnerable to bombing attack; bomber accuracy is doubled when attacking ships "in harbor".

E. To unload troops and supplies on an enemy-controlled base (amphibious assault), follow the procedure listed in A, above. Ships will unload infantry/supplies at a rate of 9/2 instead of 18/3. When unloading at an enemy-controlled base, ships will never enter the harbor.

5.4 Movement Sequence:

A. During the movement phase, TFs must be moved sequentially according to TF number. Once a TF has completed its move, the action cannot be reversed.

B. A player may examine the ships in a TF at any time during the TF's movement phase. Press the "Ships" button and the computer will give a complete status display for each ship in the TF. The column headings for the display are explained in section 2.3.

C. To change a TF's EW (Electronic Warfare) mode, use the check box under the "Stop" button. A TF's EW mode may be either Passive or Active (an X indicates Active). TFs in Passive Mode have all Radars and Active Sonars turned off. TFs in Active Mode will automatically reveal their position to enemy searches but will have an increased chance to destroy or jam enemy anti-ship missiles. Submarines in Active Mode will have an increased chance to acquire torpedo targets.

6.0 PLANNING LAND ATTACKS

On any turn in which *both* Soviet and NATO forces occupy either Faroes or Iceland, the computer will request an attack level for both players. The attack levels range from 0 to 5, with 0 being no attack, 1 being a very low intensity attack . . . 5 being a very high intensity attack. The supplies consumed by a particular attack will be equal to the attack level.

7.0 AIR OPERATIONS

During the Air Operations Phase, a player may (1) launch CAP (2) observe search results (3) launch air strikes (4) transfer aircraft (5) launch SSM/ASW attacks.

7.1 CAP Missions:

A. At the start of the Air Operations Phase, each player must determine how many of his fighters will fly CAP missions. Aircraft performing CAP may not participate in air strikes or transfers during that turn. Use the TAB key to move from normal CAP to long-range CAP when assigning aircraft.

B. Fighters may fly two types of CAP missions: (1) normal CAP, and (2) long-range CAP. Normal CAP will protect only the TF or airbase from which it originated. Long-range CAP will protect any friendly TF within range of the CAP aircraft. For CAP purposes, the range equals half the aircraft's strike range. Only a fraction of an airgroup performing long-range CAP will intercept an enemy bomber or missile strike. (The greater the distance between the CAP's home base and the strike target, the smaller the fraction.) The number of CAP aircraft eligible to intercept a strike may be further reduced if the strike bombers are armed with long-range "standoff" missiles.

C. CAP fighters have two methods of engaging enemy airstrikes: (1) Long-Range Air-to-Air Missile Combat, (2) Dogfight Combat. Both Missile and dogfight combat will occur when CAP intercepts airstrikes armed with regular bombs (standoff range = 0). There is a chance that CAP aircraft will fail to engage enemy air strikes armed with Long-Range Stand-Off Missiles. The probability of failure is affected by: (1) stand-off range, (2) CAP air-to-air missile range, (3) range of CAP aircraft, (4) the success of Early Warning Aircraft in detecting the strike. It is possible that CAP will succeed in firing missiles at an airstrike, but fail to engage it in dogfight combat.

D. Listed below are the AVERAGE/MAXIMUM interception ranges (in km) for each type of fighter aircraft:

Long-Range CAP					
		Missile + EW	Missile No EW	Dogfight + EW	Dogfight No EW
TORNADO	-ADV	320/440	64/70	145/290	31/62
FALCON	-F16	NM	NM	115/230	29/58
TOMCAT	-F14	450/550	70/75	125/250	30/60
EAGLE	-F15	300/400	63/68	125/250	30/60
HARRIER	-AV8	NM	NM	65/130	27/54
FORGER	-Y36	NM	NM	55/110	26/53
FLOGGER	-M23	300/400	63/68	125/250	30/60

Normal CAP					
		Missile + EW	Missile No EW	Dogfight + EW	Dogfight No EW
TORNADO	-ADV	110/200	25/50	35/70	25/50
FALCON	-F16	NM	NM	35/70	25/50
TOMCAT	-F14	160/300	27/55	35/70	25/50
EAGLE	-F15	110/200	25/50	35/70	25/50
HARRIER	-AV8	NM	NM	35/70	25/50
FORGER	-Y36	NM	NM	35/70	25/50
FLOGGER	-M23	110/200	25/50	35/70	25/50

+ EW = Successful Early Warning

No EW = Unsuccessful Early Warning

NM = Aircraft does not carry long-range missile

7.2 Search Missions:

A. Searches are performed automatically each turn by utility aircraft based on ships, carriers, or land bases. These aircraft will be listed on the Weapons Display. The SURFACE/SUBMARINE search ranges for each type of aircraft are listed below:

HELICOPTER	4/3	RECONNAISSANCE	20/0
ASW	0/6	EARLY WARNING	8/0

B. The success of a search attempt is affected by the number of aircraft searching and the distance to the enemy TF/submarine, and the number of ships in the enemy TF.

C. The different types of utility aircraft will search separately.

D. Submarines may obtain SONAR CONTACTS on enemy TFs within their Patrol Area.

7.3 Search Display:

A. The results of all friendly searches may be viewed on the search display.

B. The number for each located enemy TF or submarine will be listed and the location square on the map will be lit with the appropriate color.

C. To view the contents of an enemy force, click upon the gray square representing it on the map. The computer will list the types of ships sighted. The list of sighted ships may not be entirely accurate.

D. The computer will not list the contents of a submarine force or a surface TF located only due to its ACTIVE-EW mode.

E. A TF with an asterisk by its number was located in a harbor.

7.4 Launching Air Strikes:

Enemy bases and enemy surface TFs sighted on the Search Display may be attacked by available friendly aircraft within range.

A. The computer will request a target for each friendly active airbase/carrier. Type in the I.D. number of the enemy TF/base you wish to attack. The computer will list the range to the target and ask you how many of each type of aircraft you want to launch. The computer will not allow you to attack unsighted/detected enemy TFs. Each player may launch a total of ten air strikes per turn. A particular carrier/base may launch more than one air strike in a turn.

B. The following bases may be attacked by typing in the target numbers listed below or the first two letters of the base's name.

MURMANSK	1	ICELAND (SV)	6
RIGA	2	SCAPA FLOW	17
HAMBURG	3	FAROES (NA/O)	18
BERGEN	4	ICELAND (NATO)	19
FAROES (SV)	5		

C. For planning air strikes against enemy ships the computer will ask you to enter a stand-off range. If you enter a range greater than zero, then each fighter included in the strike will automatically carry air-to-air missiles and each bomber in the strike will automatically carry an air-to-surface missile. If you enter a range of zero, then for each type of fighter included in the air strike, you may substitute bombs for the air-to-air missiles. Bombers will automatically carry bombs when the stand-off range is zero. Aircraft may not be included in a strike if the stand-off range is greater than the range of the aircraft's AAM or ASM.

D. When planning strikes against land targets, the computer will not allow you to enter a stand-off range. If fighters are included in strikes against land targets, the computer will ask if the fighters should carry bombs or air-to-air missiles. For each type of aircraft carrying bombs, the computer will ask **BASE ATTACK OR GROUND SUPPORT B/G**. Ground support may be desirable if opposing forces are present on Iceland or Faroes.

E. Listed below are the various aircraft types, including their range, weapon system and weapon system range:

AIRCRAFT	AIRCRAFT RANGE	WEAPON SYSTEM	SYSTEM RANGE
AA Tornado*	-ADV	1200	AMRAAM 150**
Falcon*	-F16	900	Sidewinder 10
Eagle*	-F15	1000	AMRAAM 150**
AA Tomcat*†	-F14	1000	Phoenix 300**
AS Corsair*†	-A7E	600	Walleye AS 50
AS Intruder*†	-A6E	800	Harpoon AS 110
Harrier*†	-AV8	400	Sidewinder 10
Forger†	-YAK36	300	Aphid 10
Flogger	-MIG23	1000	Apex 150**
Fencer	-SU24	1200	A-7 10
Backfire	-TU22M	2500	A-6 300
Badger	-TU16	1800	A-6 300
Cub	-AN12	2500	none
Starlifter*	-C141	2500	none

†Carrier aircraft

*NATO planes

**100 added to range of long-range AAMs to aid in calculating interception range

7.5 Aircraft Transfers:

Aircraft transfers may be performed between airbases and/or carriers with the following restrictions:

- Only four air transfer missions may be performed each turn.
- Transport aircraft (Starlifter, Cub) may only be included in transfer missions during the first two missions performed during AM turns only. This will allow you to fly transports out and back to deliver a load of cargo once per day.
- For transfer purposes, aircraft have their range tripled.

7.6 Air Transport Operations:

Troops or supplies may be transferred between airbases, using transport aircraft (Starlifter, Cub).

- Whenever a transport aircraft is included in an air transfer mission (see 7.5), the computer will ask for the type of cargo the aircraft will load (Infantry, Supplies or Nothing); answer it by pressing the corresponding button.
- Each transport may carry one company (100 men) of infantry. The number of supply units transferred is equal to the number of transport aircraft divided by the transfer range.

7.7 Airborne Assault:

An airborne assault will occur whenever transport aircraft are included in an air strike against an enemy base on Iceland or Faroes.

- Only one airborne assault strike may be flown per turn.
- Each transport aircraft included in the mission will attempt to airdrop one infantry company on the target island. If a transport is destroyed by CAP or AA-fire, an infantry company is also destroyed.
- The airdropped infantry force will automatically be included in a level-5 attack against the enemy infantry on the island on the same turn they are dropped.

7.8 Launching SSM and ASW Attacks:

A. TFs may use SSMs or ASWs to attack enemy TFs/subs detected during the search phase. TFs in a harbor may not fire SSMs or ASWs, nor may they be fired upon by SSMs or ASWs.

B. If you select an enemy surface TF for a target, the computer will allow you to fire any of your ship's SSMs, if they are within range. The range of an SSM in squares is equal to its range in km divided by 100, fractions rounded up. The number of SSMs that may be fired in one turn by a particular ship/sub may not exceed the maximum salvo number for that ship/sub.

C. Range permitting, each ship in an attacking TF which has no SSMs will automatically fire one of its SAMs at the target TF. This will only occur if the attacking TF is in Active-EW mode.

D. If you select an enemy submarine for a target, your ships may fire their ASW systems at the target. Each ship in the attacking TF will have a 50% chance of firing its ASW. A maximum of three ASWs of any one type may be fired per turn. The range of ASWs is equal to two spaces.

E. When conducting as SSM or an ASW attack, each submarine in a TF will have only a 33% chance if firing its missiles.

8.0 COMBAT RESOLUTION

During the combat resolution phase, the computer will automatically perform the following functions:

- (1) Air Strike Resolution
- (2) Missile (SSM, ASM, ASW) Resolution
- (3) Surface and Submarine Combat Resolution
- (4) Return Aircraft to their Bases/carriers
- (5) Resolve Land Combat
- (6) Repair and Refit of ships
- (7) Activate Reinforcements

8.1 Air Strike Resolution:

Each air strike is resolved in the following sequence:

- (1) Air Early-Warning resolution
- (2) Long-range AAM combat
- (3) Dogfight combat
- (4) Ships fire Long-range SAMs
- (5) Bombers launch ASMs
- (6) Flak resolution
- (7) Bombers drop bombs

For stand-off missile strikes, segments 6 and 7 are omitted.

A. Early Warning aircraft may detect incoming air strikes and missile strikes against targets up to 8 spaces (800 km) away from their bases. Successful detection is affected by the number of early warning aircraft available, the distance from the base to the target, and the stand-off range of the airstrike.

B. Long-range AAM combat may occur if CAP or strike aircraft are equipped with Phoenix, AMRAAM or Apex missiles. The number of missiles each aircraft may fire is dependent on the type of missile as follows:

Phoenix	3
AMRAAM	2
Apex	1

AAMs fired by strike aircraft may acquire targets from any of the air groups performing Normal or Long-range CAP. AAMs fired by CAP aircraft may acquire targets from the Strike Group only. The success of each AAM fired is reduced by the ECM rating of the target aircraft and the Air-EW number of the target aircraft's base/carrier. Following each AAM combat, 50% of the firing aircraft in each participating CAP group will suffer missile depletion and be unable to fire at incoming air strikes occurring later that turn.

Fighter aircraft must be able to "lock-on" to their targets in order to fire their long-range AAMs. The chance of a successful lock-on is determined by the firing aircraft's RADAR strength. The chance of hitting an enemy plane with a missile is affected by the ECM rating of the target aircraft:

TORNADO	3	INTRUDER	4	BACKFIRE	3
FALCON	1	HARRIER	1	BADGER	1
TOMCAT	3	FORGER	0	CUB	0
EAGLE	3	FLOGGER	1	STARLIFTER	0
CORSAIR	1	FENCER	1		

The higher the ECM rating the lower the chance of being hit by long range AAMs.

C. Dogfight combat may occur between CAP fighters and Strike aircraft. Individual CAP fighters will randomly select a bomber or escort target and attack it. If the attack fails to shoot down the target aircraft, the target aircraft will counterattack. This sequence is repeated for each intercepting CAP fighter. On PM turns an aircraft must "locate" its target in order to attack or counterattack in a dogfight. The chance of locating a target is determined by the aircraft's RADAR strength.

Aircraft are assigned dogfight ratings as follows:

TORNADO	4	INTRUDER	1	BACKFIRE	1
FALCON	5	HARRIER	3	BADGER	1
TOMCAT	4	FORGER	2	CUB	1
EAGLE	5	FLOGGER	4	STARLIFTER	1
CORSAIR	2	FENCER	2		

For target selection purposes, the higher the dogfight rating, the greater the chance that the aircraft will be engaged. For combat purposes, aircraft carrying AAMs have their dogfight rating doubled. If the AAM is a SIDEWINDER, two additional points are added to the dogfight rating. If the AAM is an APHID, one additional point is added.

D. Ships in the target TF may fire SAMs at the strike aircraft if the stand-off range of the strike is less than or equal to the range of the SAM. If early warning aircraft failed to detect the strike and the target TF is in PASSIVE EW Mode, the SAMs will not fire. The number of SAMs a ship may fire is dependent on the type of SAM:

STANDARD	4	SA-N-1	1	SA-N-6	3
SEADART	2	SA-N-3	2	SA-N-7	4
SEASLUG	1				

The Aegis Cruisers, CG-Ticonderoga and CG-Yorktown, may fire 8 standard missiles at an air strike or missile strike. The target selection and missile resolution are the same as for AAM combat. Each time a ship fires SAMs, there is a chance it may exhaust its SAM supply. The supply of SAMs may only be replenished during refit time. The probability of SAM supply exhaustion increases with the number of SAMs fired. There is a 50% chance that a particular ship will be unable to fire its SAMs at an air strike.

E. Bombers that survive CAP and SAM combat may release their ASMs.

F. If stand-off range equals zero, strike aircraft will be attacked by flak before dropping their bombs. Surviving bombers will select a target ship from those in the target TF, and attempt to penetrate the flak and deliver their ordnance. Target selection is accomplished in the following manner: each ship is assigned a selection value (SV) equal to its defense factor plus five times its cargo/aircraft capacity; the chance of a particular ship being attacked is equal to the SV of that ship divided by the combined SV of the target TF.

G. The chance of a bomber being shot down by flak is equal to the TF flak strength plus the target's missile defense strength, divided by 500. The TF flak strength is equal to the combined AA (light gun) ratings of all ships in the TF. If there are more than 12 ships in the TF, the TF flak strength is equal to the *average* AA rating of the ships in the TF, multiplied by 12.

H. The chance of a bomb hitting the target is affected by: (1) bomber accuracy, (2) maximum speed of target, (3) flak intensity, (4) range of the strike, (5) size of the target, (6) the "radar" capability of the bomber (on PM turns). The relative bomber accuracy/radar capabilities of the various aircraft are listed below:

TORNADO	14/9	CORSAIR	7/5	FLOGGER	1/4
FALCON	6/4	INTRUDER	10/8	FENCER	9/7
TOMCAT	10/8	HARRIER	6/2	BACKFIRE	5/5
EAGLE	10/6	FORGER	3/1	BADGER	3/3

8.2 Missile Resolution

During the missile resolution phase, all anti-ship and anti-sub missiles will attempt to destroy their targets.

A. Prior to attacking a ship, the anti-ship missiles may be engaged by CAP-firing AAMs, ships firing SAMs, light guns, and the target ship's missile defense systems. SAMs will not be fired at surface skimming missiles. SAMs may not fire if early warning aircraft failed to detect the incoming missiles and the target TF is in PASSIVE-EW Mode. There is a possibility that a TF may switch from PASSIVE to ACTIVE EW Mode during the Missile Resolution phase. One point is added to the TF flak-strength for each aircraft flying Normal CAP over the target TF; otherwise, flak strengths are computed the same as for bomber defense. Note: The further the stand-off range from which a missile is fired, the greater the likelihood the missile will totally miss the targeted TF.

B. Missiles that survive AAM and SAM fire will break into groups of from 1 to 7 missiles. Each group will select and engage a particular target. As flak fires at the missile group, the second missile will be twice as hard to destroy as the first; the third will be three times as hard to destroy as the first, etc.

C. Missiles that survive all defensive fire may still be jammed by the target ship. The success of jamming is affected by the missile's accuracy rating and the EW rating of the target ship. Missiles with accuracy less than five, attacking ships with EW greater than three, will be fairly easy to jam.

D. If all else fails, the missile may still miss the target. The hit or miss frequency depends on the missile's accuracy rating. Accuracy ratings for anti-ship missiles are listed below:

HARPOON	9*	SS-N-7	7*	SS-N-12	6
TOMAHAWK	9*	SS-N-2c	5	SS-N-19	7
EXOCET	9*	SS-N-3	4	AS-6	5*
WALLEYE	7	SS-N-22	7	AS-7	7

* Indicates surface-skimming

E. The probability of anti-submarine missiles hitting their targets is affected by: (1) submarine speed, (2) submarine EW rating, (3) missile accuracy. The accuracy ratings of the various ASW missiles are listed below:

ASROC	4	FRAS-1	4	SUBROC	4
SS-N-16	4	IKARA	3	SS-N-14	3

8.3 Surface Combat:

Surface combat may occur between opposing TFs that occupy the same space if at least one of the TFs is performing a combat patrol mission (C) and has an endurance of at least 9.

A. Surface combat is resolved using the following sequence:

(1) each Soviet ship in a TF performing a "C" mission will fire at one of the ships from one of the NATO TFs in the same space.

(2) each NATO ship that occupies the same space as the attacking Soviet TF will fire at one of the ships from the attacking TF.

(3) each NATO ship in a TF performing a "C" mission will fire at one of the ships from one of the Soviet TFs in the same space.

(4) each Soviet ship that occupies the same space as the attacking NATO TF will fire at one of the ships from the attacking TF.

B. Target selection for surface combat is similar to that used for air attacks. In surface combat, a ship's selection value is equal to that ship's defense factor.

C. When attacking, each ship will: (1) fire torpedoes, (2) fire main guns, (3) fire light guns. Only Soviet ships armed with the 533mm torpedo may fire torpedoes during surface combat. The accuracy of torpedoes and gunfire is adjusted by the speed and size of the target.

8.4 Submarine Combat:

A. Submarines patrol an area up to *two* spaces away from their actual TF location.

B. Each sub in a TF will have a chance to engage an enemy TF within its patrol area. The probability of engagement is affected by the sub's speed, sonar strength, and EW mode. Subs that have been detected by enemy search have their probability of engagement reduced by 2/3. The probability of engaging an enemy sub will be 1/4 that of engaging an enemy surface TF.

C. The chance of engaging and torpedoing an enemy ship will be reduced by the number of ASW ships (sonar strength greater than zero) present in the defending TF.

D. When attacking, submarines fire *two* torpedoes at their target. After each attack, there is a ten percent chance that the sub's torpedo supply will be exhausted. The sub must undergo refit in port to regain its torpedo capability.

E. After a submarine attack, the ASW ships in the target TF will attempt to track and attack the sub. The ASW ships may fire either ASW or AST systems at the sub. The probability of getting a shot at the sub is affected by sub speed, ASW ship speed, sub EW strength, ASW ship's sonar strength, and ASW/AST system's range. The probability of sinking the sub is affected by ASW/AST system's accuracy.

F. The Range/Accuracy of the ASW and AST systems is listed below:

ASROC	20/4	MK48 TORPEDO	50/5
SUBROC	55/4	TIGERFISH TORPEDO	40/4
IKARA	20/3	533mm TORPEDO	20/3
FRAS-1	25/4	400mm TORPEDO	7/4
SS-N-14	50/3	MK46 TORPEDO	10/4
SS-N-16	75/4		

8.5 Aircraft Returning to Base:

A. After completing their missions, aircraft will attempt to return to the same base or carrier from which they were launched.

B. If launched from a carrier which received 26% or more damage or had its speed reduced below 15 knots, the aircraft will try to make an "emergency" landing on another carrier or airbase.

C. Emergency landings will occur automatically if there is a friendly base or carrier within 3 squares of the origin carrier.

CV-Invincible and CV-Ark Royal may only receive Harrier aircraft. CVG-Kiev and CVG-Minsk may only receive Forger aircraft.

D. If an emergency landing is required and there are no eligible bases or carriers within 3 squares, then the aircraft will ditch in the ocean.

E. Aircraft which engaged in CAP, STRIKE or TRANSFER missions during the turn will suffer approximately 1% Non-Combat Losses for each mission. Troops and supplies being Air-Transported will also suffer the 1% loss.

8.6 Land Combat:

Land combat may occur whenever both Soviet and NATO infantry are present on Iceland or Faroes. Land combat must be planned at the end of the previous movement phase.

A. Land attack procedure is as follows: (1) defender forces open fire inflicting casualties on the attacker, (2) surviving attacker forces inflict casualties on the defender.

B. As a general rule, the greater the attack level (1-5), the greater the casualties on both sides. Attacks made without adequate supplies will suffer *doubled* casualties. Defensive fire from an unsupplied force will be *half* as effective.

C. The ultimate objective of land combat is to capture or defend the airfield and harbor facilities on Iceland or Faroes. If the Total Combat Strength (TCS) of the attacker is greater than the TCS of the defender, the airfield/harbor may be captured. The attacker TCS is computed as (INF COMPANIES + GROUND SUPPORT POINTS) × RANDOM NUMBER. The defender is computed as INF COMPANIES + GROUND SUPPORT POINTS.

D. It is possible that an airfield will be suppressed for one turn following an intense enemy assault. The message **AIRFIELD UNDER HEAVY FIRE** will signal the airfield's suppression. Air operations will not be allowed during the turn *following* the suppression message.

8.7 Ground Support and Bombardment:

The outcome of land combat may be affected by bombers performing ground support missions and ships performing bombardment (B) missions.

A. Bombers flying ground support over Iceland or Faroes add ground support points to the local land combat strength. Ships in TFs with "B" missions will also add ground support points if the TF occupies the Iceland or Faroes squares.

B. Battleship main guns are worth three ground support points *each*; all light guns are worth 1/2 ground support point *each*. Cruiser main guns are worth one ground support point each.

C. Ground support points have the following effect on land combat: (1) each ground support point will suppress, on the average, *one* company worth of enemy defensive/offensive fire, (2) each ground support point will add, on the average, 1/2 company worth of friendly offensive/defensive fire.

D. An aircraft's ground support capability is determined by: (1) the aircraft's bomb accuracy rating, and (2) the aircraft's radar rating on P.M. turns. During a ground support strike, each <*> burst displayed on the screen indicates 2 ground support hits (points) have been scored.

8.8 Repair and Refit of Ships:

A. Damaged ships which docked during the previous movement phase are placed in the Repair and Refit Pipelines. Undamaged ships will be placed in the refit pipeline only. A TF that docks with an endurance greater than 50 will not be required to refit. Refit time is three days.

B. The average number of turns needed for repair is equal to $9 \times \text{DAMAGE POINTS SUFFERED}$. The number of damage points suffered is equal to the ship's DEFENSE FACTOR × DAMAGE PERCENTAGE. Repair time may be doubled for some ships with smaller ships having a greater chance of lengthened repair time. (There is a 71% chance that an average FF's repair time will be doubled while a U.S. Battleship has only a 5% chance of requiring double repair time.)

8.9 Reinforcement Arrival:

Ship reinforcements will arrive on a day-to-day basis as scheduled on the pipeline display. Infantry, supply, and aircraft reinforcements will be as follows:

OPTION	LOCATION	INF	SUPPLY	Y36	M23	SU24	TU22m	TU16	AN12		
(1)	MURMANSK	25	30	3	18B	18B	1B	1B	15		
(2)	RIGA	0	30	0	5H	0	5H	5H	0		
OPTION	LOCATION	INF	SUPPLY	ADV	F16	F15	F14	A7	A6	AV8	C141
(3)	AMERICA	30	50	0	6	3	3	3	1	3	6
(4)	SCAPA FLOW	5	5	3	0	0	0	0	0	3	0

B = arrives in Bergen

H = arrives in Hamburg

A. Each turn there is a 1/16 chance of arrival for each of the above-listed reinforcement options (only during campaign games).

B. The Soviets will be more likely to receive reinforcement option #1 during the first two weeks of October and the last week in September.

C. The Soviets will automatically receive reinforcement option #1 following any turn in which the combined total of Fencers and Floggers is less than 100. When this occurs the NATO player will be awarded 50 points.

D. NATO will automatically receive reinforcement option #3 following any turn in which the combined total of Tornados, Eagles and Falcons is less than 50. When this occurs the Soviet player will be awarded 25 VPs.

E. Reinforcements will not arrive during the Convoy QR.44 or Iceland Scenarios.

F. NATO will be more likely to receive reinforcement option #3 during November and December.

9.0 GENERAL OPERATIONS

9.1 Damage to Ships:

Ships accrue damage points when they are hit by bombs, torpedoes, missiles or gunfire. When the total damage points are greater than or equal to a ship's Defensive Factor (DF), that ship will sink. When total damage points are greater than 50% of a ship's DF, that ship is crippled.

A. Listed below are the average damage points caused by each type of weapon:

Light (AA) gun	.5	Walleye	12
CL Main gun	1	SS-N-2C	5
BB Main gun	7	SS-N-3	12
Torpedo	8	SS-N-7	9
Bomb	8	SS-N-12	9
SAM	2	SS-N-19	8
Harpoon	4	AS-6	15
Tomahawk	7	AS-7	7
Exocet	7	SS-N-22	6

B. ASW or torpedo hits will always sink a submarine.

C. Torpedo hits will reduce a ship's maximum speed by at least five knots.

D. Whenever a ship is hit, it may suffer additional damage due to a critical hit. The message **EXPLOSION ON BOARD** ... reveals that a critical hit has been scored.

E. Crippled ships may accrue additional damage while returning to port. Major additional damage will be shown by the message **EXPLOSION ON BOARD**. Crippled ships are considered to have fires or flooding which has not yet been controlled. It is possible for a crippled ship to repair itself while at sea. Repairs will be attempted until a ship is no longer *crippled*.

F. Carriers with 26% or more damage or maximum speed less than 15 knots may not launch or land aircraft. Note: this means that carriers in TFs reduced to five knots, due to zero endurance, will not be able to launch aircraft.

G. The U.S.N. Carriers with between 26% and 35% damage will attempt repairs until damage is reduced below 26%.

9.2 TF Missions:

Listed below are the missions that may be assigned to a TF and the endurance allowed for each mission:

Mission	Endurance
C — Combat Patrol	60 turns (30 days)
B — Bombardment	60 turns
T — Transport	60 turns
E — Evacuation	60 turns
U — Submarine	90 turns
R — Return	N/A

A. Carriers may only perform "C" missions.

B. AP, AK, AO, AE, AKR and AFS-type ships may only perform "T" missions.

C. LST, LHA, LPH, LPD-type ships may only perform "T" or "E" missions.

- D. SS, SSN, and SSNG-type ships may only perform "U" missions.
- E. Only TFs with a "C" mission may initiate surface combat. A TF may not initiate surface combat with endurance less than 9.
- F. Surface combat may cause a Bombardment (B) TF to abort its mission. (An aborted "B" mission would change to "R".)
- G. An evacuation (E) TF that docks at a friendly base will automatically load infantry into all LST, LPH, LHA, and LPD-type ships up to their capacity. Evacuation TFs that load infantry will have their mission changed to "T" and may then unload the troops normally at any harbor or port.

9.3 TF Endurance:

- A. A TF's endurance is reduced by one for each turn that it spends at sea. A TF that ends its move in a harbor will not have endurance reduced.
- B. A Bombardment TF will have its endurance reduced by 10% for each turn that it provides bombardment support.
- C. Surface combat reduces endurance as follows: The attacking TF's endurance is reduced to 8 (if currently greater than 8), if the defending TF's combined defensive factors multiplied by a random number between 0 and 1 is greater than 25. The defending TF's endurance is reduced to 8 (if currently greater than 8) if the total attacker defense factors multiplied by a random number between 0 and 1 is greater than 25.
- D. If a TF's endurance reaches zero and it fails to dock during that turn, all of its non-nuclear powered ships will have their speed reduced to 5 knots.
- E. Submarines with zero endurance may not fire torpedoes.

9.4 Supply

Supply units are used for (1) infantry daily supply, (2) land combat, (3) forming TFs, (4) performing air missions.

- A. Bases must spend daily supplies to maintain their troops. The daily supply cost for each base is equal to the number of occupying infantry companies divided by 100, fractions rounded up. *EXAMPLE: An infantry force of 225 companies must have three supply units for daily supply (225/100 = 2.25 rounded up to 3).* Bases that have supply levels inadequate to meet daily supply requirements will lose 1% of their infantry strength per day, fractions rounded up. America, Murmansk, and Riga are exempted from daily supply requirements.
- B. Supplies are consumed in land combat. Attacking forces will consume one supply dump for each level of attack, while defender forces will consume one supply dump, regardless of the attack level. (See section 8.6B for effects of inadequate supply on combat.)
- C. The major ports (America, Murmansk, and Riga) must use supplies to form ships into TFs. The cost of placing a ship in a TF is equal to 1/5 of that ship's DF (fractions rounded down).
- D. A TF that returns to port with an endurance greater than 30 will return its unused fuel to the port. The quantity of fuel (supply) returned is equal to each ship's DF divided by 10 (fractions rounded down).
- E. Airbases consume one supply point for each air strike launched. CAP, search and transfer missions do not consume supply points. If a base's supply level falls below three, CAP and search missions may not be flown.

9.5 Scoring

- A. Players receive victory points (VPs) for sinking enemy ships equal to that ship's defense factor plus its cargo/aircraft capacity. Players receive one VP for each damage point inflicted on an enemy ship at sea at the end of the game. Players also receive one VP for each *week* a ship is out of action at the end of the game (less three days for normal refits). A ship that is scuttled is worth one less victory point than one that sinks on its own.
- B. The NATO player receives ten VPs for each NATO Morale point remaining at the end of a Campaign Scenario. (See section 9.8.) The NATO player receives 4 VPs for each supply point in Scapa Flow at the end of the convoy QR.44 scenario. The NATO player begins the Iceland scenario with 250 victory points. The NATO player begins the Convoy scenario with 100 victory points.
- C. Either player may score 500 VPs each for possession of Iceland or Faroes. Control of the airfield and harbor facilities is required for possession. In the Convoy scenario the Soviet player is not awarded points for Iceland and the Faroes.
- D. The Soviet Player scores 1000 points if NATO Morale is zero at the end

of the game. (See section 9.8.)

- E. The current score is summarized at the beginning of each turn.
- F. Subtract Soviet VPs from NATO VPs and compare the results to the following table to determine the victory level:

1000 and up	NATO Decisive Victory
500 to 999	NATO Substantive Victory
100 to 499	NATO Marginal Victory
-99 to 99	Draw
-499 to -100	Soviet Marginal Victory
-999 to -500	Soviet Substantive Victory
-1000 and less	Soviet Decisive Victory

9.6 Weather

There are four levels of weather: clear, light overcast, heavy overcast, and storm.

- A. There is a random chance each turn that the weather will change. The weather is graduated such that in any one turn, the weather should *not* change from clear to heavy overcast; it would have to change to light overcast before it could become heavy overcast. There is a random chance that heavy overcast will become a storm instead. Storms will be rare in September and October and more frequent in November and December.
- B. Weather will influence the ability to spot enemy TFs at ranges greater than 1.5. The chance of spotting TFs at ranges over 1.5 will be reduced 1/3 during light overcast and 2/3 during heavy overcast. Storms will *prevent* all air operations, including missile attacks.
- C. During storm turns all surface TFs will have their speed restricted to 5 knots.
- D. The light blue area at the top of the map is the *Iceberg Zone*. Surface TFs must stop upon entering an iceberg square. Submarines are unaffected by iceberg areas. The iceberg areas will expand southward as the game progresses.

9.7 Airbase Capacity:

The maximum combat aircraft capacity for each airbase is listed below:

Iceland	80	Hamburg	600	Riga	900
Faroes	60	Scapa Flow	900	America	900
Bergen	500	Murmansk	900		

9.8 NATO Morale:

- NATO Morale will be reduced by long periods of inadequate supply.
- A. NATO Morale level will start the game at 100 for Campaign 1 or 40 for Campaign 2.
- B. NATO Morale will be reduced by one point for each turn that the supply quantity at Scapa Flow is less than ten or the troop level is less than 20,000 (200 companies).
- C. Morale points may not be regained. If Morale level equals zero, the Soviet player will receive 1000 points at the end of the campaign.

9.9 Replacing Cargo Ships:

- A. During the Campaign Scenarios, any amphibious or cargo ships sunk will be replaced by a cargo ship. The replacement cargo ship will be numbered instead of named, have a cargo capacity of 4 and a maximum speed of 20 knots.
- B. Sunk cargo ships (including amphibious) will not be listed on the sunk ship display for campaign scenarios. Points for sunk cargo ships *will* be included in the score displayed before each turn.

9.10 Airfield Repair

When an Airfield is captured it will take between 1-3 days to bring the airfield to operational status.

9.11 NATO Carrier Early Arrival

If between October 1 and November 10 the NATO player is reduced to less than two American carriers at sea or in the pipeline for less than 5 days, then the pipeline time of the CV-Kitty Hawk is reduced to five days. In this event the Soviet player is awarded 50 victory points.

10.0 GAME DURATION

10.1 Campaign Game Duration

Campaign games will end after a specified number of turns:
Campaign 1 — 252 turns, Campaign 2 — 122 turns.

10.2 Mini-Game Duration:

Mini-games will end after a specified number of turns.
Mini-game durations are as follows: Convoy QR.44 — 12 turns, Iceland — 20 turns.

11.0 SOLITAIRE PLAY

When playing solitaire games, the computer will command the Soviet Forces.

A. There are four levels of solitaire difficulty. The level of difficulty is determined at the start of the game. At level 3, the Soviets will perform according to their normal accuracy. As the level number is *decreased*, the Soviet bomber, torpedo, and gunfire accuracy will *increase*. These levels

may be used to handicap a two-player game if desired.

B. It is possible to start a game in solitaire mode, save it, and then restart it as a two-player game. To do this, set the main menu to two-player mode before restarting the saved game.

C. It is possible to save a two-player game and restart it as a solitaire game, subject to the following restriction: All Soviet TFs must end the two-player segment IN-PORT.

12.0 TWO-PLAYER GAMES

When using the two-player format, the following procedure should be observed.

A. While the NATO player is giving commands to his forces, the Soviet player should turn away or leave the room.

B. While the Soviet player is giving commands to his forces, the NATO player should turn away or leave the room.

C. During the combat resolution phase, both players should view the results.

13.0 ORDER OF BATTLE

CONVOY QR.44 SCENARIO

COMBAT				
BASE	INFANTRY	SUPPLIES	AIRCRAFT (TRANSPORTS)	SHIPS
NATO				
AMERICA	40000	900	48 (100)	2CVN 2CGN 8DDG 3DD 7FFG 19FF 4AKR 2AO 2AK 3AE 15SSN
SCAPA FLOW	0	25	15	
AT SEA	0	148	120	
SOVIET				
MURMANSK	40000	900	24	2CVG 2CGN 7CG 7DDG 5FFG 9SSN 12 SSNG
RIGA	0	500	0	
HAMBURG	0	500	0	
BERGEN	10000	300	180 (225)	
FAROEES	30000	30	60	
ICELAND	40000	0	0	
AT SEA	0	0	24	

ICELAND SCENARIO

NATO				
AMERICA	40000	900	48 (130)	1CVN 1CV 2BB 4CGN 10CG 12DDG 8DD 7FFG 12FF 6 LPD 8LST 2LHA 2LPH 4AKR
SCAPA FLOW	0	50	36	
AT SEA	13600	74	120	
SOVIET				
MURMANSK	10000	900	24	2CVG 2CGN 4CG 1CL 9DDG 3FFG 5FF 13SSN 12SSNG
RIGA	0	500	0	
HAMBURG	0	500	96 (225)	
BERGEN	10000	300	180	
FAROEES	30000	30	60	
ICELAND	40000	30	50	
AT SEA	0	0	24	

CAMPAIGN .1

NATO	INFANTRY	SUPPLIES	AIRCRAFT (TRANSPORTS)	SHIPS
AMERICA	40000	900	48 (100)	2CVN 2CV 2BB 4CGN 10CG 11DDG 10DD 10FFG 24FF 6LPD 8LST 2LHA 2LPH 4AKR 2AO 2AK 4AE 2AFS 16SSN 5SS
SCAPA FLOW (MORALE 100)	24000	50	72	
FAROEES	8000	20	24	
ICELAND	12000	20	36	
AT SEA	0	0	17	2CV 13DDG 11FF 10SSN 5SS
SOVIET				
MURMANSK	40000	900	48*	2CVG 2CGN 7CG 2CL 16DDG 2DD 5FFG 9FF 8AP 2LPD 10LST 21SSN 14SSNG 10SS
RIGA	0	500	0	
HAMBURG	0	500	96	
BERGEN	90000	300	342 (225)	
AT SEA	0	0	0	11SSN 14SSNG

* Includes carrier planes

CAMPAIGN .2

NATO	INFANTRY	SUPPLIES	AIRCRAFT (TRANSPORTS)	SHIPS
AMERICA	40000	900	168* (120)	1CVN 2CV 2BB 4CGN 10CG 12DDG 8DD 7FFG 18FF 6LPD 8LST 2LHA 2LPH 4AKR 2AE 2AFS 6AK 9SSN 6SS
SCAPA FLOW (MORALE 40)	24000	10	48	
AT SEA	0	0	0	15SSN
SOVIET				
MURMANSK	10000	900	48*	2CVG 2CGN 5CG 2CL 12DDG 3FFG 9FF 3AP 2LPD 6LST 16SSN 2SSNG 10SS 9AK
RIGA	0	500	0	
HAMBURG	0	500	96	
BERGEN	10000	300	192	
FAROEES	30000	30	60	
ICELAND	40000	30	50	
AT SEA	0	0	0	12SSN 20SSNG

* Includes carrier planes

14.0 SHIP DATA

NATO

	MG	AA	MD	MS	CC	DF	TF	ARV	CLASS	ID
CV-INVINCIBLE	0	0	60	25	12	20	20	0	4	146
CV-ARK ROYAL	0	0	60	25	12	20	20	0	4	147
CVN-NIMITZ	0	0	75	30	72	97	16	7	1	148
CVN-VINSON	0	0	75	30	72	97	16	30	1	149
CV-KENNEDY	0	0	75	30	72	60	16	55	2	150
CV-KITTY HAWK	0	0	75	30	72	60	16	85	2	151
BB-IOWA	9	12	60	30	0	86	16	15	11	152
BB-NEW JERSEY	9	12	60	30	0	86	16	7	11	153
CGN-TEXAS	0	2	30	35	0	14	16	7	17	154
CGN-ARKANSAS	0	2	30	35	0	14	16	7	17	155
CGN-CALIFORNIA	0	2	30	35	0	12	16	30	18	156
CGN-SOUTH CAROLINA	0	2	30	35	0	12	16	12	18	157
CG-TICONDEROGA	0	2	30	35	0	14	16	45	26	158
CG-YORKTOWN	0	2	30	35	0	14	16	50	26	159
CG-BELKNAP	0	1	30	35	0	10	16	12	27	160
CG-WAINWRIGHT	0	1	30	35	0	10	16	12	27	161
CG-FOX	0	1	30	35	0	10	16	25	27	162
CG-BIDDLE	0	1	30	35	0	10	16	25	27	163
CG-WORDEN	0	0	30	35	0	12	16	25	28	164
CG-GRIDLEY	0	0	30	35	0	12	16	50	28	165

Abbreviations:

MG	Main Guns
AA	Secondary Guns
MD	Missile Defense
MS	Maximum Speed
CC	Cargo Capacity
DF	Defense Factor
TF	Task Force
ARV	Days until Arrival (in Campaign .1)
CLASS	Ship Class (Ships of the same class will have all of the same ratings including missiles, EW strength, etc.)
ID	Ship Identification Number

	MG	AA	MD	MS	CC	DF	TF	ARV	CLASS	ID	SD	mk 46	IK	E	SS	HAR
CG-HALSEY	0	0	30	35	0	12	16	55	28	166						
CG-REEVES	0	0	30	35	0	12	16	55	28	167	50	40				
DDG-BIRMINGHAM	0	1	2	30	0	8	20	0	31	168	50	10				
DDG-NEWCASTLE	0	1	2	30	0	8	20	0	31	169	50	10				
DDG-GLASGOW	0	1	2	30	0	8	20	0	31	170	50	10				
DDG-EXETER	0	1	2	30	0	8	20	0	31	171	50	10				
DDG-SOUTHAMPTON	0	1	2	30	0	8	20	0	31	172	50	10				
DDG-NOTTINGHAM	0	1	2	30	0	8	20	0	31	173	50	10				
DDG-LIVERPOOL	0	1	2	30	0	8	20	0	31	174	50	10				
DDG-CARDIFF	0	1	2	30	0	8	20	0	31	175	50	10				
DDG-BRISTOL	0	1	2	25	0	12	20	0	32	176	50		20			
DDG-ANTRIM	0	2	12	30	0	10	20	0	33	177		10		70	30	
DDG-GLAMORGAN	0	2	12	30	0	10	20	0	33	178		10		70	30	
DDG-FIFE	0	2	12	30	0	10	20	0	33	179		10		70	30	
DDG-NORFOLK	0	2	12	30	0	10	20	0	33	180		10		70	30	
DDG-ROMMEL	0	2	0	30	0	8	16	20	35	181		10				4
DDG-CALLAGHAN	0	2	30	35	0	14	16	50	34	182						
DDG-CHANDLER	0	2	30	35	0	14	16	50	34	183						4
DDG-COCHRANE	0	2	0	30	0	8	16	7	35	184						4
DDG-WADDELL	0	2	0	30	0	8	16	7	35	185						

	MG	AA	MD	MS	CC	DF	TF	ARV	CLASS	ID	SD	mk 46	IK	E	SS
DDG-FARRAGUT	0	1	0	35	0	10	16	15	36	186					
DDG-LUCE	0	1	0	35	0	10	16	15	36	187					
DDG-KING	0	1	0	35	0	10	16	7	36	188					
DDG-MAHAN	0	1	0	35	0	10	16	7	36	189					
DDG-DEWEY	0	1	0	35	0	10	16	7	36	190					
DDG-PREBLE	0	1	0	35	0	10	16	7	36	191					
DD-KINKAID	0	2	35	30	0	12	16	7	37	192					
DD-HEWITT	0	2	35	30	0	12	16	7	37	193					
DD-RADFORD	0	2	35	30	0	12	16	5	37	194					
DD-PETERSON	0	2	35	30	0	12	16	5	37	195					
DD-O'BRIEN	0	2	35	30	0	12	16	15	37	196		10	20	8	
DD-BRISCOE	0	2	35	30	0	12	16	15	37	197		10	20	8	
DD-NICHOLSON	0	2	35	30	0	12	16	30	37	198		10	20	8	
DD-HANCOCK	0	2	35	30	0	12	16	30	37	199					
DD-CUSHING	0	2	35	30	0	12	16	45	38	200					
DD-O'BANNON	0	2	35	30	0	12	16	55	38	201					
FF-BROADSWORD	0	0	22	30	0	8	20	0	56	202	10			70	
FF-BRILLIANT	0	0	22	30	0	8	20	0	56	203	10			70	
FF-BRAZEN	0	0	22	30	0	8	20	0	56	204	10			70	
FF-BOXER	0	0	22	30	0	8	20	0	56	205	10			70	

	MG	AA	MD	MS	CC	DF	TF	ARV	CLASS	ID	SD	mk 46	IK	E	SS
FF-AMAZON	0	1	7	30	0	7	20	0	57	206	10			70	
FF-ACTIVE	0	1	7	30	0	7	20	0	57	207	10			70	
FF-AMBUSCADE	0	1	7	30	0	7	20	0	57	208	10			70	
FF-ARROW	0	1	7	30	0	7	20	0	57	209	10			70	
FF-ALACRITY	0	1	7	30	0	7	20	0	57	210	10			70	
FF-AVenger	0	1	7	30	0	7	16	30	57	211	10			70	
FF-LEANDER	0	0	12	25	0	7	16	0	58	212			20		
FF-AJAX	0	0	12	25	0	7	16	0	58	213			20		
FF-DIDO	0	0	12	25	0	7	16	0	58	214			20		
FF-EURALYUS	0	0	12	25	0	7	16	0	58	215			20		
FF-GALATEA	0	0	12	25	0	7	16	0	58	216			20		
FF-ARETHUSA	0	0	12	25	0	7	16	0	58	217			20		
FF-NAIAD	0	0	12	25	0	7	16	0	58	218			20		
FF-CLEOPATRA	0	0	12	25	0	7	16	0	59	219	10			70	
FF-MINERVA	0	0	12	25	0	7	16	0	59	220	10			70	
FF-PHOEBE	0	0	12	25	0	7	16	0	59	221	10			70	
FF-SIRIUS	0	0	12	25	0	7	16	0	59	222	10			70	
FF-ARGONAUT	0	0	12	25	0	7	16	0	59	223	10			70	
FF-DANAE	0	0	12	25	0	7	16	0	59	224	10			70	
FF-PENELOPE	0	0	12	25	0	7	20	0	59	225	10			70	

	MG	AA	MD	MS	CC	DF	TF	ARV	CLASS	ID	SD	MYK	IK	E	SS
FF-APOLLO	0	0	12	25	0	7	20	0	59	226		10			70
FFG-WADSWORTH	0	1	15	30	0	8	16	7	54	227					
FFG-DUNCAN	0	1	15	30	0	8	16	7	54	228					
FFG-MORISON	0	1	15	30	0	8	16	7	54	229					
FFG-PHILIP	0	1	15	30	0	8	16	7	54	230					
FFG-FLATLEY	0	1	15	30	0	8	16	5	54	231					
FFG-FAHRION	0	1	15	30	0	8	16	5	54	232					
FFG-COPELAND	0	1	15	30	0	8	16	15	54	233	50	10			4
FFG-GALLERY	0	1	15	30	0	8	16	15	54	234	50	10			4
FFG-JARRETT	0	1	15	30	0	8	16	15	54	235	50	10			4
FFG-UNDERWOOD	0	1	15	30	0	8	16	30	54	236					
FF-HEPBURN	0	1	15	25	0	7	16	7	55	237					
FF-GRAY	0	1	15	25	0	7	16	7	55	238					
FF-LANG	0	1	15	25	0	7	16	7	55	239					
FF-PATTERSON	0	1	15	25	0	7	16	5	55	240					
FF-VREELAND	0	1	15	25	0	7	16	5	55	241					
FF-BAGLEY	0	1	15	25	0	7	16	5	55	242					
FF-AINSWORTH	0	1	15	25	0	7	16	5	55	243					
FF-BARBEE	0	1	15	25	0	7	16	10	55	244					
FF-VALDEZ	0	1	15	25	0	7	16	10	55	245					

	MG	AA	MD	MS	CC	DF	TF	ARV	CLASS	ID
FF-TRUETT	0	1	15	25	0	7	16	20	55	246
LPD-FEARLESS	0	0	22	20	6	14	16	15	61	247
LPD-INTREPID	0	0	22	20	6	14	16	15	61	248
LST-SIR BEDIVERE	0	0	2	15	4	7	16	30	62	249
LST-SIR GERAINT	0	0	2	15	4	7	16	30	62	250
LST-SIR LANCELOT	0	0	2	15	4	7	16	30	62	251
LST-SIR PERCIVALE	0	0	2	15	4	7	16	15	62	252
LST-SIR TRISTRAM	0	0	2	15	4	7	16	30	62	253
LHA-TARAWA	0	3	30	25	18	30	16	30	63	254
LHA-NASSAU	0	3	30	25	18	30	16	30	63	255
LPH-GUAM	0	4	30	20	18	12	16	45	64	256
LPH-INCHON	0	4	30	20	18	12	16	45	64	257
LPD-DULUTH	0	4	30	20	8	12	16	45	65	258
LPD-AUSTIN	0	4	30	20	8	12	16	45	65	259
LPD-CORONADO	0	4	30	20	8	12	16	45	65	260
LPD-TRENTON	0	4	30	20	8	12	16	30	65	261
LST-NEWPORT	0	0	22	20	6	14	16	25	61	262
LST-BOULDER	0	0	22	20	6	14	16	25	61	263
LST-SUMTER	0	0	22	20	6	14	16	0	61	264
AKR-COMET	0	0	0	20	12	12	16	0	68	265

	MG	AA	MD	MS	CC	DF	TF	ARV	CLASS	ID
AKR-METEOR	0	0	0	20	12	12	16	0	68	266
AKR-MERCURY	0	0	0	20	16	22	16	2.5	60	267
AKR-JUPITER	0	0	0	20	16	22	16	5	60	268
AO-NEOSHO	0	0	0	20	16	22	16	5	60	269
AO-TRUCKEE	0	0	0	20	16	22	16	30	60	270
AK-NORTHERN LIGHT	0	0	0	20	12	12	16	5	68	271
AK-SOUTHERN CROSS	0	0	0	20	12	12	16	5	68	272
AE-BUTTE	0	0	0	20	12	12	16	5	68	273
AE-FLINT	0	0	0	20	12	12	16	5	68	274
AE-SHASTA	0	0	0	20	12	12	16	5	68	275
AE-KISKA	0	0	0	20	12	12	16	10	68	276
AFS-CONCORD	0	0	0	20	12	12	16	5	68	277
AFS-SAN JOSE	0	0	0	20	12	12	16	10	68	278
SSN-SWIFTSURE	0	0	0	30	0	30	21	0	79	279
SSN-TRANFALGAR	0	0	0	30	0	30	21	0	79	280
SSN-SPARTAN	0	0	0	30	0	30	21	0	79	281
SSN-COURAGEOUS	0	0	0	25	0	30	21	0	80	282
SSN-VALIANT	0	0	0	25	0	30	21	0	80	283
SSN-WARSPITE	0	0	0	25	0	30	21	0	80	284
SSN-PHILADELPHIA	0	0	0	35	0	30	22	0	77	285

HARPOONS

TOMAHAWK SUBMARINE

	MG	AA	MD	MS	CC	DF	TF	ARV	CLASS	ID
SSN-MEMPHIS	0	0	0	35	0	30	16	50	77	286
SSN-CINCINNATI	0	0	0	35	0	30	16	50	77	287
SSN-GROTON	0	0	0	35	0	30	16	50	77	288
SSN-LA JOLLA	0	0	0	35	0	30	16	50	77	289
SSN-PHOENIX	0	0	0	35	0	30	22	0	77	290
SSN-ATLANTA	0	0	0	35	0	30	16	15	77	291
SSN-HOUSTON	0	0	0	35	0	30	16	17	77	292
SSN-NORFOLK	0	0	0	35	0	30	16	20	77	293
SSN-SUNFISH	0	0	0	30	0	30	22	0	78	294
SSN-PUFFER	0	0	0	30	0	30	16	25	78	295
SSN-SANDLANCE	0	0	0	30	0	30	22	0	78	296
SSN-SEA DEVIL	0	0	0	30	0	30	16	22.5	78	297
SSN-GUITARRO	0	0	0	30	0	30	16	15	78	298
SSN-SEA HORSE	0	0	0	30	0	30	16	14	78	299
SSN-FINBACK	0	0	0	30	0	30	16	12	78	300
SSN-BATFISH	0	0	0	30	0	30	16	40	78	301
SSN-TUNNY	0	0	0	30	0	30	16	40	78	302
SSN-CAVALLA	0	0	0	30	0	30	16	40	78	303
SSN-RIVERS	0	0	0	30	0	30	16	40	78	304
SS-ODIN	0	0	0	15	0	10	23	0	81	305

	MG	AA	MD	MS	CC	DF	TF	ARV	CLASS	ID
SS-ORPHEUS	0	0	0	15	0	10	23	0	81	306
SS-OLYMPUS	0	0	0	15	0	10	23	0	81	307
SS-ONSLAUGHT	0	0	0	15	0	10	23	0	81	308
SS-OTTER	0	0	0	15	0	10	23	0	81	309
SS-ORACLE	0	0	0	15	0	10	16	20	81	310
SS-OCELOT	0	0	0	15	0	10	16	20	81	311
SS-OPPORTUNE	0	0	0	15	0	10	16	20	81	312
SS-ONYX	0	0	0	15	0	10	16	5	81	313
SS-SEA LION	0	0	0	15	0	10	16	5	81	314
AK CLASS TRANSPORT	0	0	2	20	4	7	16	—	—	—

TIGERFISH

SOVIET UNION

	MG	AA	MD	MS	CC	DF	TF	ARV	CLASS	ID
CVG-KIEV	0	4	94	30	15	50	1	0	3	7
CVG-MINSK	0	4	94	30	15	50	1	0	3	8
CGN-KIROV	0	2	94	35	0	50	1	0	16	9
CGN-MOLOTOVSK	0	2	94	35	0	50	1	0	16	10
CG-KALININ	0	2	54	35	0	14	1	0	29	11
CG-KUIBISHEV	0	2	54	35	0	14	1	0	29	12
CG-KERCH	0	4	54	35	0	12	1	0	21	13
CG-TASHKENT	0	4	54	35	0	12	1	0	21	14
CG-ISAKOV	0	4	40	35	0	10	1	0	22	15
CG-VARYAG	0	4	0	35	0	9	1	0	24	16
CG-DROZD	0	4	40	35	0	10	1	0	23	17
CL-NEVSKIY	12	12	0	30	0	20	1	0	25	18
CL-KUTUZOV	12	12	0	30	0	20	1	0	25	19
DDG-KULAKOV	0	2	54	35	0	12	1	0	41	20
DDG-UDALOY	0	2	54	35	0	12	1	0	41	21
DDG-SOVREMENYY	0	4	40	35	0	12	1	0	42	22
DDG-SUROVYY	0	4	40	35	0	12	1	0	42	23
DDG-SMELYY	0	4	40	35	0	8	1	0	43	24
DDG-SDERZHANNYY	0	4	40	35	0	8	1	0	43	25
DDG-STROYNYY	0	4	40	35	0	8	1	0	43	26

	MG	AA	MD	MS	CC	DF	TF	ARV	CLASS	ID
DDG-OGNEVOY	0	4	40	35	0	8	1	0	43	27
DDG-SLAVNYY	0	4	40	35	0	8	1	0	43	28
DDG-UPORNY	0	8	8	35	0	8	1	0	44	29
DDG-ZHGUCHIY	0	8	8	35	0	8	1	0	44	30
DDG-ZORKIY	0	8	8	35	0	8	1	0	44	31
DDG-GORDYY	0	8	8	35	0	8	1	0	44	32
DDG-DERZKIY	0	8	8	35	0	8	1	0	44	33
DDG-BOIKIY	0	8	8	35	0	8	1	0	44	34
DDG-GNEVNYY	0	8	8	35	0	8	1	0	44	35
DD-SVETLYY	0	4	16	35	0	7	1	0	45	36
DD-VESKIY	0	4	16	35	0	7	1	0	45	37
FFG-BODRYY	0	2	14	30	0	8	1	0	51	38
FFG-DOSTOYNYY	0	2	14	30	0	8	1	0	51	39
FFG-LADNYY	0	2	14	30	0	8	1	0	51	40
FFG-RAZUMNYY	0	2	14	30	0	8	1	0	51	41
FFG-ZADORNYY	0	2	14	30	0	8	1	0	51	42
FF-AMETIST	0	2	17	35	0	5	1	0	52	43
FF-IZUMRUD	0	2	17	35	0	5	1	0	52	44
FF-RUBIN	0	2	17	35	0	5	1	0	52	45
FF-SAFFIR	0	2	17	35	0	5	1	0	52	46

	MG	AA	MD	MS	CC	DF	TF	ARV	CLASS	ID
FF-ZHEMCHUG	0	2	17	35	0	5	1	0	52	47
FF-BARSUK	0	4	4	30	0	5	1	0	53	48
FF-BOBR	0	4	4	30	0	5	1	0	53	49
FF-BUYVOL	0	4	4	30	0	5	1	0	53	50
FF-GEFARD	0	4	4	30	0	5	1	0	53	51
AP-APSSHERON	0	0	2	15	4	7	1	0	62	52
AP-BASKUNCHAK	0	0	2	15	4	7	1	0	62	53
AP-DAURIYA	0	0	2	15	4	7	1	0	62	54
AP-DIKSON	0	0	2	15	4	7	1	0	62	55
AP-DONBASS	0	0	2	15	4	7	1	0	62	56
AP-SEVAN	0	0	2	15	4	7	1	0	62	57
AP-TAMAN	0	0	2	15	4	7	1	0	62	58
AP-YAMAL	0	0	2	15	4	7	1	0	62	59
LPD-IVAN ROGOV	0	2	47	20	6	16	1	0	66	60
LPD-MAKSIM GORKI	0	2	47	20	6	16	1	0	66	61
LST-TORTSEV	0	4	0	15	4	6	1	0	67	62
LST-SHAKHTER	0	4	0	15	4	6	1	0	67	63
LST-PRESNYA	0	4	0	15	4	6	1	0	67	64
LST-FILCHENKOV	0	4	0	15	4	6	1	0	67	65
LST-VILKOV	0	4	0	15	4	6	1	0	67	66

	MG	AA	MD	MS	CC	DF	TF	ARV	CLASS	ID
LST-OBYEKOV	0	4	0	15	4	6	1	0	67	67
LST-ILICHYEV	0	4	0	15	4	6	1	0	67	68
LST-LAZO	0	4	0	15	4	6	1	0	67	69
LST-K. KOMSOMOLET	0	4	0	15	4	6	1	0	67	70
LST-V. KOMSOMOLET	0	4	0	15	4	6	1	0	67	71
SSNG-01	0	0	0	35	0	40	2	20	71	72
SSNG-02	0	0	0	35	0	40	2	20	71	73
SSNG-C2	0	0	0	25	0	30	2	20	72	74
SSNG-C4	0	0	0	25	0	30	2	20	72	75
SSNG-C5	0	0	0	25	0	30	2	20	72	76
SSNG-C6	0	0	0	25	0	30	7	0	72	77
SSNG-C8	0	0	0	25	0	30	7	0	72	78
SSNG-C9	0	0	0	25	0	30	7	0	72	79
SSNG-C12	0	0	0	25	0	30	7	0	72	80
SSNG-C13	0	0	0	25	0	30	7	0	72	81
SSNG-C14	0	0	0	25	0	30	2	20	72	82
SSNG-C15	0	0	0	25	0	30	2	20	72	83
SSNG-E12	0	0	0	20	0	30	8	0	73	84
SSNG-E13	0	0	0	20	0	30	8	0	73	85
SSNG-E14	0	0	0	20	0	30	8	0	73	86

	MG	AA	MD	MS	CC	DF	TF	ARV	CLASS	ID
SSNG-E15	0	0	0	20	0	30	8	0	73	87
SSNG-E16	0	0	0	20	0	30	8	0	73	88
SSNG-E17	0	0	0	20	0	30	8	0	73	89
SSNG-E18	0	0	0	20	0	30	8	0	73	90
SSNG-E19	0	0	0	20	0	30	8	0	73	91
SSNG-E20	0	0	0	20	0	30	8	0	73	92
SSNG-E21	0	0	0	20	0	30	2	20	73	93
SSNG-E22	0	0	0	20	0	30	2	20	73	94
SSNG-E23	0	0	0	20	0	30	2	20	73	95
SSNG-E25	0	0	0	20	0	30	2	20	73	96
SSNG-E26	0	0	0	20	0	30	2	20	73	97
SSNG-E28	0	0	0	20	0	30	2	20	73	98
SSNG-E29	0	0	0	20	0	30	2	20	73	99
SSN-A1	0	0	0	45	0	40	1	10	74	100
SSN-A2	0	0	0	45	0	40	1	10	74	101
SSN-A3	0	0	0	45	0	40	1	10	74	102
SSN-A4	0	0	0	45	0	40	1	10	74	103
SSN-A5	0	0	0	45	0	40	1	10	74	104
SSN-V2	0	0	0	30	0	30	1	10	75	105
SSN-V3	0	0	0	30	0	30	1	10	75	106

	MG	AA	MD	MS	CC	DF	TF	ARV	CLASS	ID
SSN-V4	0	0	0	30	0	30	1	10	75	107
SSN-V5	0	0	0	30	0	30	1	10	75	108
SSN-V6	0	0	0	30	0	30	9	0	75	109
SSN-V7	0	0	0	30	0	30	9	0	75	110
SSN-V8	0	0	0	30	0	30	9	0	75	111
SSN-V9	0	0	0	30	0	30	9	0	75	112
SSN-V10	0	0	0	30	0	30	9	0	75	113
SSN-V11	0	0	0	30	0	30	9	0	75	114
SSN-V12	0	0	0	30	0	30	9	0	75	115
SSN-V13	0	0	0	30	0	30	9	0	75	116
SSN-V14	0	0	0	30	0	30	9	0	75	117
SSN-V15	0	0	0	30	0	30	9	0	75	118
SSN-V16	0	0	0	30	0	30	9	0	75	119
SSN-V17	0	0	0	30	0	30	1	0	75	120
SSN-V18	0	0	0	30	0	30	1	0	75	121
SSN-V19	0	0	0	30	0	30	1	0	75	122
SSN-V20	0	0	0	30	0	30	1	0	75	123
SSN-V21	0	0	0	30	0	30	1	0	75	124
SSN-V22	0	0	0	30	0	30	1	0	75	125
SSN-V23	0	0	0	30	0	30	1	0	75	126

	MG	AA	MD	MS	CC	DF	TF	ARV	CLASS	ID
SSN-V24	0	0	0	30	0	30	1	20	75	127
SSN-V25	0	0	0	30	0	30	1	20	75	128
SSN-V29	0	0	0	30	0	30	1	20	75	129
SSN-V30	0	0	0	30	0	30	1	20	75	130
SSN-V31	0	0	0	30	0	30	1	20	75	131
SS-T3	0	0	0	15	0	10	2	0	76	132
SS-T4	0	0	0	15	0	10	2	0	76	133
SS-T5	0	0	0	15	0	10	2	0	76	134
SS-T6	0	0	0	15	0	10	2	0	76	135
SS-T7	0	0	0	15	0	10	2	0	76	136
SS-T8	0	0	0	15	0	10	2	0	76	137
SS-T9	0	0	0	15	0	10	2	0	76	138
SS-T10	0	0	0	15	0	10	2	0	76	139
SS-T11	0	0	0	15	0	10	2	0	76	140
SS-T12	0	0	0	15	0	10	2	0	76	141

AK CLASS
TRANSPORT

0 0 2 20 4 7 2 — — —

15.0 STRATEGY NOTES

SOVIET STRATEGY

Soviet strategic goals are: (1) capture and hold the strategic airfields on Iceland and Faroes; (2) reduce or destroy NATO supply convoys to Great Britain. Control of Iceland and Faroes is worth 500 VPs each, while a prolonged supply shortage in Britain is worth 1000 VPs.

FAROEES

Faroes Island may be easily captured by a coordinated Soviet airborne assault. Within the first 4 turns of the game the Soviets should drop 22,000+ paratroops on the island and include all available Fencers on ground support. The airfield will usually be captured within 3 turns of the drop. The Soviets should continue attacking the NATO remnants on the island until all have been eliminated. Faroes proximity to the other Soviet bases (Bergen, Hamburg) will make NATO attempts to recapture it extremely difficult.

ICELAND

The Soviets may employ two methods for capturing Iceland: (1) Airborne Assault or (2) combined Airborne/Amphibious Assault. Method (1) should only be attempted on the first turn of the game, before NATO fly in reinforcements. All Backfire and Badger bombers within range should fly ground support (a mission for which they are *not* well suited). With luck the airfield can be captured or suppressed on the first turn and a second wave of Soviet airborne troops can be dropped on the island. A 3:1 Soviet edge in troop strength will usually guarantee the capture of the airfield and the eventual destruction at the NATO garrison.

Should the Soviets fail to capture or suppress the airfield on the first turn then NATO can fly in 10,000 troops and 44 additional combat aircraft for the second round of combat. If NATO reinforcements are allowed to fly in, the Soviets will find themselves out of supply and outclassed in the air, with only a marginal superiority in troop strength. This situation will usually result in the complete destruction of the assault force over a period of one or two weeks.

Method (2) requires the coordination of airborne and amphibious forces for an assault on Iceland. The advantage of this method is that it allows the Soviets to deliver their assault while *in supply*. The disadvantage is that the NATO player can easily react to the threat as the amphibious convoy makes its approach.

The Amphibious Assault effort should include three TFs: (1) an amphibious/transport TF; (2) a bombardment TF; and (3) a Combat Patrol TF.

The amphibious TF should include all available LPD, LST and AP type ships and an escort of best ASW type ships (Kara and Kresta-II class CGs and Krivak class FFGs). The amphibious TF should transport only supplies! The bombardment TF should include the two CLs and a screen of 6 to 8 heavily gunned DDGs, DDs and FFs.

The Combat Patrol TF should include all surface ships armed with SSMs.

The three TFs should move together on the shortest possible course to Iceland. Drop paratroops on Iceland on the same turn that the amphibious TF starts to unload. Continue dropping troops until there are over 60,000 on Iceland. Badgers and Backfires from Bergen and Fencers from Faroes should fly ground support if possible.

The assault on Iceland is not a sure thing. Submarines and bombers can wreck your amphibious ships and Iceland's CAP can chew up your air transports. However, with a little luck a well planned assault can overwhelm NATO defenses.

ANTI-SHIP MISSIONS

For the first 20 turns the Soviet player must focus on attempts to capture Faroes and Iceland. When these operations have been completed (whether successful or not) he can concentrate on sinking NATO ships for the remainder of the game.

Soviet air power will cause the majority of NATO's ship losses. Soviet aircraft are generally inferior to NATO aircraft and should be used discreetly

in areas of dense CAP concentrations. Backfire and Badger bombers may be used anywhere when launching the AS-6 missile at maximum stand-off range.

The Soviets should maintain about 20 submarines in the mid-Atlantic throughout the game. Submarines should be grouped according to speed and missile type. Submarines should close to within 1 space of the target before firing missiles. If possible, subs should coordinate their missile attacks with the air and surface missile platforms.

The Soviet surface fleet is at a severe disadvantage when opposed by American carriers. The surface fleet should stand out of range until the big carriers return to port or are crippled by air attack. When based in Iceland the fleet may sortie on short notice against poorly protected NATO convoys. The surface fleet should attempt to launch SSMs from beyond the range of the NATO Exocets and Harpoons, and then run for port.

BATTLE OF BRITAIN

The Soviet player must use his land based air force to reduce the build-up of supplies and aircraft on Scapa Flow. The Soviet player should include *all* of his Bergen based Floggers and Fencers in his raids against Scapa Flow. Backfires and Badgers should not be included in these missions. The NATO forces on Scapa Flow cannot be allowed to become too powerful; the Soviet player must accept heavy air losses to keep them reduced.

NATO STRATEGY

NATO strategic objectives are: (1) maintain a sufficient supply level on Great Britain and (2) maintain or regain control of the airfields on Faroes and Iceland.

FAROEES

The Faroes garrison cannot establish an effective defense early in the game. Massive air strikes from Bergen will reduce supplies to nothing and chew up the defending CAP. It may be worth while to evacuate the 8000 man garrison by air.

NATO Forces should attempt to recapture Faroes only after the maximum number of aircraft carriers and amphibious ships are available and Iceland is under NATO control.

ICELAND

The NATO player has some chance of thwarting the Soviet invasion of Iceland. To defend Iceland the NATO player must add 300 or more companies of reinforcements and maintain an adequate flow of supplies to the garrison. NATO supply ships must deliver at least 50 supply dumps per week to Iceland to sustain an effective defense.

NATO can base up to 80 combat aircraft on Iceland. These aircraft can bomb Soviet transports as they approach, provide CAP to shoot down Soviet bombers and air transport and provide ground support after the Soviet troops have landed.

If the Soviets gain a substantial numerical advantage in troops over the Iceland garrison the NATO player should consider evacuating his aircraft. Soviet land attacks may bring the airfield under fire and ground NATO aircraft on the following turn. Beware the possibility of losing the airfield before the combat aircraft can be evacuated.

The NATO player should not risk *too* much to defend Iceland. NATO can usually recapture Iceland in November after all the amphibious and cargo ships become available.

AMPHIBIOUS OPERATIONS

Amphibious operations should include all available ships in the NATO fleet divided into Task Forces as follows: 1 or 2 (C) carrier TFs, 1 (B) bombardment TF, 1 (T) amphibious/transport TF, 1 to 3 submarine groups. Some examples of TF composition are listed below:

(C) CVN-CVN-CGN-CGN-CGN-CGN-DDG-DDG-DD-DD-FFG-FFG-FF-FF

(C) CV-CV-CG-CG-CG-CG-DDG-DDG-DD-DD-FFG-FFG-FF-FF

(B) BB-BB-DDG-DDG-DD-DD-FF-FF-FF-FF

(T) CG-DDG-DDG-DDG-DDG-DD-DD-FFG-FFG-FF-FF-FF-FF-all amphibious and transports

(U) SSN-SSN-SSN-SSN-SSN-SSN

(U) SS-SS-SS-SS-SS-SS

All surface TFs should move together on the voyage to the objective. Tomcats from the escorting carriers should fly long ranged CAP. Intruders and Corsairs should pound the objective airfield during the approach and provide ground support after the troops land. Starlifters based at Scapa Flow should drop paratroops on the objective in conjunction with the amphibious landing. The bombardment TF should be moved into the objective square to add to the ground support effect.

Barring disaster, a well coordinated NATO assault can overwhelm the best prepared Soviet defense. Disasters can happen of course. The loss of one or more carriers to freak missile or torpedo hits can turn a smooth operation into a very hairy experience.

NATO CONVOYS

Convoy operations are required to periodically resupply Iceland or Scapa Flow. All convoys to Scapa Flow should be escorted by a carrier TF. One or more NATO submarine TFs should accompany the convoy to defend against Soviet subs.

THE BRITISH FLEET

The majority of the British fleet starts the game based on Iceland. Some or all of this force should be withdrawn to America prior to the arrival of the Soviet Invasion Force. If the NATO player intends to defend Iceland then those ships armed with Exocet missiles should remain in the Iceland area to attack the invaders. The weak British carriers are best used in ferrying Harriers from America to Scapa Flow.

THE BATTLE OF BRITAIN

The NATO player should attempt to maintain an effective air presence in Scapa Flow. Soviet bombing raids with less than a 2:1 advantage in Fighters will consistently suffer heavy losses in daylight attacks. Soviet night bombing raids will suffer fewer losses but the bomb accuracy of the Fencer is reduced by 30%.

When NATO air strength on Scapa Flow falls below 30 fighters then all aircraft except the Harriers should be withdrawn to America.

17.0 HISTORICAL NOTES

MAY

- Soviet Forces attack NATO under cover of Spring Manuevers.

JUNE 1

JUNE 3

JUNE 10

JUNE 20

JUNE 27

JULY 5

JULY 9

JULY 11

JULY 17

JULY 19

JULY 22

JULY 30

AUGUST 1

AUGUST 4

AUGUST 11

AUGUST 18

AUGUST 22
(thru AUG. 29)

AUGUST 25

AUGUST 28

AUGUST 31

SEPTEMBER 1

SEPTEMBER 6

- NATO command control disrupted by Soviet bombing of airfields, communication centers, troop barracks.
- Many NATO communication and surveillance satellites destroyed by Soviet ASAT weapons.
- Soviet marines land in Norway.
- Soviet Airborne forces land in Denmark.
- Denmark cut off from Northern Army Group (N.A.G.).
- Danish government evacuates to Great Britain.
- Denmark surrenders.
- Soviet, Czech and Hungarian forces invade Austria.
- Austria surrenders.
- Soviet Forces capture Oslo.
- Norway surrenders.
- Soviet forces capture Hamburg and Bremen.
- Soviet ground forces enter Netherlands.
- NATO forces retreat west of the Rhine river.
- Soviet airborne forces land north of Amsterdam.
- N.A.G. collapses.
- Soviets capture Amsterdam, Rotterdam and The Hague.
- Soviets enter Belgium, encircle Antwerp.
- Belgium and Netherlands surrender.
- Soviet Forces capture Cologne and Bonn, encircle the Ruhr cities.
- Soviet airborne forces land in Luxembourg.
- French Intervention — French army enters Luxembourg.
- Soviet airborne division in Luxembourg collapses under French attack.
- NATO remnants withdraw to France. Germany surrenders.
- Soviets agree to cease fire with France. France declares its neutrality.
- NATO forces evacuated to Great Britain.
- Soviet Baltic Fleet sighted in North Sea, west of Bergen.
- Soviets bomb British airfields and ports from captured bases in West Germany and Norway.
- Soviet Baltic Fleet enters Murmansk, combines with Atlantic Fleet.
- British Fleet relocates in Iceland.
- British Prime Minister vows to continue fighting.

CREDITS

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