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## Sub Raiders

Program Operation Manual

A program designed for use with the  
Coleco ADAM Family Computer System.

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## Getting Started

Sub Raiders is a high-resolution World War II submarine combat simulator. All objects (ships, islands, torpedoes) are tracked simultaneously. A 3-D style object perspective provides depth of field and realistic offensive and evasive ship movement. The enemy may evade and run or attack the sub if you are detected.

At the beginning of each mission, you are placed somewhere within your pacific patrol area. You will navigate the submarine in a patrol area divided into 20 quadrants, some of which contain islands. Your primary mission is to eliminate all enemy vessels in patrol area.

You may set the level of technical difficulty, and chance will play a small part at certain critical moments. But the main factor for success is your skill at operating and navigating the sub to achieve the mission objective, using radar, charts, and other realistic sub capabilities. At the end of each mission, if you have survived, Sub Raiders will assign a score based on the number and type of enemy vessels destroyed.

Sub Raiders is the first program of its kind for the Adam Family Computer System. Its level of realism was achieved through years of programming experience. Thanks to Strategic Software, the largest and most innovative developer of Coleco Adam software products, we are able to enjoy, perhaps, the most sophisticated game ever created for the Adam. Now lets get started.

First, turn your ADAM on and insert the Sub Raiders program data pack into data drive one. Next, pull the reset switch. The tape will begin to spin and Sub Raiders will start loading itself into memory. After a few moments a title screen and copyright notice will appear. The tape will continue to spin as the main portion of the program finishes loading. Once the tape stops spinning, Sub Raiders will be ready to play. The first item that you will notice on your screen will be the game control parameters.

**PLEASE NOTE:** You will NOT be able to transfer Sub Raiders from its original digital data pack to disk as is the way it has been manufactured. However, because of the programming language used to create it, the data pack loading time has been greatly reduced. In addition, please be sure NOT to save ANY data in program files on the original Sub Raiders data pack. This action may damage the program and void the warranty as well.



## Game Control Parameters

The game control parameters allow you to set certain operational aspects of Sub Raiders.

### LEVEL OF DIFFICULTY:

There are 10 difficulty levels, 1 being the easiest, 10 the hardest. To set or change the difficulty level, press 1. Next, press the SPACE BAR until the desired level appears. When finished, press RETURN.

### SOUND:

Sub Raiders consists of many sound effects. However, you may wish to turn them on and off from time to time. To set the sound effects mode, press 2. Next, press the SPACE BAR until a Y appears, if you prefer sound effects, or until an N appears, if you do not wish sound effects. When finished, press RETURN.

### RESET GAME:

If at any time you wish to reset or restart Sub Raiders, press 3. Next, press the SPACE BAR until a Y appears, if you prefer to reset the game, or until an N appears, if you do not wish to reset the game. When finished, press RETURN.

When all of your settings have been made press RETURN once more and Sub Raiders will begin the mission or return to a mission already in progress. While a mission is in progress, you may display the game control parameters, at any time, by pressing the TAB key.

## Patrol/Quadrant Area Charts

### PATROL AREA CHART:

The patrol area chart displays your position in green dots and traces your present course within the entire patrol area. The patrol area is made up of 20 quadrants, each representing 5000 square units. It is useful to constantly check which quadrant you are in and how deep you are within enemy territory, as well as island positions and general patrol area geography. The sub tender (or repair vessel) is displayed in green, enemy ships are displayed in red, and islands are displayed as blue circles. All functions are active while the patrol area chart is displayed, therefore maneuvering and immediate position updating is possible. Allied and enemy positions are updated once every second. The patrol area chart may be viewed at any time by pressing the C key.

### QUADRANT CHART:

The quadrant chart traces your position and enemy positions in the quadrant where you are currently located. The position of any island is also shown. Sand bars and reefs are indicated by a dotted red line. The chart changes automatically when the sub moves from one quadrant to another. All functions are active while the quadrant chart is displayed, therefore maneuvering and immediate position updating is possible. Allied and enemy positions are updated once every second. The quadrant chart may be viewed at any time by pressing the Q key.

## Main Control Screen

The main control screen shows the submarine instrument panel, with the view from the bridge or through the periscope. Crosshairs will appear when the periscope is up.

### GAUGES AND DISPLAYS:

**DEPTH:** Down to 399 feet. The gauge stops when the sub goes beyond this depth. The sub will be crushed due to pressure if depths below 399 are maintained for more than a few seconds.

**SPEED:** Between 0 and 20 knots, or nautical miles, per hour. (1 nautical mile = 1.15 land miles.)

**HEADING:** Present course in degrees. The sub's direction is due north at a heading of 0 degrees, due east at 90, due south at 180, and due west at 270.

**FUEL:** Remaining diesel fuel in tons.

**BATT:** Current charge of batteries for electric motors.

**OXYGEN:** A triangular pointer that slides up and down to show the amount of air in the tanks.

**TORPEDOES:** The number of torpedoes remaining. A "O" indicates that the outer torpedo doors are open, and an "X" indicates that they are closed. The numbers 1-4 show which torpedo tubes are ready to be fired.

**DAMAGE:** When you sustain damage, a diamond indicator will appear next to any gauge which is affected.

**VIEW:** The arrow represents the direction which the periscope is pointing. (Up is forward, Down is aft, etc.)

You may return to the main control screen from any other screen, at any time, by pressing the SPACE BAR.



## Submarine Operation

### SPEED:

The keys 1, 2, 3, 4, and 5 set forward speed. 1 being the fastest and 5 being the slowest. The 0 key stops the engines or motors. Your actual speed will depend upon whether you are using diesel or electric power, as well as damage conditions. The 9 key will reverse the engines.

### POWER:

You may switch between electric (Battery) and diesel (Engine) power by pressing the B and E keys. You have a much greater range and speed while using diesel power, but you cannot run the diesel engines at a depth below 20 feet. If you do, power will go off, at that point you must switch to Battery power. With each increase in speed a greater increase in drag occurs and Battery or Fuel consumption increases dramatically.

### DIRECTION AND DEPTH:

Use the arrow keys to turn, dive, and surface. The HOME key centers the rudder and dive planes. The rate of turn is related to the subs speed - at higher speeds, the sub will turn faster.

### PERISCOPE:

The U key sends the periscope up and down. When the scope is up a crosshair appears in the middle of the screen. The scope can be used at depths 0 to 45 feet. You can change directional views by pressing F for forward, P for port (left), S for starboard (right), and A for aft (backward).

### TORPEDOES:

Before firing a torpedo, you must open the outside torpedo doors by pressing the T key. To close the doors press the T key again. You begin with a supply of 24 torpedoes. After each torpedo is fired, the tube number in the square indicator temporarily disappears. Torpedoes travel at a speed of 50 knots, can take several seconds to reach the target, and must be aimed ahead of moving targets. The vertical crosshair can be aligned by using the left and right rudder. At low difficulty levels you will usually sink the enemy with one hit, if not his speed and maneuverability will be reduced. To fire the torpedoes, press the X key.

### OXYGEN:

Oxygen is used at depths below 20 feet when you surface and turn on the engines, the air compressor starts and refills the tanks.



**DAMAGE REPORT:**

The sub's damage can be checked by pressing the D key. The affected area will be highlighted by a diamond. Damaged functions are crippled or rendered useless. Certain areas are more critical than others such as the control room, torpedo room, or the bridge. When heavy damage accumulates, you should return to the sub tender for repairs.

## Radar System

The radar shows the relative angle and range between the submarine and other objects such as ships and islands. To activate the radar, press the R key. Ships are tracked and displayed as single dots and islands are displayed as circles. The top of the screen shows what is in front of you, to the left, right, and behind. The radar has a range approximately 10 percent longer than the periscope view or a visual sighting. The radar may be used to a maximum depth of 45 feet. You may see, turn, duck, or surface while viewing the radar. Press the SPACE BAR to return to the main screen.

## Damage Repair and Resupply

When you have accumulated significant damage or are low on supplies, you should return to the allied sub tender. Once you are close enough and have the sub tender aligned within the crosshairs damage will be repaired, torpedoes replaced, and fuel tank refilled.



## Rapid Submarine Deployment

This function allows you to move from one quadrant to another very quickly. It is primarily used when the sub is damaged and repairs are needed immediately.

In order to use this function, you must be viewing the chart screen. Press the Z key and Sub Raiders will ask you to enter X and Y coordinates. The X coordinate is represented by the 5 quadrants illustrated at the bottom of the chart and are numbered 0 to 25000 units (from left to right). The Y coordinate is represented by the 4 quadrants illustrated at the left of the chart and are numbered 0 to 20000 (from bottom to top).

You do not have to tell Sub Raiders where you are, just where you want to be. For example, if the sub is in quadrant 1 and you want to move to the upper right hand corner of quadrant 5 enter X coordinate 14500 and Y coordinate 9050. Entered as 14500,9050 and press RETURN. Sub Raiders will execute a rapid submarine deployment and redraw the chart screen showing the sub's new position.

## Enemy Ships, Islands, Depth Charges

### PATROL BOATS:

Patrol boats are faster and more maneuverable than the sub, so they are hard to hit and outrun. They carry deck guns, depth charges, and torpedoes.

### DESTROYERS:

Destroyers are essentially the most dangerous enemy ship. One hit from their guns or depth charge is usually fatal.

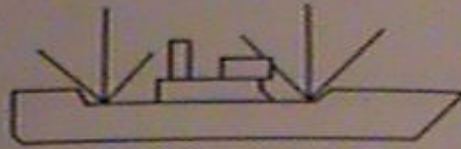
### DEPTH CHARGES:

Depth charges are set to explode at a certain depth. One must explode fairly close to the ship's hull to do fatal damage.

### ISLANDS:

Take care when approaching islands. If you get too close you may run aground on a sand bar. Reverse engines to back away from the island. Hold down the S key until the sub is off the sand bar.

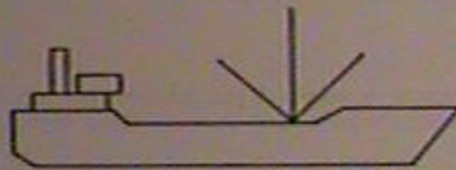
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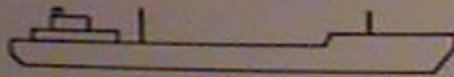
Subtender

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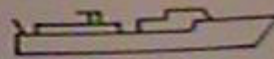
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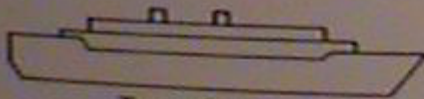
Freighter



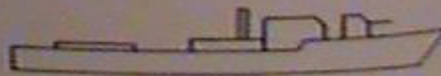
Tanker



Patrol Boat



Troop Carrier



Destroyer