

Yacht Race

PART I

Running Instructions

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64 Kidderminster Road, Bromsgrove, Worcs B61 7JYPublished by Hill MacGibbon Ltd.
92 Fleet Street, London EC4Y 1DH

First published 1984

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Cover photo from Alastair Black

Filmset by Advanced Filmsetters (Glasgow) Ltd

Manufactured in Great Britain by Cosprint Ltd, London

Introduction

Sailing a dinghy requires great skill. Not only do you have to navigate carefully to avoid banks, shallows or other hazards, but you also have to know how to get the best out of your dinghy. To do this, you need to learn how to trim the sails and how to balance the boat to cope with the changing wind.

If you have never sailed, playing *Yacht Race* will be a way of learning how to do it, so that when you sail a real yacht (as we hope you will) you will already have grasped the principles of sailing.

But whether you sail, or not, you will find that *Yacht Race* is an absorbing game that you will wish to play for its own sake for many hours.

We strongly advise everyone—even experienced yachtsmen—to follow carefully every step in the section *Learning to sail* (p. 9). This will introduce you to the dinghy's controls and allow you to challenge *Black Streak*, the Computer Boat, successfully.

You should read *Yacht race rules* (p. 15) before you start to race.

In *Yacht Race* you race against the Computer Boat. The screen will show you the view from the boat, looking forward of the bows. This animated scene will change ahead of you according to the speed of your boat and the course you take. This same screen also displays important dials indicating your speed, course, position of sails, angle of heel, and wind direction. The screen will show your opponent, when she is ahead of you, racing buoys, and landmarks on the shore. It does *not* show sunken rocks and other underwater hazards. If you run on to a rock the boat will be damaged and you will sink. If you let the boat heel over too far, you will capsize and sink!

A printed *Chart* is supplied with the game. You should always study this carefully when selecting a race course and, when sailing, to avoid hazards and plot the fastest course to steer. The *Chart* is matched by the *Computerized Chart* which tells you where you are at any given moment.

Check on the *List of basic terms* (p. 17) if you are new to sailing.

A *Summary of keys* is on p. 19, which you can use for quick reference while you are playing the game.

Happy sailing!

How to load the program

Set up your cassette recorder, computer, and TV set as instructed in your manual.

Place the keyboard overlay on your computer.

- Press **J**. Hold down **SYMBOL/SHIFT** and at the same time press **P** twice. **Load** should now appear on the screen. Press **ENTER** and then press **PLAY** on your cassette.
- Note—the program takes approximately five and a half minutes to load. In this time two screens appear. DO NOT stop the cassette recorder until the sequence of screens is finished, as described below.
- After a minute a Hill MacGibbon logo will appear.
- A minute later the title screen appears.
- A little over four minutes later the program will have loaded.
- Press **STOP** on your cassette recorder.
- Press **ENTER** to start the game or **M** to save to Microdrive.
- If you wish to save the program to Microdrive you should attach your Microdrive before starting to load the program. When the program has loaded press **M** before you press any other key. See page 18 for a full description of how to save to Microdrive. If you do not wish to save the program to Microdrive proceed with the running instructions given below.

Running the program

Selecting level of difficulty

The first screen allows you to select one of six levels of difficulty. The first three allow you to learn in stages how to master the dinghy's controls, without having to race against the Computer Boat.

Level 1—you steer the dinghy.

Level 2—you steer and trim the sail.

Level 3—you are in full control: you steer, trim the sail, and set the balance.

Levels 4–6 are a repeat of the first 3 levels except this time you race against the Computer Boat.

Initially **Level 1** is highlighted. Keep pressing **SPACE** to highlight other levels in turn. When the level you want is highlighted, press **ENTER** to choose that level.

Selecting a course

The first sailing course is now displayed. The prevailing wind is described at the bottom right. You will also see the following objects on the chart:

Red buoys —buoys which you must round in a clockwise direction.
Blue buoys —buoys which you must round in an anticlockwise direction.
Black objects —hazards; rocks, sunken trees, wrecks.
Yellow objects—sand banks.

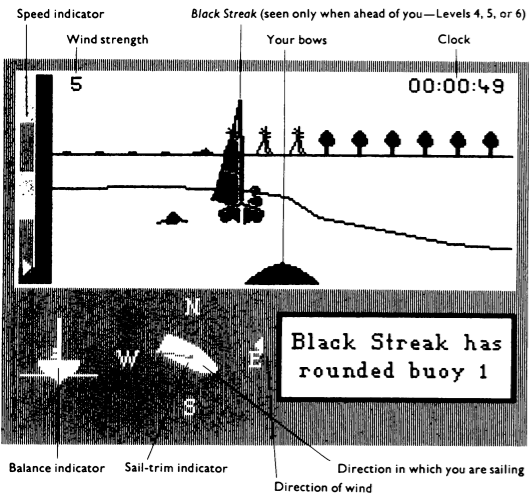
Press **SPACE** and the next course appears. When the course you want is displayed, press **ENTER**. You may now select the number of laps. The message 'Number of laps 1' appears. Press **SPACE** to change the number of laps to 2. Keep pressing **SPACE** until the number of laps you want is displayed. Then press **ENTER** to choose that number. While you are learning to sail one lap should be sufficient.

There are five courses in all. You can check them by studying the *Chart*.



What you can see

The view looking forwards over the bows of the dinghy will now appear like this:



You can always see a horizon and the shoreline. Look out for special features on the horizon (e.g. churches or pylons): you can use these as points to aim for when you want to avoid underwater obstacles. In the lake you can see buoys and waves (obstacles below the surface such as wrecks are *not* visible). The more waves you can see (the markings on the water's surface) then the stronger the wind is in that particular area. Conversely, where there are few waves to be seen (e.g. where features onshore shelter the lake), that area of the lake will be calm. In this way you can spot the strong winds and use them to your advantage.

You will only see *Black Streak*, the Computer Boat, if it is ahead of you, when racing (Levels 4, 5, and 6).

Your speed indicator

At the left of the screen is your speed indicator. When you are moving a bar appears. This shows your speed: the higher the bar, the faster you are going. The small pointer to the left of your speed bar shows the maximum speed that you could achieve if you were to get your sail trim and balance for the wind direction *exactly right*. In Levels 1 and 4 the computer trims the sails for you. In the other levels watch this pointer carefully to make sure that you are getting the best from your dinghy.

Note—If suddenly your sail trim becomes inefficient for one particular wind direction (this might happen if there is an unexpected change in the wind direction) you will see that for a short while the maximum speed pointer actually moves to a *lower* level than your speed indicator. This happens because it takes time for your dinghy to slow down.

Your balance indicator

At the bottom left of the screen is a representation of your dinghy, seen from behind. Inside is a small helmsman. As strong winds hit your dinghy, or as you alter the position of the helmsman (as described below), you will see this dinghy heel. If it heels too far in either direction, your boat will capsize.

Your sail-trim indicator

To the right of the balance indicator is a diagram of your dinghy. The small arrow that is placed around it shows the wind direction. The number at the top left-hand corner of your view shows the wind force (1 to 6—where 1 is a light breeze and 6 is a strong wind). You can use this indicator to see how well the sails are trimmed (this is explained on page 11).

Your time taken

The time you have taken so far is shown in the top right-hand corner of the screen.

Steering the boat

To turn the dinghy in an anticlockwise direction press **O**. You will see the bows move to the left against the landscape. To turn the dinghy in a clockwise direction press **P**. You will now see the bows move to the right against the landscape.

Trimming the sail

You will need to trim the sail in all levels except Level 1 and Level 4. To sheet the sail in press **N**. To let the sail out press **I**.

Balancing the boat

For Levels 3 and 6 you will also need to balance the boat. Press **Q** to move the small helmsman to the centre of the boat, or **W** to move the small helmsman out to the edge of the boat. You will find that the helmsman is always on the opposite side of the boat to the sail (the windward side).

Looking about

Apart from looking at the course chart to gain an overall view of the race, you can look to the port (left) or starboard (right) of the boat from the main screen. Press and hold down **C** to look towards port, or **V** to look towards starboard. After a short while the screen display will revert to the view ahead.

Checking your position

To see where you are on the course, press **E**. The clock is suspended and the screen shows a chart. The small purple boat marks your position, the small black boat marks the position of *Black Streak* (levels 4–6). (If both the opposing boat and you are close together, the position of only one of the boats is shown.) The buoy you must head for flashes. To continue, press **E** (or any of the above keys) a second time.

- If you collide with buoys or *Black Streak* then you incur an immediate 5 seconds time penalty. For 5 seconds your dinghy will be immobile.
- If you hit underwater obstacles (e.g. sunken wrecks, sand banks or if you capsize or veer into a bank, you sink and you cannot continue with your course. Press **SPACE** to start again.
- The course ends when either the Computer Boat or you have successfully rounded the last buoy on the last lap. You must round each buoy in the correct direction: red for clockwise, blue for anticlockwise. (You have *not* rounded the buoy until the message ('You have rounded the buoy') appears). If you were racing the Computer Boat then the result of the race will be given.
- Press **ENTER** to proceed. You can now select a level of difficulty and course as before.

Note—If you want to select another level or a different course *before* you have completed the course, hold down **CAPS** and press **A**.

How to finish

If necessary remove any cartridge in your Microdrive. Now simply disconnect your Spectrum from the power supply.

Using a Microdrive

You are allowed to make only *one* copy of the program on to a Microdrive cartridge. You *must not* make more than one copy on to a Microdrive cartridge (or any other copy of the program) either for your own use or for hiring, lending, or selling to other people. This would be an infringement of copyright for which you could be prosecuted.

How to make a copy on to a Microdrive cartridge:

- Format a blank Microdrive cartridge by typing **FORMAT** "m";1;"YR" and then **ENTER**.
- Make sure the formatted cartridge has been inserted into your Microdrive.
- Load the program from the cassette in the usual way.
- When the program has loaded, press **M** to save it on to the Microdrive cartridge. After about 30 seconds the program will have been saved. The program begins automatically.
- If you press any key other than **M**, the game will begin and the program will not be saved. To save it, you must start again from c.

Loading your Microdrive copy of the program:

- Make sure the Microdrive is connected and insert the cartridge which contains the program.
- Press **R** and then **ENTER**.
- The screen blanks and after 10–15 seconds the program will have loaded. A new game begins automatically.

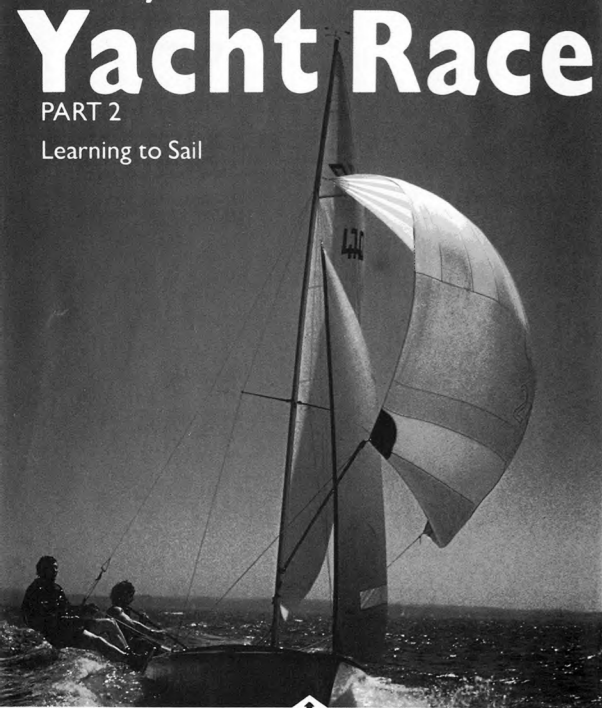
Summary of keys

SPACE	cycles through options
ENTER	chooses an option
Rudder	
O	steers the dinghy anticlockwise
P	steers the dinghy clockwise
Sails	
N	pulls the sail in
I	lets the sail out
Balance	
Q	moves the helmsman into the centre
W	moves the helmsman out
C	looks to port
V	looks to starboard
E	displays the chart
CAPS/SHIFT A	restarts the program

Yacht Race

PART 2

Learning to Sail



Learning to sail

This section has been designed to introduce you to both the principles of sailing and to familiarize you with the program. It has been divided into three sections. The first section introduces steering, the second section adds the sail trimming, and in the third section weight distribution is introduced. Work through each section carefully and you will soon be master of the keyboard and the dinghy.

Steering

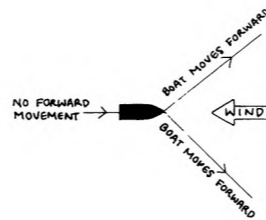
When steering you should remember two basic things: firstly, keep looking out on the chart for underwater obstacles and secondly, you cannot sail directly into the wind.

When the program has loaded press **[ENTER]** to select Level 1. For your first practice sail select the **first course** with a mild easterly wind (one lap should be enough). At the bottom of the screen you can see your sail-trim indicator showing your dinghy pointing into the wind and the sail flapping slowly backwards and forwards in the breeze. At the left of the screen you will see that the speed indicator is at zero—you cannot sail directly into the wind.

To check your position on the lake press **[E]** and the chart will appear. You are the purple boat in the north-west (top, left-hand) corner of the lake. Press **[E]** again to return to the view ahead.

We will start by sailing the boat in a complete circle. Hold down either **[O]** or **[P]**. It does not matter which: **[O]** will send you round the circle anticlockwise, **[P]** round clockwise. You will see the landscape moving past you at the top of the screen and the sail-trim indicator slowly turning. When the red speed indicator starts to register your speed you are under way!

But keep your finger pressed down and watch as the boat slowly turns to head down wind. Remember that the computer will look after the sail trimming for you. Finally, the bow of the boat will point up into the wind again (east). As the angle between the direction the boat is pointing in and the direction of the wind becomes too low the boat will stop moving forwards.



Now we must try to sail eastwards.

As you have seen, we cannot sail directly into the wind. In order to reach the first buoy (flashing at the eastern edge of the computer chart) we must zig-zag or tack towards it. Press **[P]** repeatedly until the boat starts to move (the boat in the sail-trim indicator will be pointing towards the south-east (bottom right-hand corner) and the speed indicator will show that you are under way. Press **[E]** to check that you are not heading for an underwater obstacle and correct your course if necessary. After about 10 seconds press **[E]** and you will see that your boat has moved towards the centre of the lake.

Press **[E]** again and immediately press and hold down **[O]** to bring the boat round into the wind (facing east). Keep pressing **[O]** and as the boat turns so that it starts moving forwards again towards the north-east. Hold this course for about 10 seconds and then press **[E]** to check your position. Your course so far will have been something like this:



As you can see, you have moved up wind without ever having sailed straight into the wind. Just carry on tacking backwards and forwards, slowly making progress towards the flashing buoy.

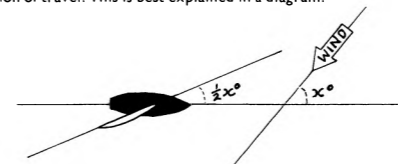
Sailing downwind (same direction as the wind) is easy. Turn the boat to point downwind and watch out for obstacles.

Steering and trimming the sail

When trimming the sail, keep looking at the efficiency bar and pointer to see if you are getting the best speed out of your dinghy.

So far you have only had to steer. The sail has been adjusted automatically. Now you must master trimming the sail. Press **[CAPS] [A]** to start the program again. This time select **Level 2** and the first course (with the mild easterly wind).

The principles you have already learnt about steering the boat still apply. But you must also make sure that the sail is efficiently trimmed. You will be able to sail on **Level 2** without changing the sail. However, changing the sail trim will allow you to sail more efficiently, and therefore faster. For any given wind direction the boat will sail fastest when the angle between the sail and the direction of travel is half that between the wind and the direction of travel. This is best explained in a diagram.



Try the tacking exercise from the last section, but this time experiment with the sail trim. Press **[N]** to sheet the sail in (closer to the boat), and **[I]** to let the sail out (further away from the boat). While you are practising with sail trim, keep an eye on the speed indicator at the left of the screen. The red bar represents your actual speed through the water. The white arrowhead on the left of the red bar shows you the maximum speed which you could obtain on your present heading if the sails were perfectly trimmed. The closer the red bar is to the arrow the better you are doing.

Steering, trimming the sails, and controlling weight distribution

The boat will go fastest when it is sitting squarely in the water.

As the wind blows against the sail the boat will begin to heel over. So far the computer has compensated for this by moving the helmsman (on the balance indicator) from side to side. Now it is your turn. Select **Level 3**, again with the easiest course. Trim sail as before but this time watch the balance indicator. The balance indicator shows a view of the boat from behind.

No matter what level you are on, the computer will always make sure that the helmsman is on the correct side of the boat (away from the sail). However, you must control how far towards the edge of the boat he must be. Press **[W]** and the man moves away from the centre and the boat starts to tip. Press **[Q]** and the man will return to the centre. The boat will always go fastest when it is sitting squarely in the water. If the boat heels over too far it will capsize!

Racing—and winning tactics

Clever use of the wind and tactics can give you an advantage.

You should now have become a competent helmsman. Now try racing against *Black Streak*. If you are skilful you can win—but it's difficult, for the computer helmsman is very good.

When racing you must observe the *Yacht race rules* on page 15. These are basically the same as proper racing rules but modified for the computer. They are designed to prevent the two dinghies racing against each other colliding. In any situation one boat always has rights and the other boat must give way whenever there is imminent danger of a collision. As in a real dinghy race, you are not told whether or not you have rights. Since the computer boat always stays within the rules, in most cases where there is danger of a collision, the Computer Boat will have rights.

Here are some tips on how to get the better of the Computer Boat.

How to round a buoy

- Each buoy must be rounded in the direction indicated on the chart. Blue buoys must be rounded anticlockwise, red buoys clockwise.
- To avoid hitting the buoy (which would cost you a 5 second penalty), try to keep the buoy in the bottom left-hand or right-hand portion of the screen, depending on whether you are rounding the buoy in a clockwise or anticlockwise direction.

How to use the wind

- Each course has a prevailing wind direction and strength but local variations in the wind occur. Features on the bank may shelter the lake and make the wind mild in that area. Gaps in features on shore can have a funnelling effect and create strong winds. These local variations can win or lose the race for you so it can be most important to keep an eye out for areas on the screen which contain a great concentration of waves.

How to take rights at a buoy

- If you are behind the Computer Boat at a buoy, there is a nice trick you can use to get ahead. Rule 5 says that the dinghy on the inside at a buoy

has rights. So if you cut inside the computer boat, it will have to give way to you:



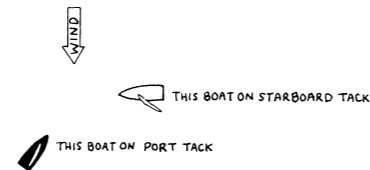
Now you have rights so the computer boat must give way to you

However, watch the Computer Boat doesn't do the same to you!

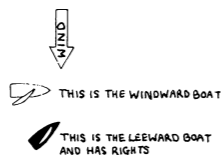
Yacht Race Rules

These are the rules which apply to this game. (There are many other racing rules.)

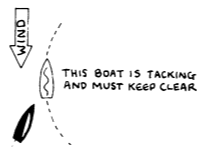
1 A boat on the port tack keeps clear of a boat on the starboard tack.



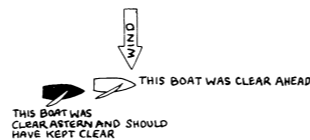
2 A windward boat keeps clear of a leeward boat.



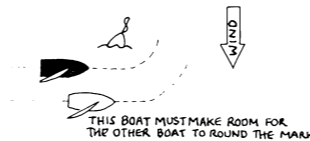
3 A boat which is tacking or gybing keeps clear of one that is not.



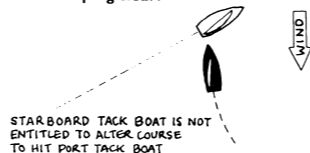
4 A boat clear astern of another keeps clear of the one ahead.



5 When a boat has to round a buoy or clear an obstruction, boats which are overlapped outside her must give her room.

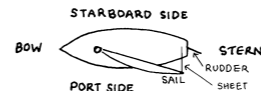


6 A boat which holds right-of-way must not alter course to hinder another boat which is keeping clear.



List of basic terms

These are the few terms needed for playing the *Yacht Race* game. There are hundreds of other sailing terms, but to describe them all would take a complete book.



Sailing term

Port and starboard

Sheet

Sheet in and sheet out

Sailing close hauled

Reaching

Running

Tacking

Going about

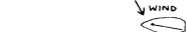
Explanation

Left and right, but always from a position facing the bow (front of the boat). The port and starboard sides are fixed.

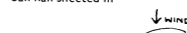
Rope which controls the angle the sail makes with the direction of travel. Pull the rope in or out.

Map of water area showing landmarks and underwater hazards, like rocks.

Sail sheeted in



Sail half sheeted in



Sail let out



Ziz-zag course taken to sail in a direction against the wind.



Turning into the wind so that the sail moves from one side to the other. (This is done when tacking.)



Port tack

Wind on port side of boat, sail on starboard side.



Starboard tack

Wind on starboard side. Sail on port side.



Rights

Right of way. A boat which does not 'have rights' must give way to a boat which 'has rights'. See page 13.

Gybing

When tacking, a boat would normally change direction by turning the bow up into the wind (going about). However, you can also change direction by turning the bow of the boat downwind. This is called gybing.

Angle of heel

The angle at which the boat is leaning. If this angle is too great the boat will capsize or sail inefficiently.