FATHOMS 40 ™

Datasoft Inc. ®
COMPUTER SOFTWARE

FATHOMS 40 ™
BY RANDY TURNER

DIVE! DIVE! DIVE! The alarm sounds. Darkness surrounds you. The absolute silence of the sea is almost unbearable. Deep beneath the ocean's surface, you wait it out. Sweat begins to stream. Can your U-Boat take the pressure? Will your steel-eyed crew crack under stress?

A full convoy Allied destroyers and tankers are passing by overhead. Then, suddenly, depth charges explode all around you! Shock waves rock the submarine. But you're not frightened. After all, you're the Captain!

Fathoms 40 realistically simulates the operations of a Mark XXI U-Boat in the last, desperate days of WWII. It combines board game strategy with computer animation. With sonar, you'll track the enemy. Using the periscope, you'll chase them through the North Atlantic. Finally, you'll fire torpedoes and blast ships out of their supply routes.

And if you should survive? Congratulations! You'll be awarded the Iron Cross and made an Admiral. Don't let it go to your head, though, for another mission awaits you. To **Fathoms 40.**

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Proteger
Protéger
Schutzen
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Jamais
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No
No
Non
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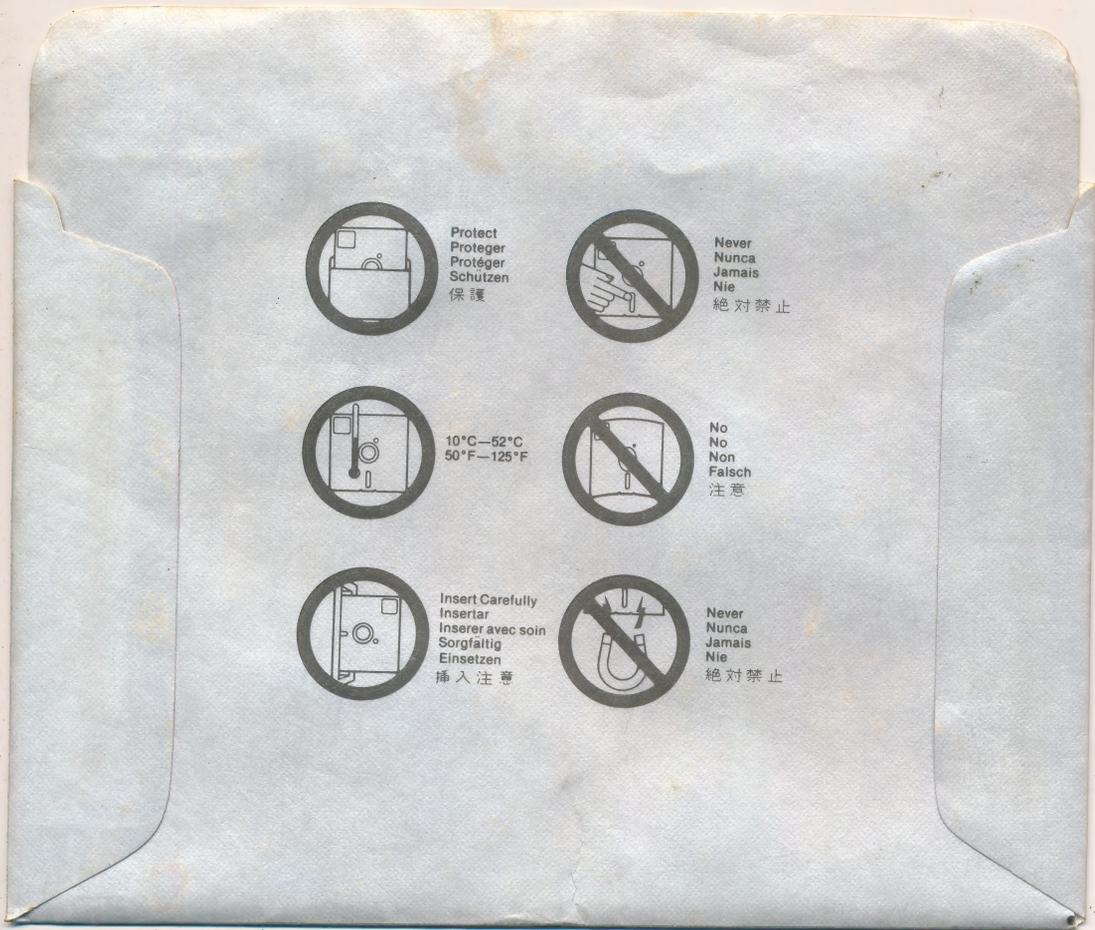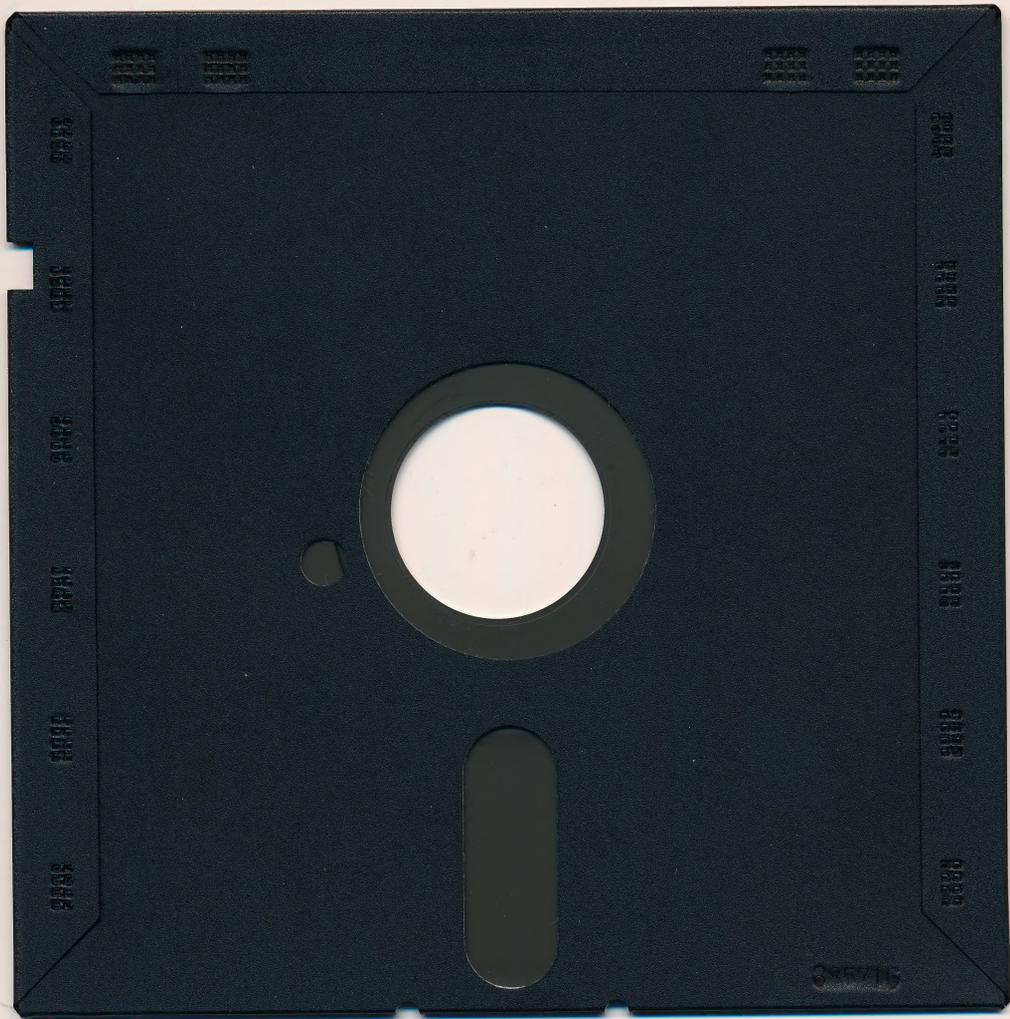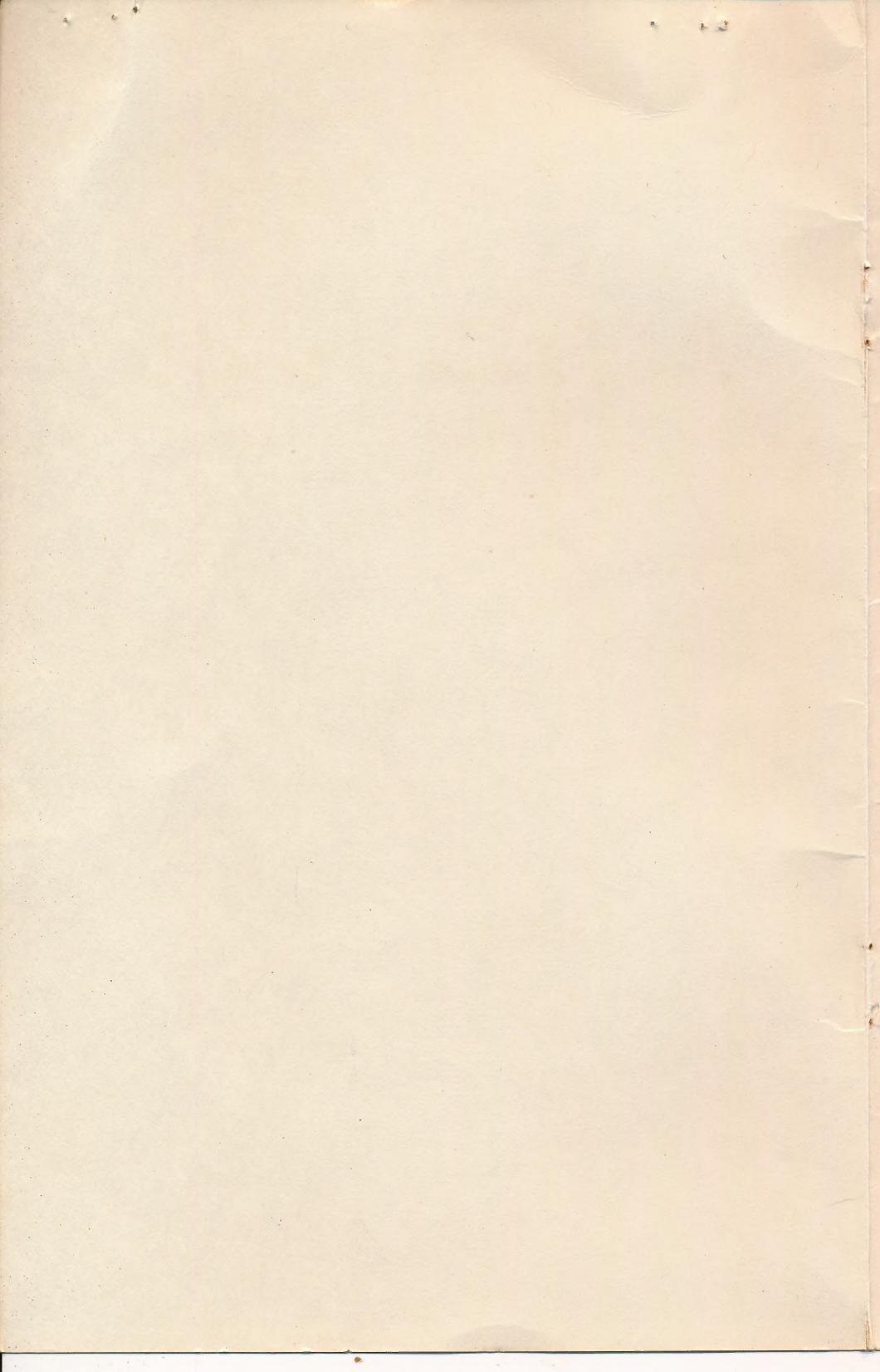
FATHOMS 40
QUICK REFERENCE CARD

STRATEGIC MODE:

Key	Action
N	Moves Sub 9 Knots (**N**ormal Running)
← →	Changes Course Heading (On Compass)
H	**H**alts Sub
B	Docks Sub At **B**rest

TACTICAL MODE:

Key	Action
S	Moves Sub 5 Knots (**S**ilent Running)
N	Moves Sub 9 Knots (**N**ormal Running)
E	Moves Sub 18 Knots (**E**mergency Running)
H	**H**alts Sub
D	**D**ive
C	**C**limb

SPACE BAR Stops Dive Plane (Stabilizes Sub When Diving)

Key	Action
← →	Changes Course Heading
P	Raises and Lowers **P**eriscope
U	Raises Schnorkel (Sub Runs on Diesel Engines)
L	**L**owers Schnorkel (Sub Runs on Batteries)
B	Charges **B**atteries
R	**R**eloads Torpedoes

CTRL E Escape to Strategic Mode (When All Ships Are Off Sonar Screen)

JOYSTICK Controls Periscope Direction
RED BUTTON Fires Torpedoes

DAMAGE REPORTS:

CONTROL ROOM FLOODED: Sub Will Not **D**ive **D** And Will Not Fire Torpedoes (Red Button)

ENGINE ROOM FLOODED: Will Not Run With Schnorkel **U**p **U** And Will Not Charge Batteries

BATTERY ROOM FLOODED: Will Not Run With Schnorkel Down **L**

TORPEDO ROOM FLOODED: Can't Fire Torpedoes (Red Button)

RUDDER JAMMED: Can't Change Course Heading **← →**

PERISCOPE JAMMED: Can't Use Periscope (Joystick)

DIVE PLANES JAMMED: Can't Stabilize Sub When Diving Or Climbing (Space Bar)

TORPEDO TUBES JAMMED: Can't Fire Torpedoes (Red Button)

ALL DAMAGES CAN BE REPAIRED BY ESCAPING TO STRATEGIC MODE **ESC E** AND DOCKING AT BREST **B**

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BY RANDY TURNER

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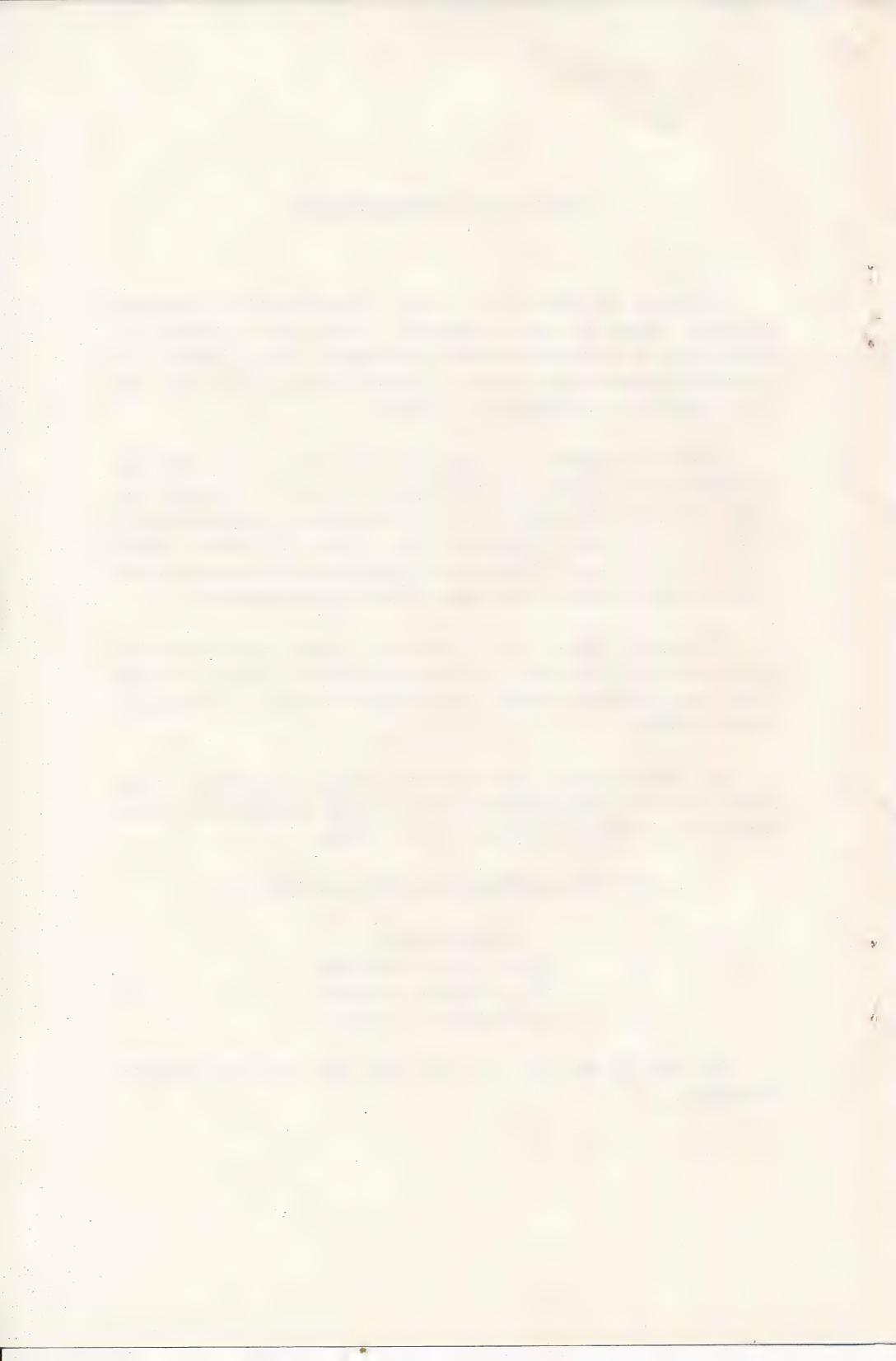
INTRODUCTION

FATHOM'S 40 realistically simulates the operations of a German U-Boat during the last days of WWII (1942-1944). It combines the strategic elements of popular board games with the computer's ability to provide animated action and automatic scoring. FATHOM'S 40 is fairly complex as to the number of commands which may be given and is geared for ages 12 and up.

HISTORY

As WWII neared an end, the Germans released a small number of advanced submarines into the seas of the North Atlantic. The new U-Boats became a formidable tool in Hitler's war machine. They wandered the ocean around England and France in search of Allied tankers and freighters. Destroyers and destroyer escorts provided protection as the ships moved through the supply routes between the United States and England. The U-Boats took many convoys by surprise and caused considerable damage.

The German Mark XXI submarine was only used operationally in the last few months of the war. However, there were over 200 of these U-Boats that could have been used earlier if the Germans had been able to get them from the construction yards to the submarine pens. The Mark XXI was the first submarine to operate submerged over extended periods of time. They could run on their diesel engines without surfacing by using a snorkel, and were capable of faster speeds underwater. The Mark XXI did not have a deck gun, although it was equipped with two 20mm anti-aircraft guns on the conning towers. It had six forward torpedo tubes and possessed a 360 field of fire with gyroscopically guided torpedoes. This removed the need for stern torpedo tubes. The subs could dive to depths of 700' to 1000'.

MISSION

You, the Captain, must guide your Mark XXI U-Boat into the Allied shipping lanes, seek out tankers and freighters, avoid depth charges, torpedo the convoy, and return safely to Brest, France. The number of ships in each mission will vary. You can encounter as many convoys as you have torpedoes to fire at them. There are three patrol missions in each game.

VICTORY POINTS

TANKER	20
FREIGHTER	8
DESTROYER (Combatant)	4
ESCORT (Combatant)	4

RANKINGS

PRIVATE
CORPORAL
SERGEANT
LIEUTENANT
CAPTAIN
ADMIRAL

EQUIPMENT REQUIREMENTS

FATHOM'S 40 is a computer game for the Apple II or II Plus home computer. It requires 48K of memory, a disk drive, and paddles or a joystick to play. Connect the paddles or joystick to the game port inside the Apple computer.

STARTING PLAY

To play FATHOM'S 40, simply insert the program diskette into the disk drive and turn on the computer. The game will load and run automatically. A menu will appear, giving you a choice of three difficulty levels:

DUCKS - Press `D`
EASY - Press `E`
HARD - Press `H`

Like it sounds DUCKS is the easiest level to play. No ships will fire at your U-Boat. This is a good beginning level for target practice. Playing EASY, the destroyers have weapons, but are slower to detect you on their sonar. HARD is the closest to real-time action. You must be very careful! Press the first letter of one of the levels (You do not have to press the RETURN key). Next, an introductory sequence will narrate the scenario of the game. Press the SPACE BAR as prompted after each pause to continue. After learning this sequence, it may be skipped by pressing the `S` key when prompted to do so.

STRATEGIC MODE

Whether you skip the introduction or not, the first display you are presented with is a computer generated map of Great Britain and the North Atlantic along with a compass, current score, and text display. Countries are outlined in green. The cities of London, Plymouth, and Glasgow (In Great Britain), and the port of Brest (In France) are represented on the map as orange dots. Convoy routes are represented by dotted blue lines. A special convoy route, marked by a dotted purple line, is worth 1.25 the normal amount of victory points.

NOTE: When playing FATHOM'S 40 on a B&W display, the special route will flash on and off. You may find a color display more desireable.

The Mark XXI submarine is represented as a white blip on your screen and starts out adjacent to Brest.

Although the shipping lanes are visible on the Strategic Map, the ships themselves are not. (Remember you're underwater!) You will have to rely on sighting reports made by your first mate Hans to seek out the enemy:

"HERR KAPITAN, SCREWS TO THE NORTH WEST" (Screws are propeller noises picked up by the U-Boat's hydrophones.)

Even though the Mark XXI used ultrasonic detection gear instead of sonar, FATHOM'S 40 incorporates sonar into the game in order to present a visual display with a sweep arm.

KEY COMMANDS:

There are five commands you may issue as Captain while you are cruising the waters around Great Britain. Two are used to choose your direction or heading. Two are used to stop and go. One is used to dock your U-Boat for refueling and repairs at Brest.

■■→ This key causes the diamond on the compass (In the upper right corner of the screen) to move in a clockwise direction.

KEY COMMANDS: (continued)

◄ This key causes the diamond to move in a counterclockwise direction.

The diamond will stop at eight positions on the compass corresponding to the directions North, Northeast, East, Southeast, South, Southwest, West, and Northwest. The U-Boat's movement across the screen while under power is directly related to the diamond's position on the compass face.

N Press this key to start your sub moving in the direction indicated by the compass diamond at Normal speed (9 knots). Avoid heading into land. An audible beep will sound if this happens, prompting you to change direction.

H Press this key to Halt your sub anytime while in the Strategic Mode. You may halt your U-Boat in a designated shipping lane and wait for an enemy convoy. While stopped, the digital fuel gauge will run at a decreased rate.

B Press this key when returning from the Tactical Mode to dock your sub at Brest for repairs, rearmament, and refueling. You must travel east into Brest and press the key as you hit land. The repairs will be made automatically.

STRATEGY:

All convoys are randomly generated. The ships travel at half the speed of your U-Boat. You are given anywhere between 12,000 and 22,000 gallons of fuel per mission depending on how far away the special convoy route is (marked in purple). If you should run out of fuel while chasing a convoy, the game will end because you're dead. Travel directly over the dotted shipping lines in order to locate a convoy. Follow Hans' instructions. When located, Hans will reply with:
"HERR KAPITAN,
ENEMY SIGHTED!"
The screen will shift into the TACTICAL MODE.

TACTICAL MODE

The TACTICAL screen includes a sonar display with sweep arm, the battery power level, damage reports (text), periscope, torpedo tubes, and gauges telling you the operational abilities of your U-Boat.

The sonar display is screwed down to the left side of your screen. You and your crew are represented at the center of the display. THE SUBMARINE IS ALWAYS AT THE CENTER. Convoys will enter the sonar display from whatever direction they were coming from in the STRATEGIC MODE (If the convoy was coming from the NORTHWEST in the STRATEGIC MODE, it will be coming from the NORTHWEST in the TACTICAL MODE). The dotted circle is the limit of your torpedo range. Don't shoot at ships unless they're inside the dotted circle. The entire display covers two miles of ocean. The sweep arm will sound a beep when it passes over a ship. To change your sub's direction, press the ⬅ ➡ keys and the rudder blip will move around the edge of the display. The directional headings are the same as on the compass.

Underneath the sonar display is a battery level meter and space for Hans' damage reports. The sub uses up 4 times as much battery power running on emergency speed as on normal speed. Silent running uses no battery power.

The view through the periscope is in the upper right corner of your screen. Your view will be blank when submerged under more than 25 feet of water. At 25 feet, if the scope is up, you'll see the ocean and sky in the direction your sub is heading. The ships of the convoy (Destroyers, Destroyer Escorts, Tankers, and Freighters) will begin appearing on your scope as they pass the dotted line on the sonar display. You'll see stem, stern, starboard, and port views of each ship as they sail into range. The front view is defined by two vertical stripes.

Under the scope is a read-out telling you how many torpedoes you have in service (1 to 6), and six gauges informing you as to the operational abilities of your U-Boat. These gauges (Tubes, Scope, Dive, Batt, Eng, Rud) are green when operational, and red when damaged. The TACTICAL MODE will also read your periscope (up or down), speed (in knots), depth (in feet), and snorkel (up or down).

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KEY COMMANDS:

There are thirteen commands you may issue while in the TACTICAL MODE. You will also use your joystick and red button in this mode.

S **S**ilent Running - Press this key to move your sub at a speed of 5 knots. At this speed, the convoy has a hard time picking you up on their sonar.

N **N**ormal Running - Moves your sub at a speed of 9 knots. You will be easier to pick up at this speed.

E **E**mergency Running - Moves your sub at a speed of 18 knots. You can be detected easily at this speed, so use it wisely. Valuable in approaching a distant convoy and when escaping if damage has been done.

*These speeds are operational with your snorkel up (running on diesel engines) and on battery power.

H **H**alts sub - Press this key to stop your U-Boat. You may find it easier to fire torpedoes with accuracy when the sub is stopped.

D **D**ive - Press this key to dive. The deeper you are, the less chance of being hit with depth charges. If you should dive below 900 feet though, there is a chance of pressure damage. The depth gauge will stop at 875 feet. If you wish to dive even deeper, press the **D**ive Key once for every 25 feet.

C **C**limb - Press this key to climb towards the surface. The sub will stop at periscope depth: 25 feet.

SPACE BAR   When diving or climbing, press the space bar to stabilize the submarine at a constant depth.

← → As in the STRATEGIC MODE, the arrow keys change your course heading. Your submarine's heading is always toward the green rudder blip at the edge of the sonar display. The → key moves the rudder blip in a clockwise direction. The ← key moves the rudder blip in a counterclockwise direction.

KEY COMMANDS: (continued)

P Press this key to raise and lower your **P**eriscope. You must be at 25 feet to do this. You are harder to detect when the periscope is down.

U Press this key to raise the snorkel and run the U-Boat on diesel engines. You must be at 25 feet to do this also. At depths below 25 feet, the U-Boat runs on battery power.

L Press this key to **L**ower the snorkel and run the sub on battery power.

B You may charge the **B**atteries when running the diesels by pressing this key.

R **R**eloads torpedoes - You get three sets of six torpedoes per mission. After firing six torpedoes, press this key and the torpedoes will reload automatically. The reloading process takes about 20 seconds.

The JOYSTICK controls the direction of your periscope. Rotate the JOYSTICK to the right to move the periscope clockwise, and rotate it to the left to move the periscope counterclockwise. The periscope moves in 4 degree increments and has a 45 degree view in the direction of the indicator. The indicator circles the sub blip in the center of the sonar display. The RED BUTTON is used to fire torpedoes. Press it once to fire one torpedo. Hold the button down to fire more than one torpedo. You may fire torpedoes to a depth of 125 feet. Get ships in the center of the scope and lead them when you fire.

DAMAGE REPORTS:

There are eight damage reports which will affect your U-Boat in the TACTICAL MODE. Should the escorts pick you up on their sonar, they will attack immediately. If they should strike the U-Boat with depth charges, K-guns, or hedgehogs, you will suffer some damage. Once damaged, it is up to you to work out of the situation and return to Brest for repairs.

CONTROL ROOM FLOODED: The U-Boat cannot dive or fire torpedoes.

DAMAGE REPORTS: (continued)

ENGINE ROOM FLOODED: The U-Boat cannot run with the snorkel up and you cannot charge the batteries. With the diesel engines out of order, the battery level will drop quickly if traveling at normal or emergency speed.

BATTERY ROOM FLOODED: The U-Boat cannot run with the snorkel down. You have no power when diving.

TORPEDO ROOM FLOODED: You cannot fire torpedoes.

RUDDER JAMMED: You cannot change the course heading. The rudder blip will remain where it was when the damage occurred.

PERISCOPE JAMMED: You won't be able to rotate the periscope.

DIVE PLANES JAMMED: You won't be able to stabilize the sub when diving or climbing. You will continue to dive to 875 feet until you press the `C` key and climb towards the surface. You will continue to climb until you press the `D` key and dive.

TORPEDO TUBES JAMMED: You cannot fire torpedoes.

ALL DAMAGES CAN BE REPAIRED BY MANUEVERING THE REMAINING SHIPS COMPLETELY OFF THE SONAR DISPLAY AND PRESSING `CTRL` `E`. THIS WILL ESCAPE THE GAME TO THE STRATEGIC `MODE` WHERE YOU CAN THEN DOCK AT BREST BY PRESSING `B`. THE CHANGE TO THE STRATEGIC MODE WILL BE MADE AUTOMATICALLY IF YOU SINK ALL SHIPS ON A GIVEN MISSION.

STRATEGY:

There are eight convoy configurations you will encounter in the TACTICAL MODE. The tankers and freighters always move in a line at 6 knots while the destroyers and escorts circle at 12 knots. The tankers are usually the most protected in the rear. The destroyers and escorts (the ships with weapons) attack at 36 knots. The U-Boat moves at 5, 9, and 18 knots. Torpedoes travel at a speed of 48 knots.

STRATEGY: (continued)

The destroyers and escorts range in age from 1942 to 1944. The later models differ as to the number of weapons they carry and their sonar capability. The combat ships carry hedgehogs (a type of mortar that fires direct-contact charges), K-guns (which shoot depth charges off the side), and depth charges (which are dropped off the stern). Each ship carries up to 80 charges. If you are spotted, the destroyers will attack and lay the charges directly over your sub. As soon as the charges are dropped, the destroyers lose sonar contact with the sub.

U-BOAT DETECTION - There are six items which affect whether you are picked up by an escort's sonar:

1) The sonar capability of each escort (1942 - 1944).

2) The range - How far the U-Boat is from an approaching convoy.

3) The U-Boat's speed - You will be detected sooner traveling at 18 knots. Detection lessens as speed diminishes.

4) Periscope up? A good strategy is to pop the scope up, take a look around, pop the scope down, and fire. You will be detected sooner with the scope up all the time.

5) Snorkel up? You make more noise running on diesel engines than on battery power. Switching back and forth would be wise.

6) The circling escort's sonar range runs at a 90 degree angle from the bow of each ship. If you are within this forward arc you can be detected. Try not to head directly into a convoy. It is easier to hit ships traveling left to right across the periscope than ships traveling directly toward or away from the sub. Always lead ships while firing. You may not want to shoot all ships in a convoy. Sink as many as you can safely and then escape back to the Strategic Mode **CTRL** **E** .

TORPEDO EFFECTS - One direct hit will sink a destroyer or escort. For freighters and tankers, there is a 50% chance they will burn and sink on one hit; a 25% chance they will burn on one hit (1/2 Victory Points); and a 25% chance they will remain dead in the water (1/4 Victory Points). A burning or damaged ship scores a green dot in the Strategic Mode while a sunken ship scores a red dot (Directly under SHIPS SUNK:).

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STRATEGY: (continued)

Depth Charge effects - The deeper the U-Boat is, the less chance of damage. Below 900 feet though, there is a chance of pressure damage. THE SUB WILL SINK IF ANY "FLOODED" REPORT IS RECEIVED TWICE.

EVALUATION GRAPH

If you successfully complete all three missions, or are sunk in any mission, the screen will automatically load to the evaluation graph. You are demoted one rank when sunk. The Tonnage Sunk registers in a blue line and the Victory Points in a red line. The lines will double back over themselves when you pass 100. You will be awarded Total Victory Points, Total Tonnage Sunk, and a Final Rank. A good score is 80 Victory Points for three missions. The highest ranking is Admiral with an Iron Cross and Diamonds. FATHOM'S 40 is best played with patience and a game plan. Don't be afraid to experiment with different strategies as you progress!

To start the game over, press the `RESET` key.
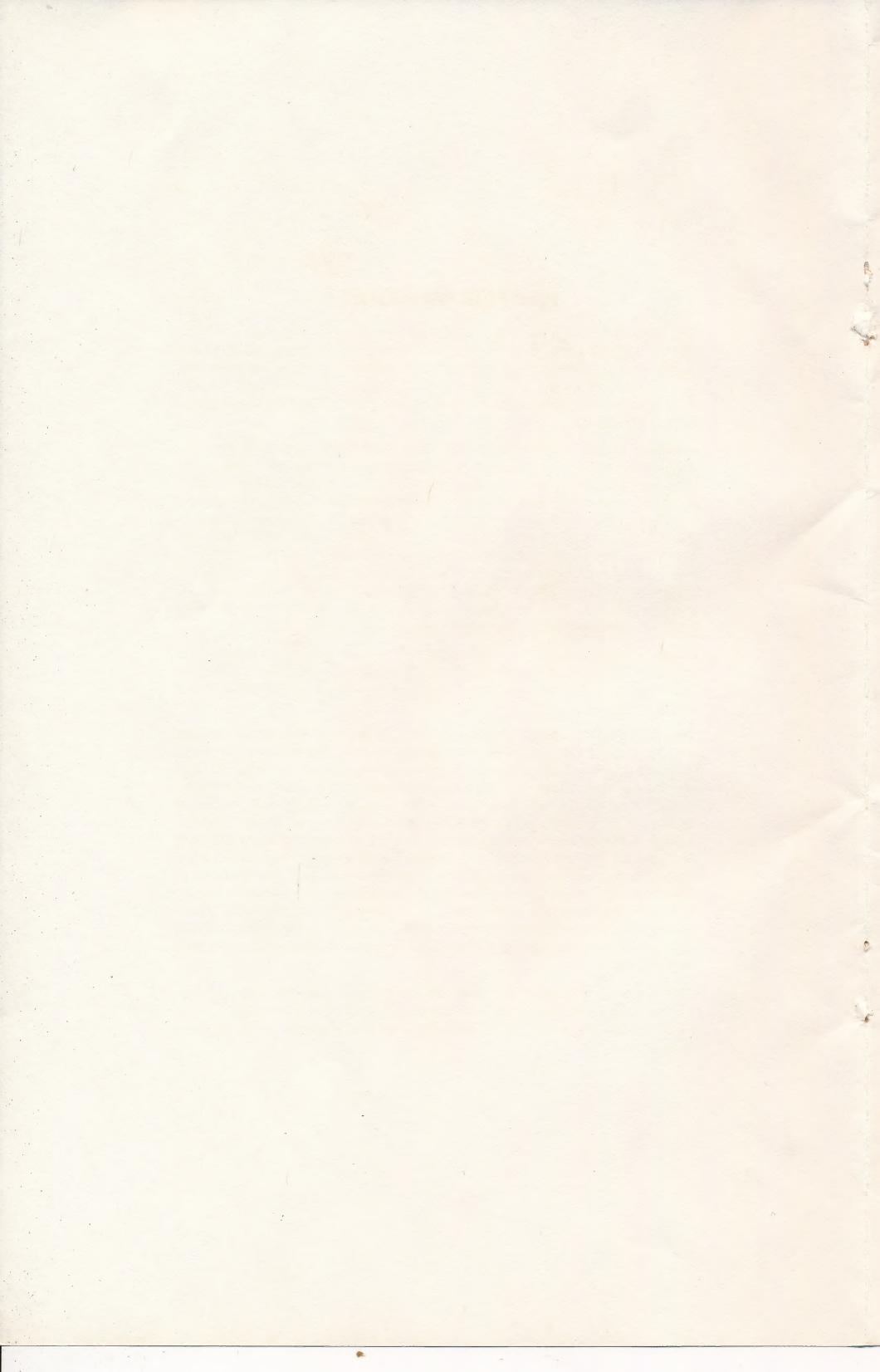
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