



Kipper Kite

*“On a day when the wind is perfect, the sail just needs to open,
and the world is full of beauty. Today is such a day.”*

Rumi – 1207-1273

VENI, VEDI, NAVIGAVI

I came, I saw, I sailed.

Kipper Kite Owners' Notes

Dear Charter Guest,

Welcome aboard and to the beautiful Pacific Northwest. We are happy to share Kipper Kite with you and hope you enjoy your special sailing vacation. Kipper Kite has been professionally maintained to assure you a reliable and trouble-free sailing experience. In the unlikely event her systems fail, we and the San Juan Sailing team will do everything possible to promptly resolve issues to your satisfaction.

SAILING SYSTEMS:

- All lines are led aft to the cockpit of the boat making it easily sailed by a short-handed crew. She also includes a roller furling jib and double reefing main.
- A dodger and bimini for protection from the weather; an electric anchor windlass to help with anchoring.

New for 2020: New Honda outboard for dinghy.

New for 2021: New side window hatches in Salon.

New for 2023: B & G Zeus 2 12 Chart Plotter; B & G digital radar; B & G speed/wind/depth gauges located above companionway; New Standing Rigging and Roller Furler; Fusion RA70SNX Stereo.

New for 2024: New Carpet in salon and berths, SENA Headsets, Fusion Cockpit Speakers, Upgraded cockpit table hardware.

USING THIS MANUAL:

This manual is a short-cut to getting you under way and to making your sailing experience aboard the Kipper Kite enjoyable. Please make note of any items that need repair and feel free to make suggestions in the return documentation. *We truly appreciate knowing about these and how you enjoyed your trip.*

Please no smoking or pets on board Kipper Kite. Thank you.

Happy Sailing!

David and Judy Spencer

Susan and Brian Foster-Dow

WHAT IS A KIPPER KITE?



A brief history of dubious origin.

Kipper Kite's first owner named her after his grandfather's racing dog in Ireland. We were unable to find pictures of the dog or the grandfather, so the picture above is representative of Kipper Kites' namesake. Another way to make sense of the name is that a "Kipper" is a smoked herring common in Irish diets and Supertramp lyrics. Put "Kipper" and "Kite" together and you have a high-flying fish that delights in the wind.

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1. VESSEL PERMITS, INFORMATION, AND SPECS

U.S. Customs Re-Entry Decal – Located on the aft side of the helm binnacle.

Vessel Official Number - 1074395 (same number as shown on the Coast Guard Certificate of Documentation found in Section 5 Documentation of the Charter Guest Reference Manual (white binder). Vessel Name's number is located inside the starboard cockpit locker on the forward bulkhead.

Coast Guard Boarding Document – Refer to the Charter Guest Reference Manual (white binder), Section 5 Documentation. Explains what to expect if you are boarded by the Coast Guard and where to find the information/equipment they may ask to see as part of their safety inspection.

1997 Beneteau 42S7

LOA: 42'6" (13.0m)

LWL: 35'9" (10.9m)

Beam: 13'6" (4.1m)

Draft (wing keel): 5'11" (1.8m)

Ballast: 6283 lbs. (2850 kgs.)

Displacement: 21,125 lbs. (9,250 kgs.)

Sail area: 771 sq. ft. (71.6 sq. m.)

Mast above water line: 60 ft

Furling Genoa: 150%

Fresh water tanks: Two 80 Gallon Tanks Total - 160 gallons (606 liters)

Fuel tank: 40 gallons (151 liters)

Auxiliary: Yanmar 50 hp diesel

Electric aft head with freshwater flush

Fusion Stereo

TV Monitor in main salon for chartplotter viewing

VHF radio: ICOM navigation station and helm (**Call Sign: WDB 4281**)

Radar: B & G digital mounted on mast

GPS: B & G

Chart Plotter: B & G 12" Zeus2

Depth sounder, knot meter & wind direction: B & G

Auto Pilot: Raymarine Autohelm ST6001

Cabin heater: Webasto 1020 diesel hydronic water circulating forced air

Windlass: Lofrans Cayman Horizontal

Bow Anchor: 44 lb. Bruce with 300 feet of chain

Secondary anchor: Fortress stowed in stern starboard locker

Inflatable dinghy: Achilles 10 ft. with aluminum hull and 2.5hp Honda motor.

2. PRE-DEPARTURE CHECKLIST

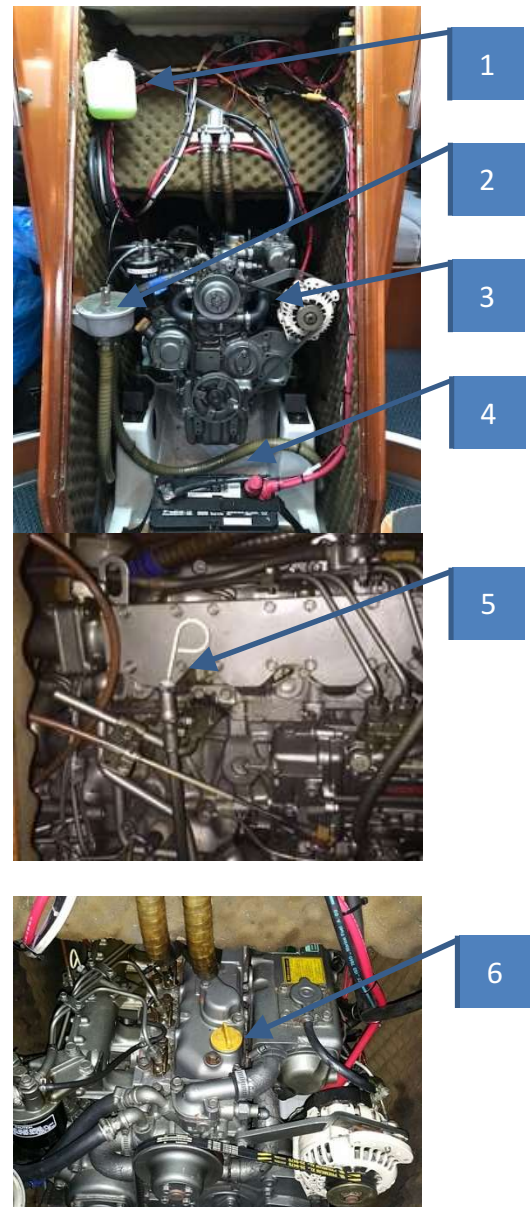
Conduct a pre-departure check with all on board each time before heading out on the water.

A. DAILY SAFETY BRIEFING

- a. Plan and review route and highlight hazards including the weather forecast.
- b. Review the location of all fire extinguishers.
- c. Review location of Emergency Equipment in Nav Station. (See Item 3)
- d. Review location and deployment of the Life Sling.
- e. Ensure all aboard have PFD's on when above deck and underway.

B. PERFORM ENGINE CHECK

- a. Remove companion way steps.
- b. Check coolant level in (1) expansion tank on port side above the engine.
- c. Check raw water filter screen in (2) white bowl, port side of engine. Remove eel gras or any other visible debris and secure cover. (Note: there is no need to close the thru-hull as raw water filter is above the waterline.)
- d. Check Serpentine belt for wear, black rubber residue, <math>< \frac{1}{2}</math> in deflection.
- e. Check absorbent pad under engine for evidence of leakage.
- f. Remove engine access panel in aft starboard cabin.
- g. Check the oil level. Have a paper towel with you as you do this step. There is a 1 ½ inch space between the full and fill marks on the dipstick. If there is no oil showing the first time you pull the dipstick reinsert the dipstick and the correct level will show.
- h. If low add no more than a cup of RPM Delco 400 15-40W. Then check the level again. If still low, add no more than a cup until the level is between the low and full lines. Overfilling is the worst thing you can do to a diesel and can cause damage.
- i. (6) Oil fill port.



DO NOT OVERFILL!

- C. Check the radiator water filter level. This should be done each morning before starting the engine. Check the raw water filter for debris; remove any debris before starting engine. Remember to carefully re-seal the raw water cap.



- D. CLOSE AND SECURE COMPANION WAY STAIRS.

WARNING: Make certain the latches are secured on the companionway steps after closing as the steps will fall forward if someone steps on them without the latches securely fastened.

E. CHECK BILGE

- Remove the pot and pan drawer on the galley side of the salon seat.
- Remove the salon seat cushion and access hatch for the bilge.
- Ensure there is no water in the bilge.
- Check operation by gently lifting the (7) float switch and by flipping the (8) bilge pump switch from auto to manual.
- Move switch back to auto.



- F. The emergency manual bilge pump is located aft in the cockpit adjacent to the wheel on the port side. The (9) handle is kept in the port lazarette of the cockpit.



G. IF DOCKED DISCUSS DEPARTURE PLAN

- Observe wind and current and discuss effects.
- Assign person to operate the helm.
- Assign person to roving fender and discuss role.
- Discuss plan for removing dock lines.
- Does the dingy need to be repositioned?



H. IF AT ANCHOR OR MOORING BALL DISCUSS DEPARTURE PLAN

- Observe wind and current and discuss effects.
- Assign person to operate the helm.
- Assign person to operate the windlass/detach from the mooring ball.
- Assign person to wash down anchor and assist with anchor chain management.

I. SECURE GALLEY AND PERSONAL ITEMS

- a. Properly store loose items in salon, galley or nav station in a drawer or cabinet.
- b. Make sure cabinets and drawers are closed and latched.
- c. Close and secure all hatches and windows.

J. TURN ON NAVIGATION AIDES

- a. Turn on VHF Radio monitoring channel 16.
- b. Turn on autopilot.
- c. Turn on electronics.
- d. Turn on TV.
- e. Turn on stereo.

3. SAFETY EQUIPMENT

- a. First Aid Kit: There is a first aid kit located in the medicine cabinet in the forward head.
- b. AED: Automatic External Defibrillator located on the shelf of the forward cabin closet.
- c. Fire extinguishers: There are a total of six fire extinguisher on board. There is one in each cabin. There are two fire extinguishers in the main salon (1 in the galley and 1 in the nav station). There is a fire extinguisher in the cockpit under the step to the companion way stairs.
- d. Life vests: There are a total of six auto-inflate PFD's. Two in each of the cabin closets and extra vests are in the starboard side cockpit lazarette. Vests should be always used when on the deck of the boat while underway. 48° F (8° C) water temperatures in the Salish Sea means a rapid onset of hypothermia and a short window of survival.
- e. The electronic flare and search light are in the nav station side pocket.
- f. Life Sling and Life Sling retrieval located in nav station pocket.
- g. Emergency Plug
- h. Air Horn (Move to helm before getting underway)
- i. Tethers and Jack Line (See 27)
- j. Binoculars

**4. EMERGENCY TILLER**

In the unlikely event the steering wheel cable was ever to break while Kipper Kite is underway, the boat is equipped with an emergency tiller that is stored in the starboard lazarette. The emergency tiller is a 90 degree steel pipe that is inserted in a socket that is beneath the seat at the helm. To access remove the plate with a winch handle. Lower the emergency tiller through the opening and into the socket opening below.



5. LIFESLING 3 to 1 RETRIVAL SYSTEM

Use of this system requires a victim that is conscious and who can cooperate with their own rescue.

- A. Read directions before departing in Appendix A and B.
- B. The (1) Life Sling is located on the starboard side stern rail and the (2) 3:1 block and tackle is in the yellow life sling bag in nav station side pocket.
- C. BASIC INSTRUCTIONS
 - a. Deploy Life Sling and pull the victim to the boat.
 - b. With the victim alongside tie off Life Sling line.
- D. LIFTING THE VICTIM
 - a. Remove block and tackle from bag. (3) Attach pulley #1 to boom on aft d-ring.
- E. (4) Attach pulley #2 to the toe rail near gate on the victim's side of boat.
- F. Open lifeline gate.
- G. Attach carabiner #3 to d-rings on the Life Sling.
- H. Wrap the line from block and tackle to the jib winch and lift the victim using the winch to the deck.



CAUTION: The victim must have adequate muscle tone to hold themselves in the harness during the lift to the deck.

6. STARTING, STOPPING, AND FUELING

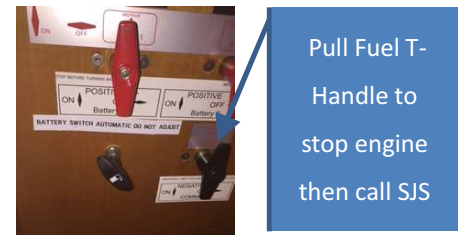
A. STARTING THE ENGINE

- a. Make sure the transmission is in neutral. Depress red button at the base of the shift lever to disengage the transmission and move gearshift forward slightly to idle the engine at a higher RPM when first starting engine. ***This is important!***
- b. Turn the ignition key one position (the key is kept in the top drawer under the chart table). The buzzer should sound. This is the warning buzzer you would hear if the engine overheats or if there is loss of oil pressure. Turn the key to the right. If it doesn't fire up right away, stop cranking and let the battery recover. After the engine starts check for water gurgling out the exhaust (on the port side). Allow 3 minutes of warm up before placing the engine in gear. Pushing a cold engine is very hard on diesels.



B. STOPPING THE ENGINE

- NEVER TURN THE ENGINE OFF WITH THE KEY!
- Put the shifter into neutral.
- (2) Pull the fuel cutoff t-handle valve.
- When the engine dies, the alarm will sound.
- Turn off the key.
- If the procedures above do not stop the engine, it can be stopped by using the fuel cutoff in the battery switch compartment located in the port side aft cabin. Pull the T-handle out to kill the engine.



Note: The engine will run until the fuel in the line is used.

C. ENGINE OVERHEAT

- If the buzzer sounds while the engine is running, immediately check the oil pressure and temperature gauges.
- If oil pressure light is on, shut down the engine, check the oil level, and contact San Juan Sailing.
- If the oil pressure light is not “on,” check for water coming out of the exhaust.
- If there is no water coming out of the exhaust, the raw water strainer is likely plugged.
- To clear the raw water filter, remove the wing nut on top of the strainer.
- Take the lid off.
- Remove the filter and clear debris.
- Reinsert the filter, replace the lid and tighten the wing nut.
- If the engine overheats again upon restarting, check that the seacock is open and check the lid seal. If it draws air, it won’t draw water.

D. FUELING

- The (1) fuel gauge is located on the port side of the helm in the cockpit. Add fuel when the gauge is reading half.
- The key/spanner for opening the diesel deck plate is in the first drawer of the chart table.
- There is only one deck plate marked “DIESEL” on the aft portside behind the mooring cleat. Be certain to put the diesel into the hole marked for diesel only. There is a water plate just forward of the diesel plate.
- DO NOT PUT DIESEL IN THE WATER FILL OR WATER INTO THE DIESEL FILL.
- NEVER ADD DIESEL TO THE FUEL TANK AND WATER TO THE AFT WATER TANK AT THE SAME TIME TO AVOID CONTAMINATING THE WATER OR DIESEL TANKS.



- f. Fill slowly and carefully. Never allow maximum flow from the filler hose. If you do, the fill tube will surge, and diesel will spill into the water.
- g. When the pipe begins to gurgle it is full.
- h. Do not top off the tank. Be very careful of drips when removing the hose.
- i. Check the transom vents and, with soap, wipe up any excess fuel to avoid yellowing the stern and polluting the water. Diesel and shoe bottoms are a dangerous combination.
- j. Please use soapy water to scrub down any drips on the deck and shoe bottoms.

7. ANCHORS AND WINDLASS

Kipper Kite is equipped with two anchors: A Bruce 44lb. anchor mounted on the bow roller, and a secondary Fortress stored in the aft starboard side stern locker.

A. FORWARD ANCHOR AND RODE

- a. The primary anchor is deployed by an electric windlass and 300 feet of chain which holds well in a variety of bottom conditions.
- b. The chain is marked with a single yellow line at 25', 50', 75', 100' (double yellow). Yellow line at 125', 150', 175', 200' (double yellow). Yellow line at 225', 250' and 275'.
(1) RED AT 300'. STOP!!



B. WINDLASS

- a. The electric anchor windlass is controlled by a circuit breaker located in the aft starboard cabin bulkhead below the berth.
 - (1) Push the small yellow switch up to activate the circuit. Don't push "in", swing "up".
 - (2) Push the red button in to de-activate the windlass.



C. LOWERING THE ANCHOR

- a. Remove the safety lanyard from the anchor.
- b. Lower the anchor and pay out a suitable length of rode using the (1) forward deck switch near the windlass while the engine is running at 1400 rpm (idle) to activate the charging system.



D. SCOPE.

- a. The scope to use in the islands is 3 or 4 to 1. Most coves are 25' to 30' deep (add 5 feet for water level to deck), so expect to pay out about 130'-140' on average.
- b. After you have paid out the suitable amount of chain, (2) attach the
- c. snubber to the chain and tie it off to a deck cleat before putting boat in reverse to set anchor.



- d. Put the boat in reverse and slowly back until the chain is taunt.
- e. Increase the RPM to 1200-1400 for 60 seconds and test the holding power.

REMEMBER: Attach the snubber to the anchor chain **BEFORE** putting boat in reverse to set the anchor. Failure to do so puts undue force on the windlass and could result in damage to the windlass

Important: Always remember to check the tide table when considering your anchorage. If the tide drops 6' during the middle of the night, will there still be enough depth to float the boat with a 6' keel and not become grounded?

E. RAISING THE ANCHOR:

- a. Start the engine and run at 1400 rpm (idle) to activate the charging system.
- b. Prepare to wash the mud off the chain using the coiled hose in the anchor locker. Activate the switch at the navigation station labeled (1) wash/dump.
- c. Open the (2) yellow thru-hull valve located in the forward head under the sink.
- d. Motor up to the anchor while bringing in the rode by pushing the (3) rear deck switch.
- e. **DO NOT USE THE WINCH TO PULL THE BOAT TO THE ANCHOR!**
- f. Raise the anchor chain with the anchor windlass until the snubber hook is 6" below the bow roller.
- g. Remove the snubber from the bow cleats and store in the anchor locker.
- h. After retracting each 25' of chain, use the wooden stick in the anchor locker to spread the chain. This prevents the chain from forming a pile and causing the chain to jam against the windlass.
- i. If the anchor will not break free easily with the windlass, use the boat's engine to break the anchor free by rotating the boat at a different angle to release the anchor from the bottom.
- j. Seat the anchor on the bow roller and attach the blue safety lanyard to anchor.
- k. Turn off the windlass by pushing the red button on the switch in the starboard berth bulkhead.
- l. Turn off the wash down pump and then close the yellow thru-hull value in the forward head.



1



2



3

F. SECONDARY ANCHOR

- a. The secondary anchor is a Fortress 23 weighing 17 pounds with 20 feet of 5/16" chain and 200' of 9/16" three strand nylon line.

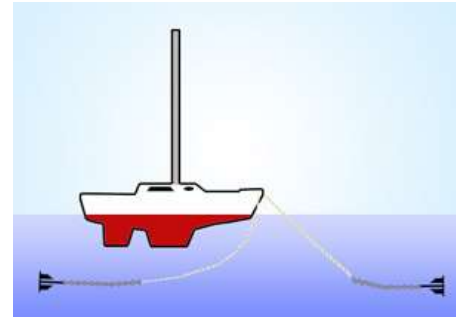


This anchor is in the aft starboard Lazaret in the cockpit. The secondary anchor is used only in very rare circumstances. We recommend you only use the bow anchor adding additional scope in winds more than 15 knots.

Caution: In tidal areas such as the San Juan and Gulf Islands deploying two anchors can cause fouled anchor rodes.

Caution: In wind shifts of 90 degrees to the boat direction, the boat becomes a sail and strong tension on the anchor rodes is the result.

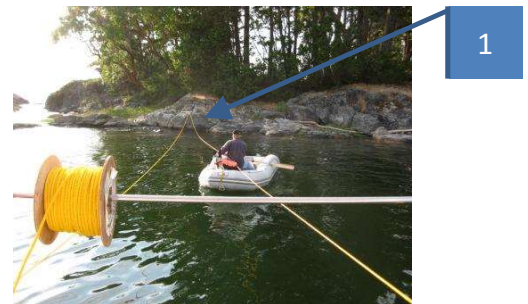
Use the secondary anchor for a “Bahamian moor”. This means two anchors from the bow (see illustration). Using the secondary anchor as a stern anchor is discouraged.



G. STERN TIE

A stern tie is recommended to reduce boat swing in a narrow bay or cove.

- a. Set the main anchor.
- b. Locate the 600' spool of polypropylene line in the aft starboard lazarette.
- c. Insert the mop handle into the center of the spool.
- d. Ideally 2 crew members take the dinghy with the stern line to shore, wrap around a fixed object such as a tree or a iron ring mounted in rock, and return the line to the boat (1).
- e. Secure the bitter end to the one stern boat cleat.
- f. Pull in excess line at the spool and secure the line from the spool to the other stern line cleat.



8. DOCKING

Kipper Kite has a max-prop so there is very little prop walk to port. Use the blue fender step attached on the starboard or port shrouds so that the line-handler can easily and quickly step down from the blue fender step to the dock and secure the dock lines. In addition, given the size of Kipper Kite, make sure you have some speed in heavy winds as you will experience some push from the wind on the freeboard.

9. SHORE POWER

A. HOOKING UP TO SHORE POWER

- a. Remove 30 amp shore power cord located in the starboard lazarette.
- b. Lower the swim platform.



- c. Connect power cord to the receptacle on the starboard side.
- d. Attach power cord on shore.
- e. Turn on breaker on shore.
- f. Turn on the (1) 110 Volt AC shore power breaker located in the nav station.
- g. Turn on the (3) water heater and push the (4) reset button on the water heater.

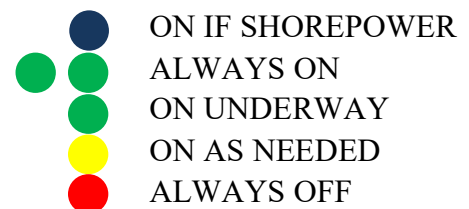
B. UNHOOKING FROM SHORE POWER

- a. Turn off the (1) 110 Volt AC shore power breaker located in the nav station.
- b. Turn off the breaker on shore at its source.
- c. Disconnect the shore power cord.
- d. Store the shore power cord in the starboard cockpit lazarette.
- e. Raise the swim platform.
- f. Turn off water heater switch.
- g. Leave (2) inverter switch in the “ON” position.

Do not do anything with the battery system. The Battery system for charging the engine and house battery banks is automatic. It switches from engine to house bank for charging. Leave battery switches located under the companionway wall behind a cabinet door in “on” position located in the port aft cabin.

10. ELECTRICAL

There are two electrical panels, main and sub panel, located on the wall of the navigation station. The breakers use the color dot convention shown on right.



- A. The (1) main electrical circuit breaker in the aft starboard lazarette in the cockpit that will disable all power on the boat. If you are wondering why there is no electric power in any circuit, even when hooked to shore power, you may have accidentally turned off this breaker.



11. BATTERIES, CHARGING & INVERTER

All the electrical equipment is supplied by (1) house batteries (12 volt system); (2) an inverter that converts 12 volt to 110 volt; or (3) shore power.

A. HOUSE BATTERIES

Provide power for the house and starting the engine. The starting battery (Bank 1 - one 12 volt battery) is under the companionway stairs. House/inverter batteries (Bank 2) is comprised of six, 6 volt batteries, that are located in the starboard aft cabin under the mattress.



B. BATTERY CHARGE STATUS

To determine battery status, depress (1) S for (starter) or H (house) on the (2) volt meter. You can also determine the amps you are drawing from your use of electric equipment and appliances by viewing Blue Sea Battery Monitor.

C. CHARGING

When battery charge goes below 12.2 volts the monitor will beep. Time to charge battery. Batteries are charged when hooked to shore power or while running the engine.

D. INVERTER USE

The inverter converts 12 volts from the boat's batteries to 110 volts to provide power to all the 110V outlets. The inverter drains the house battery when the engine is not running. Inverter switch on at electrical panel (always leave on). (2) Magnum inverter at nav station on (lower left corner white button. (turn on when using inverter, turn off when not using inverter).



Please use hair dryers, curling irons or other high amp draw electrical equipment only when connected to shore power.



Do not use the electric heater or other high draw equipment at the same time you use the hairdryer or curling iron. You may blow the circuit. If this happens, you can turn the circuit back on at the electrical circuit panel after unplugging or turning off the electrical equipment.

E. CELL PHONE JACK

Kipper Kite is equipped with two 12-volt cigarette lighter type outlet for recharging your cellular telephone at the Navigation Station.

12. COMMUNICATIONS, ELECTRONICS, NAVIGATION

To turn on the helm chart plotter and instrument cluster (wind gauge, depth gauge, knot meter) located above the companionway turn on the (1) "Electronics" breaker on the sub-panel under the main electrical panel. To turn on the auto pilot flip the autopilot switch on the right side of the main electrical panel to the "on" position.



A. WIND GAUGE

On the port side of the instrument cluster the (1) wind gauge shows apparent wind speed (AWS), apparent wind angle (AWA), true wind angle (TWA), true wind speed (TWS).



B. DEPTH SOUNDER

The depth sounder is in the center of the instrument cluster designed for use in shallow waters. The depth sounder will not give accurate readings beyond 200' of depth and is only an aide to navigation in water (300 feet or less). In deeper water, the sensitivity on the unit decreases as the transducer tries to get some reading back. Consequently, you will receive many false readings caused by currents, changes in water temperature, fish, and seaweed. The key to avoiding rocks is not the depth sounder, but knowing where you are on the chart at all times.



WARNING: Rocks are the single biggest navigational and safety hazard in the islands and are marked on the charts.

C. KNOTMETER

The knot meter is located on the starboard side of the instrument cluster. **Optimal cruising speed while motoring is 6.5- 7.0 knots at 2500 RPM and 1 GPH. Please do not exceed 2500 RPM** continuously because it is hard on the diesel engine to push past cruising hull speed (at very little increase in speed) but use the power if needed in adverse currents. **The engine's maximum RPM is 3000.** If the digital knot meter shows a reading of "0.00" while underway, the impeller is most likely clogged with a piece of eelgrass. Sometimes it will float off overnight or you can also try removing it by traveling in reverse.



D. CHART PLOTTER

Press the (1) power button on the lower right of the console to turn on the chart plotter at the helm. Navigate the screen and menus by touch or by the (2) main knob. Refer to the chart plotter basic operation guide at the end of this document for more details.



“We clear the harbor and the wind catches her sails and my beautiful ship leans over ever so gracefully, and her elegant bow cuts cleanly into the increasing chop of the waves I face the wind and my lips peel back from my teeth in a grin of pure joy.”

L.A. Meyer, Under the Jolly Roger

The split screen configuration displays the SailSteer panel. The screen can be configured in several different ways, including a unique function relating to sailing not found on other chart plotters:



Instructions to mirror the chart plotter screen to the TV monitor in the salon see #17.

E. RADAR

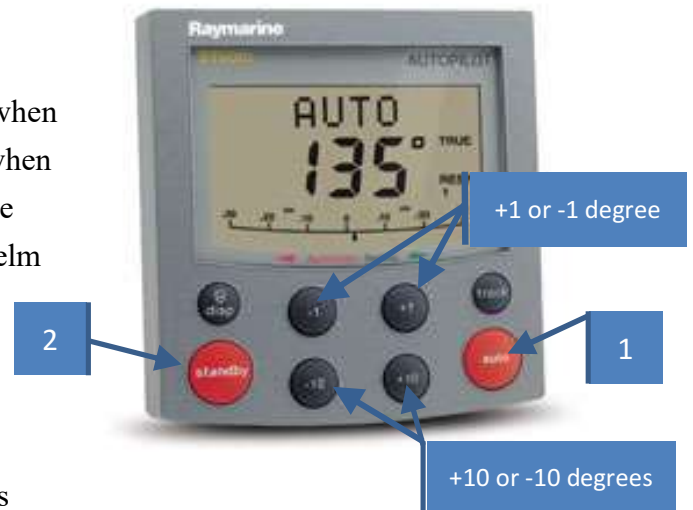
Please refer to the chart plotter basic operation guide at the end of this document for detailed information using radar. Radar is always running in the background but not displayed on the screen of the chart plotter. You might need radar is if you are suddenly enveloped in fog, which is rare in this area except late August and early September. Fog usually burns off before mid-day. So, if the soupy stuff sets in, put on an extra pot of coffee, or go shopping until it lifts. AIS data is also displayed when viewing radar. This is very useful for watching for ferry boats and other ships that are moving at 20+ knots.



To turn off the chart plotter press the power button on the console and then electronics breaker on the sub panel in the nav station.

F. AUTOPILOT

Located on the port side of the helm, push (1) “auto” when you want to engage the auto pilot, and (2) “standby” when you want to disengage. The autopilot does not interface with the chart plotter, so you cannot operate the autohelm unit from the chart plotter.



G. VHF RADIO BASIC OPERATION

Icom-504 VHF base unit includes a remote mic that is attached to the Nav Pod. Monitor Channel 16, which is reserved for emergencies and initial boat-to-boat contact. After contact, move to a working channel (68, 69, 72, 74 or 78). San Juan Sailing monitors channel 80A. However, if you have a problem or need to contact them for any reason, call them on this channel or using your cellular phone at 1-800-677-7245.

Name of vessel: Kipper Kite; Call sign: WDB4281

a. Turning On and Off the radios

Press the large channel tuning knob for 1-2 seconds.

b. Emergencies

Lift the red Distress cover and press/hold the button. The display will count down to zero, issue an emergency alert and switch the radio to channel 16. The Coast Guard will hail you after receiving the message.

c. Silencing a DSC Alarm

When a vessel (or the Coast Guard) activates the DSC alert, all VHF radios within listening range sound an audio alarm. To silence this alarm, press the Clear button on the radio.

d. Changing from High to Low Transmit Power

Press the HI/LO button on the microphone or use the soft menu button along the bottom of the display. It is best practice to use low power whenever possible.

e. Shortcut to Channel 16 or 9

Tap the 16/9 button on the radio to move to Channel 16. Hold the button in for 1-2 seconds to move to channel 9.

f. Accessing the weather channels (WX)

Use the left / right arrow buttons to scroll the soft menu at the bottom of the display, find CH/WX and select it. The radio will toggle between the Weather band channels and the Communication band channels. Listen to weather channels 1-10 (4 or 7 in the San Juan Islands) identified as “Northern Inland Waters”.

g. Adjusting Volume and Squelch

There are separate volume and squelch knobs on this radio.

h. Changing between International & U.S. Channel

Press the MENU key, navigate the soft menu, select the Radio Set. Note the setting for CHAN Group is USA. If not, scroll with the tuning knob to highlight the CHAN Group, select ENT and change the setting to USA. VHF radios should always be left on while cruising.

i. How to set up and use Dual Watch

Dual Watch allows scanning of the emergency Channel 16 and a second channel simultaneously. Note that when radio traffic is detected on channel 16 it will prioritize it and interrupts any on-going radio traffic on the other channel. To setup Dual Watch, use the left / right arrow buttons to scroll the soft menu at the bottom of the display. Tune the radio to the desired ‘secondary’ channel then select DW to activate Dual Watch functionality. Select DW again to disable the function.

j. How to set up and use Channel Scanning

The radio will scan all channels that are designated with a “*” (star symbol) when activated. It will pause and monitor each designated channel when it has traffic and then continue to scan when that traffic. To start scanning use the left / right arrow buttons to scroll the soft menu at the bottom of the display, press Scan soft key. Press it again to stop the Scan function.

H. SENA NAUTITALK BOSUN HEADSETS

To facilitate communications when docking and anchoring we have added a pair of SENA Headsets. Now partnered with Clipper Around the World, SENA has a proven track record in marine environments. Refer to the operations manual for charging and use.

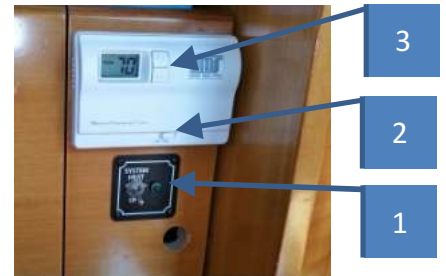


13. CABIN HEAT

A. Operation

- a. Toggle the (1) switch under the thermostat to the “on” position.
- b. Slide the (2) thermostat switch to the “on” position.
- c. Adjust temperature (3)
- d. The two-speed fan control is in the navigation station under the electrical panel. The heating system does not rely on the operation of the engine but runs independently using diesel from the main tank as fuel.

B. Thermostats are in the forward state room and main salon.



Fan Speed Control



14. LIGHTING

There are two sets of lights in the headliner of the salon. One switch for the salon lights is on the left side of the galley above the microwave, and the other is on the starboard side above the settee. Each berth has overhead lights with switches located above the closets. In addition, each berth has a reading light with an integrated light switch. There is a flexible LED light at the nav desk. The on/off switch is a small black button on the base of the light. One push turns the light red, and a second push turns light white. Lastly, there is a small LED light in the cockpit mounted just above the cockpit table on the back side of chart plotter. The (1) switch for the cockpit light is on the back of the chart plotter.



15. POTABLE WATER

Kipper Kite has two 80-gallon plastic potable water tanks.

A. WATER GAUGES

- a. Main electrical panel in the nav station.

B. WATER TANK LEVELS

- a. Press the (1) button next to the gauge. Water is used
- b. from one tank at a time. If you hear a continuous
- c. pumping sound it is likely the tank is empty.



C. SWITCH WATER TANKS

- Locate the (2) valves under the salon seat closest to the nav station.
- Open the valve to the full tank and close the valve to the empty tank. If the valve is in-line with the it is open.



D. HOT WATER

- Turn on the (3) circuit breaker located on the AC (120 volt) panel.
- Push the reset button on left of the Navigation Station when plugged into shore power or when the engine is operating.
- The hot water tank has a 10-gallon capacity and is located under the aft salon settee.

E. FILLING WATER TANKS

- Deck plates for filling the water tanks and on the starboard side of the bow, and on the port side on the stern.
- A white hose is provided for filling the tanks in the starboard side lazarette in the cockpit.
- DO NOT USE THIS HOSE TO RINSE THE HOLDING TANKS DURING PUMP OUT.**
- Never fill the water tanks at the same time you are pumping out the waste tanks or refueling to avoid contaminating your fresh water.

F. WATER USE

It is easy to use up the water faster than you think. However, if your crew does not let the water run continuously while they brush their teeth, shave, and shower or do the dishes, you shouldn't have a problem. Fill the tanks in mid-week and at the end of charter. Potable water is available at most docksides, or by the fueling stations.

TIP: If you are in the salon and you hear the water pump running continuously even though no one is using a sink, you just ran out of water in one of the two water tanks.

RECOMMENDATION: Always fill both tanks while at a dock.

16. SHOWERS

Shower sump pumps are powered at the main panel and activated by individual switches in the heads. Both pumps have in-line strainers in the shower drains. If the pumps are not clearing water, check the strainers for blockage. Drain shower after each use. Hot water is limited on a sailboat. Experienced cruisers know the sailor's shower: get wet, turn it off. Soap up. Rinse off. While in port, the best shower is the one available on land in the marina bathing facility! Just remember to bring some quarters or a credit card with you.

17. HEADS AND HOLDING TANKS

Please do not put anything into the toilet that did not come out of you. Toilet paper clogs the system. To ensure a pleasant trip put used toilet paper into plastic bags (such as ziplock) and dispose in appropriate garbage containers on shore.



A. FORWARD HEAD

Manual pump and flush system. Operational instructions are shown next to the pump handle. The forward head has a 15-gallon holding tank. Keep in mind that for solids, approximately 1 gallon of water will be used to flush. This means 15 flushes for a full holding tank. **Do not overfill the holding tank. You will have a sewage disaster.** The holding tank is accessed through the door behind the toilet. Affluent is pumped from the head to the holding tank. If the pump handle on the forward head is difficult to move up/down add vegetable oil to the bowl and pump the handle several times. It is highly recommended to use pump out stations in various locations in the San Juans every other day when possible.

B. AFT HEAD

Electric freshwater flush. The aft head has an 18-gallon holding tank that is visible in the cockpit port side lazarette.

a. Before using press switch 1 to add water to the bowl and hold until desired water level is achieved. More water may be added to flush solids.

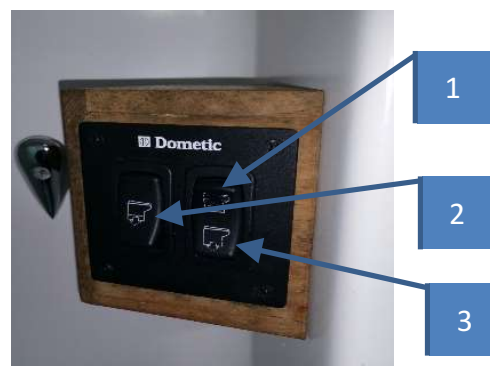
b. Press switch 2 to drain the bowl. Hold two more seconds after waste

is evacuated. For liquid waste hold switch for shorter period.

c. Dry” Operation: During travel in rough weather, water in the toilet bowl can splash out onto the floor. To avoid this from occurring, press switch 3 to drain water completely from toilet bowl. **Caution: Do not use switch 3 to flush waste!**

Water must be used for each flush.

d. You will know the holding tank is full when the red light is on. The light is located behind the behind the sink in forward and aft head. **If light is red discontinue use and empty tank.**



C. HEAD MANAGEMENT

To keep the holding tanks and hoses from smelling please add ½ cap of Zaal Noflex Digester powder located in the medicine cabinets each day.

Also recommended: With each use of the head, spray Febreze Air Freshener directly into the bowl and pump during the flush.



Be sure to pump enough water to carry waste to the holding tank.

We recommend refilling the tank with water after use and flushing again.

18. EMPTYING HOLDING TANKS

There are two ways to empty holding tanks: Pump out the tanks through the deck at a pump out station; or use the macerators to dump the tanks overboard.



A. FORWARD HOLDING TANK

- a. Locate the deck plate marked “Waste” on the starboard forward deck.
- b. Remove deck fitting.
- c. Insert pump out hose and hold it firmly against the deck.
- d. Activate pump.



Important: Do not raise the suction nozzle from the deck plate during pump out. Waste will spray all over (you).

B. AFT HOLDING TANK

- a. Locate the deck plate marked “Waste” on the port aft deck.
- b. Remove deck fitting.
- c. Insert pump out hose and hold it firmly against the deck.
- d. Activate pump.

IMPORTANT: After each tank is empty, add clear water to rinse and pump out again.

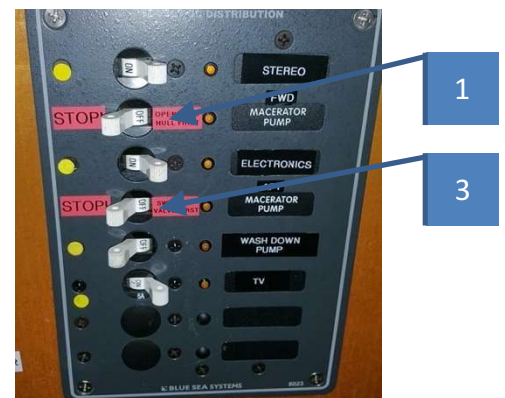
WARNING: *Never fill the water tanks while pumping out the waste at the same time to avoid contamination of the water system. Also please clean from the deck with soapy water any dripping from the waste pump out hose.*

C. PUMPING OVERBOARD USING MACERATOR

The macerator is a small pump that grinds solids and evacuates waste from the holding tank through an outlet into the water.

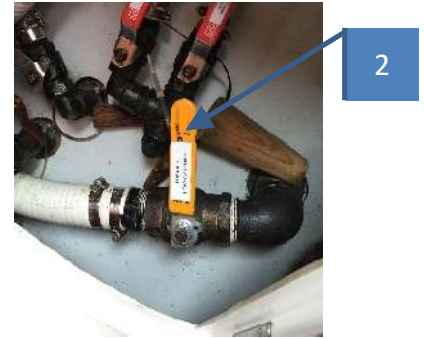
Empty the tanks one at a time, never both at the same time. Both forward and aft macerators are activated at the nav station below the circuit breakers.

NOTE: It is illegal to discharge the holding tanks overboard while in US waters or in ports.



D. FORWARD HOLDING TANK

- a. Locate yellow-handled valve labeled (2) “Forward Head Overboard” under the sink in the forward head.
- b. Open the valve with the handle parallel to the valve body.
- c. Turn on (1) forward macerator at nav station.
- d. Pump for approx. 5 minutes.
- e. Turn off fwd. macerator.
- f. Close “Forward Head Overboard” valve.

**E. AFT HOLDING TANK**

- a. Turn on Aft Macerator at Nav station. Pump for approximately 5 minutes.
- b. Turn off Aft macerator.

19. PROPANE

Two propane tanks are in the aft port lazarette. There is enough propane on board for a weeklong charter of ordinary use. San Juan Sailing is responsible for filling the propane tanks. To use, open the handwheel valve on the propane tank (then turn on the LP solenoid switch on the electrical panel in the nav station). If you run out of propane in the first tank, switch the hose to the second tank.

If you need help with this, please call SJS on the VHF radio or cell phone.



WARNING: Propane is heavier than air and brings unique hazards on board a boat as opposed to use at home. For your safety follow all owners-manual and manufacturer recommendations for use.

20. BARBEQUE

The Magma propane barbecue is located on the stern port rail.

A. HOW TO USE THE BBQ

- a. Turn on the LP switch at the nav station.
- b. Make sure the (1) propane tank hand wheel valve is open.
- c. Turn on the (2) red handle valve in the propane lazarette for the BBQ
- d. Turn (3) flame control valve to “on”
- e. Insert lighter into (4) hole on the left side of the grill, and light BBQ.
- f. Please remember to turn off the red handle valve in the propane locker after use. When done with the BBQ please use the wire brush attached to the barbecue to clean it after each use. Thank you!



21. GALLEY

A set of pots ranging from small to large with one lid to fit the three smaller pots and one lid to fit the frying pans and larger pots are located in the cabinet under the center settee.

A. REFRIGERATOR/FREEZER

The refrigerator breaker on the DC panel should always be left on. If the house battery is getting low in the evening, and you can't recharge, turn off the breaker overnight and charge the batteries in the morning by running the engine. The (1) thermostat should be set to between 1 and 2 to keep frozen foods in the right-hand lower compartment frozen, and food in the other areas at the correct temperature (30 degrees). Water can be drained from the refrigerator by switching the shower drain valve in the aft head to the refrigerator drain position, activating the shower drain circuit breaker at the navigation station and pushing the shower drain button in the aft head.



B. STOVE AND OVEN

To light a burner:

- a. Make sure the propane tank valve is fully open.
- b. Turn on the (1) LP solenoid on electrical panel.
- c. Rotate and push in the burner knob to light and light the burner with the igniter or a gas match.
- d. Continue to hold the knob in for 15 seconds for the thermocouple to heat.
- e. Turn the control knob counterclockwise to the desired position.
- f. When finished with the stove, immediately turn off the burner, turn the LP circuit breaker to off at the navigation station.



To light the oven:

- a. Make sure the propane tank valve is fully open.
- b. Turn on the LP solenoid on electrical panel.
- c. Turning the oven control knob to "9 o'clock" position.
- d. Hold the knob in for 10 seconds and push the red lighter switch on the right side of the stove.



TIP: The oven is good for baking and warming. If broiling is desired, please use the barbecue. Please clean the stove and BBQ after each use.

C. MICROWAVE OVEN

The microwave operates same as your microwave at home and can be used when on shore power. When not using shore power you can use the inverter to briefly power the microwave. Please limit the use of the microwave to 2-3 minutes when not on shore power. It uses significant battery power. Keep an eye on the voltmeter and make sure it doesn't drop below 12.2V.

PLEASE USE ONLY MICROWAVE SAFE DISHES. All plates, cups, bowls, and salad plates on Kipper Kite microwave safe. The Rubber Maid bowls (in the drawer in the bottom of the bench settee) are microwave safe. You can also use paper plates, cups or paper towels (not supplied).

D. SINKS

Due to their design the sinks drain slowly. To speed drainage keep both drain plugs out and drains open. Using cold water to clear soap suds helps. Use a soapy sponge only till there is enough soap in the wash water requires less rinsing of the sinks after washing dishes. Put a towel on the board covering the stove and put the drainer on this for draining the clean dishes. Draining the initial water off the dishes before you put them into the drainer helps. Please dry and put all dishes and cooking gear away before getting under sail. Please keep counters in the galley dry to avoid damaging the wood finish. Water drained from the sinks and the shower is discharged directly into the bays. Please be considerate of other boaters. Be mindful what you pour down any drain to be certain that you do not pollute the bay.

22. BERTHS

There are three berths on Kipper Kite, one forward and two aft. All three have memory foam mattresses and each berth sleeps 2 adults. The forward berth also has a head. The galley table can be converted into a large bed by removing the tabletop, 2 metal legs, and then placing the tabletop on supports to make even with seat deck and add cushions (stored in rear port berth) on top of table.

23. STEREO

Located in the nav station the Fusion RA70NSX AM/FM stereo includes an Aux connection and is Bluetooth capable. To use flip the breaker in the nav station marked "Stereo" to the "on" position. NIMEA 2000 also allows you to control the music from the chart plotter. The user's manual is stored in the navigation table for reference.



Note: If you turn on the stereo at the electrical circuit panel, you will notice that the small red light for the switch at for electronics switch. This is due to the wiring configuration.

24. T.V. MONITOR

To mirror the chart plotter on the T.V. monitor select “HD2” as the source. The T.V. monitor can only display the chart plotter screen.

25. DINGHY & OUTBOARD

The hard bottom dinghy is stable and rows easily. Tow the dinghy 4 feet off the stern to reduce drag and avoid the risk of wrapping the painter around the propeller when backing up. To tie the dinghy to the boat, wrap the excess painter line around the back stay and tie it off with a half hitch. It has an aluminum hull, making it much lighter to carry. The Avon dinghy oars are located inside the dinghy and should be left secured by straps in the dinghy when not in use. Please keep the dinghy clean as dirt will wear the fabric.



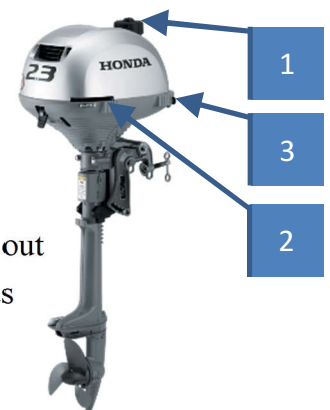
WARNING: Be careful of the heater exhaust on the aft starboard side. The cabin heater starboard exhaust port can melt the dinghy or the dinghy line. If you are using the heater attach the dinghy to the port side.

A. GETTING OUT OF THE DINGHY/BEACHING THE DINGHY

Please take care when beaching the dinghy. NW beaches are not gentle sandy beaches. Most often they are rocky, covered by barnacles equipped with extra sharp rubber cutters! Here’s what works best: launch a person off the dinghy bow as you approach shore; then offload everyone over the bow. Now lift the dinghy above barnacle height and deposit it gently on the beach. We also secure the painter under a rock or to a log—a rising tide can leave you high and dry and dinghy-less!

B. DINGHY OUTBOARD

The 2.3hp air-cooled Honda 4-stroke motor uses straight gas, not a mixture of gas and oil. Before launching make sure the fuel tank is full. Before starting open the (1) vent on top of gas tank, slide the (2) gas line lever to on, and pull out the (3) choke. Pull the starter cord until the motor starts and adjust the choke as the motor warms.



26. DODGER & BIMINI

The most vulnerable part of the dodger is the plastic “glass”. Please avoid touching it as much as possible. We do not recommend folding the dodger down! To clean, pour fresh water from a galley kettle over the windows, next use only a sopping wet sponge, wiping very lightly with lots of plain water to avoid miniscule scratches that “fog” it up. The salt spray, which collects on the plastic windshield, dries in the wind, leaving behind tiny salt deposits that obscure your vision.

NOTE: *Please don't let an energetic crewmember wipe off those salt crystals.* They act like sandpaper on the glass. Instead, let them “flood” off the crystals with a kettle of fresh water from the galley. Please leave the dodger intact. It's a bear to reassemble!

The sunshade (**bimini**) is folded up in the mounted bracket in the stern of the cockpit. It can be opened and folded out for sun or rain protection. Be certain to secure it to the dodger with straps attached to the bimini when it is open. Secure the aft bimini to the stern pulpit with straps attached to the bimini. With the tension on the straps, you can then zip the bimini and dodger together.

27. CABIN STORAGE

A. MAIN SALON AND GALLEY

There is food storage above and behind the refrigerator and sink areas along the wall. There is a drawer under the salon center seat, behind settee back cushion, and a deep storage locker in the cabinet top behind the settee seats near the nav station.

B. CABIN STORAGE

There are closets in each berth (hangers are provided in each closet).

- a. Under the forward settee.
- b. On the walls adjacent to each berth.
- c. Two large drawers under the forward berth.
- d. There is no storage under the two aft berths.

C. HEAD STORAGE

There are medicine cabinets behind the mirrors in each head and hooks for hanging towels.

28. REPAIRS (TOOLS AND SPARES)

Service Manuals and Tools are located under the Salon table forward seat cushions. Service manuals in 3 ring binders are contained in a clear plastic container. Tools to service the boat systems are also located in the same storage area. For a complete list of spare engine and other parts and their location please refer to the inventory.



A. SPARE PARTS

Spare engine and boat parts are located primarily underneath the forward berth on the starboard side. Here is what you will see when you remove the two mattresses, and the plywood covers. Refer to the inventory for a complete list of spare parts.

Engine Parts

Oil filters
 Racor filters
 Webasto filters
 Yanmar Impellers
 Starter
 V-Belts
 Alternator
 Voltage regulator

Boat Parts

Bilge Pump
 Water pump
 Wood plugs
 Propeller
 Dinghy repair kit
 LED cabin lights

**29. VACUUM**

Kipper Kite is equipped with a small battery powered vacuum that is located in the forward berth hanging closet. It has a carpet sweeper, floor brush, crevice tool, and charging cord. No vacuum bags are required. However, we do appreciate you emptying it after each use. A damp paper towel works well to remove the dust and dirt that accumulates in the cannister.

30. SWIM LADDER

Kipper Kite is equipped with a swim ladder on the port side stern. It is a telescoping ladder that will make it easier to board the swim platform from the water. It is also an important safety feature. If you were to fall overboard with no one to help you on the boat, deploy the swim ladder to board the boat at the stern.

**31. SAILS AND RIGGING****A. SAILING CHARACTERISTICS**

Kipper Kite is a high performance Beneteau First series boat designed by Bruce Farr. She moves along nicely in light air with the Genoa eased about 10 inches off the spreaders for maximum lift. Trim tighter as the breeze increases to 10-15 knots and ease the jib a bit off to punch through waves in 15-25 knots. Reef above 15 knots. If it builds further, reef again. If it gets heavier, take the main down and sail with the jib only. On a broad reach, flatten the main by moving the traveler far outboard and adjusting the Main Sheet before shortening the jib. This will keep her on track. Remember reef early to keep the boat in control and comfortable.

B. MAIN SAIL

The main is nicely shaped and supported by lazy jack lines to contain it when dropped. The main is pre-rigged for two reefs. The mainsail is fully battened. The rigid boom vang and main sheet must be slackened slightly too fully hoist the main. The main halyard is white and blue 'candy striped' led aft on the port side to a Lewmar self-tailing winch on the cabin top. This winch shares the mainsheet (white and blue colors running lengthwise parallel). Each line is marked with its use in the cockpit.

C. RAISING THE MAIN SAIL

- a. Open the stack pack sail cover and rig the main halyard to the head of the sail prior to leaving the dock or anchorage.
- b. Turn the boat into the wind.
- c. Loosen the lazy jacks.
- d. Pull the main halyard and raise the sail to the desired height and tension the luff with the main sheet.
- e. Turn to desired point of sail and began sailing.

D. REEFING THE MAIN SAIL

- a. Turn into the wind.
- b. Lower the main sail with the main halyard.
- c. Pull reefing tack #1 or #2 to trim the luff.
- d. Pull and winch the reefing clew #1 or #2 to trim the leach.
- e. Tension the main halyard.
- f. Turn to the desired point of sail and began sailing.

E. REMOVING THE REEFS IN THE MAIN SAIL

- a. Turn into the wind.
- b. Release reefing tack #1 or #2 and reefing clew #1 or #2.
- c. Raise the mainsail and tension the luff using the main halyard.
- d. Turn to the desired point of sail and began sailing.

NOTE: All reefing lines run to the cockpit and reefs are easily set and removed.

F. TRAVELER ADJUSTMENT

Mounted on the cabin roof with lines through the Dodger window. Please pull these lines while standing conveniently in the mid ship/forward area of the cockpit aft of the companionway. The holes in the window are located to enable lines to be pulled without damaging the window when standing in the mid ship/forward area of the cockpit. If you kneel on the cockpit seats and pull straight back it puts stress on the window edge and could crease the window.

G. ROLLER FURLING GENOA

The 150% Genoa is furled on a Pro-Furl roller furling. It has good sail shape at the full out position. It has a padded luff to maintain good sail shape when rolled in or reefed up to 110%.

Please note that slight tension on the roller furling line when deploying the headsail, and on the sheets when furling, prevents problems from either a rat's nest on the drum or "wrinkling" of the furled sail.

TIP: Check furling line (tan/black tracer) on port side to make sure that it is free. This line winds around the drum on the forestay as the sail is let out. It is used to furl the sail after sailing.

H. TACKING WITH THE GENOA

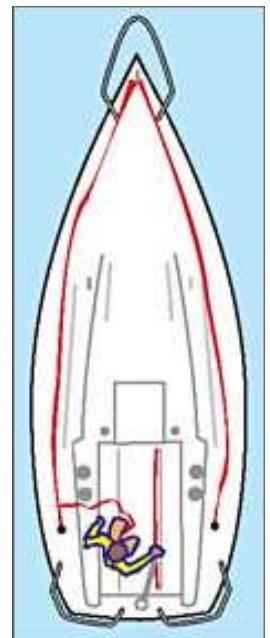
- a. Turn the boat to the new heading.
- b. Keep a slight tension on the loose sheet until the new tack sheet has been winched partially tight for the point of sail. This prevents the loose sheet from whipping and scuffing the dodger windows.

32. SOUNDS – ANNOYING AND IRRITATING

At night when you are sleeping you may hear annoying sounds that keep you awake. To avoid sounds of the rigging banging against the mast loosen the boom vang, pull the green jacklines away from the mast and fasten on the shrouds, move the boom to one side and fasten a line from the boom to the mid-ship cleat, then tighten the main sheet

33. TETHERS AND JACK LINES

Tethers and Jack lines are stored in a yellow bag in the nav station side pocket for use during heavy weather sailing. To use the tethers and jack lines you must have an off-shore PDF with D-Rings to attach the tether. Off-shore PDFs are not supplied on Kipper Kite. You must bring your own.



“I must go down to the seas again, to the lonely sea and the sky.
 And all I ask is a tall ship and a star to steer her by;
 And the wheel’s kick and the wind’s song and the white sail shaking,
 And a grey mist on the sea’s face, and a grey dawn breaking.”

John Masefield, Sea Fever



B&G

Zeus²

Basic Operation Guide

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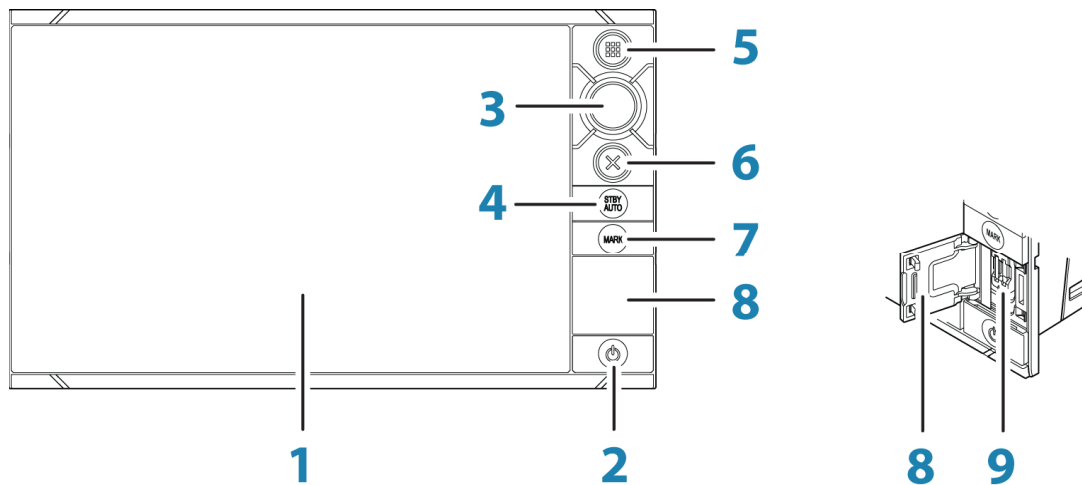
10. Audio

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1. Introduction: The front panel and keys



1. Touch screen

2. Power key

Press once to display the System controls dialog. Repeat short presses to cycle the backlight brightness. Press and hold to turn the unit ON/OFF.

3. Rotary Knob

Rotate to scroll through menu items, then press to confirm a selection. Rotate to adjust a value. Rotate to zoom a zoomable panel.

4. STBY / AUTO key

With the autopilot in any automatic mode: Press to set the autopilot to Standby mode.

With the autopilot in Standby mode: Press to display the autopilot mode selection pop-up.

5. Home key

Press once to activate the Home page. Repeat short presses to cycle the favorite buttons.

Press and hold to display the Favorite panel as an overlay on active page. Repeat short presses to cycle the favorite buttons.

6. X key

Press once to exit a dialog, to return to previous menu level and to remove the cursor from the panel.

7. MARK key

With cursor active on the panel: Press to immediately save a waypoint at cursor position.

With no active cursor: Press to immediately save a waypoint at vessel position. Press and hold to display the Plot menu used for saving new waypoints, routes and tracks.

8. Card reader door

9. Micro-SD Card readers

The Home Page

Accessed by a short press on the **Home** key.



1. Applications

Select a button to display the application as a full-page panel. Press and hold a button to display pre-configured split page options for the application.

2. Tools

Select a button to access dialogs used for carrying out a task, or for browsing stored information.

3. Close button

Select to exit the **Home** page and return to the previous active page.

4. Favorites

Select a button to display the panel combination. Press and hold a favorite button to enter edit mode for the Favorites panel.

5. Man Over Board (MOB) button

Select to save a Man Over Board (MOB) waypoint at the current vessel position.

2. Basic operation

Turning the system on and off

Turn the system on and off by pressing and holding the key. You can also turn the unit off from the **System** dialog. If the **Power** key is released before the shut-down is completed, the power off process is cancelled.

Stand-by Mode

In Standby mode, the backlight is off to save power. The system continues to run in the background. Select Standby mode from the **System Controls** dialog. Switch from Standby mode to normal operation by a short press on the **Power** key.



Power Controls

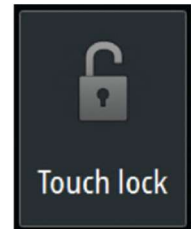
Display Illumination

Brightness: The display backlighting can be adjusted at any time from the **System Controls** dialog. You can also cycle the preset backlight levels by short presses on the **Power** key.

Night mode: The night mode option optimizes the color palette and backlight for low light conditions.








Locking the touchscreen

Temporarily lock a touchscreen to prevent accidental operation of the system. Lock the touchscreen when large amounts of water are on the screen or when cleaning the screen while the unit is turned on. Remove the lock function by a short press on the **Power** key.



Touchscreen operation

Basic touchscreen operation on the different panels is shown in the table below. The panel sections in this manual have more information about panel specific touchscreen operation.

Icon	Description
	Tap to: <ul style="list-style-type: none"> • Activate a panel on a multi-panel page • Position the cursor on a panel • Select a menu and a dialog item • Toggle a checkbox option on or off • Show basic information for a selected item
	Press and hold: <ul style="list-style-type: none"> • On any panel with a cursor to activate the cursor assist feature • On a panel button to see available split screen options • On a favorite button to enter edit mode
	Scroll through a list of available options without activating any option.
	Flick to quickly scroll through e.g. the waypoint list. Tap the screen to stop the scrolling.
	Pan to position a chart on the panel.
	Pinch to zoom out on the chart or on an image.
	Spread to zoom in on the chart or on an image.

Using menus and dialogs

Display a page menu by selecting the **MENU** button in the upper right corner of the page.

- Activate a menu item and toggle on/off an option by selecting it
- Adjust a slide bar value by either dragging the slide bar or selecting the **+** or **-** icons

You can also operate the menus by using the rotary knob:

Select the **Back** menu option or the **X** key to return to the previous menu level, and then exit.

Make the menu slide away by tapping the screen outside the menu area, or by pressing the **MENU** button. When you re-press the **MENU** button, the menu opens in the same status it had before it closed. The status of the cursor (active vs. inactive) changes the menu options.

Dialog boxes: You select entry fields and keys in a dialog box by tapping the screen or by using the rotary knob. A dialog is closed by saving or cancelling the entry. A dialog can also be closed by selecting the **X** in the dialog's upper right corner or by pressing the **X** key.

Selecting pages and panels

Selecting a page

Select a full-page panel by selecting the relevant application button on the **Home** page select a predefined split panel by pressing and holding the relevant application icon

Select active panel

In a multiple panel page, only one panel can be active at a time. The active panel is outlined with a border. You can only access the page menu of an active panel. You activate a panel by tapping it.

Creating a Man Overboard Waypoint

If an emergency situation should occur, you can create a Man Overboard (MOB) waypoint at the vessel's current position by selecting the **MOB** button on the **Home** page.

When you activate the MOB function the following actions are automatically performed:

- a MOB waypoint is created at the vessel's position
- the display switches to a zoomed chart panel, centered on the vessel's position
- the system displays navigation information back to the MOB waypoint

Multiple MOB waypoints are saved by repeatedly pressing the **MOB** buttons. The vessel continues to show navigation information to the initial MOB waypoint. Navigation to subsequent MOB waypoints needs to be done manually.

Cancel Navigation to MOB

The system continues to display navigational information towards the MOB waypoint until you cancel the navigation from the menu.

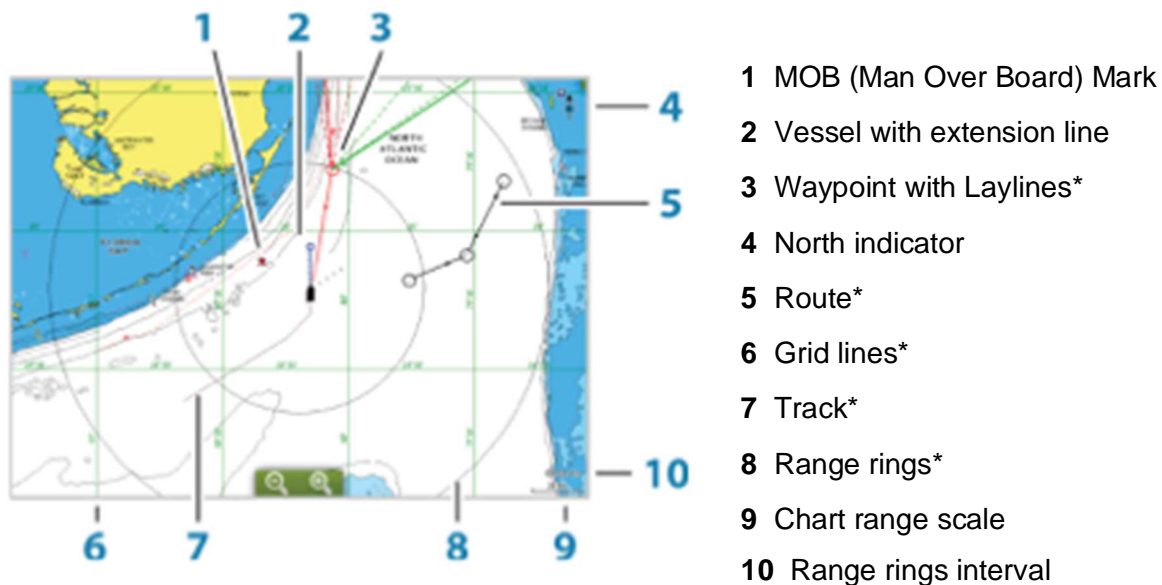
Delete a MOB waypoint

1. Select the MOB waypoint to activate it
2. Tap the MOB waypoint's pop-up or press the **Enter** key or the rotary knob to display the MOB waypoint dialog and select the delete option in the dialog. A MOB waypoint can also be deleted from the menu when it is activated.

3. Charts

The chart function displays your vessel's position relative to land and other chart objects. On the chart panel you can plan and navigate routes, place waypoints, and display AIS targets.

The Chart Panel



* Optional chart items. Turn optional chart items on/off individually from the Chart settings dialog.

Panning the chart

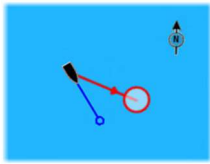
You can move the chart in any direction by dragging your finger on the screen. Select the **Clear cursor** menu option or press the **X** key to remove the cursor and cursor window from the panel. This also centers the chart to the vessel position. Chart range scale and range rings interval (when turned on) are shown in the lower right corner of the chart panel.

Vessel symbol

When the system has a valid GPS position lock, the vessel symbol indicates vessel position. If no GPS position is available, the vessel symbol includes a question mark.

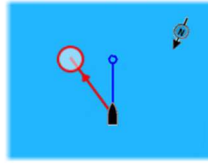


Positioning the vessel on the chart panel



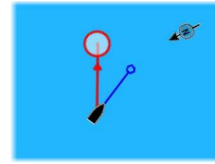
North up

Displays the chart with north upward.



Heading up

Displays the chart with the vessel's heading directed upward.

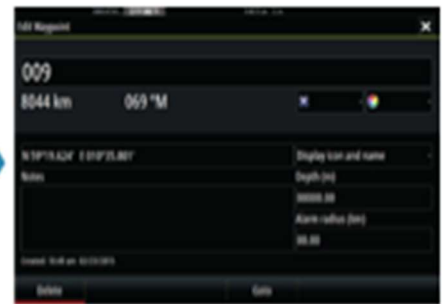


Course up

Rotates the chart in the direction of the next waypoint when navigating to a route or to a waypoint.

Displaying information about chart items

When you select a chart item, a waypoint, a route, or a target, basic information for the selected item is displayed. Select the chart item's pop-up to display all available information for that item. You can also activate the detailed information dialog from the menu.



Using the cursor on the chart panel

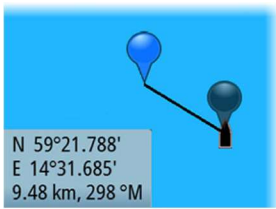
By default, the cursor is not shown on the chart panel. Activate the cursor on the panel, then press and hold your finger on the screen to switch the cursor symbol to a selection circle, appearing above your finger. Without removing your finger from the screen, drag the selection circle to the desired position. When you remove your finger from the screen the cursor reverts to normal cursor operation. When the cursor is active the cursor position window is displayed and the chart does not pan or rotate to follow the vessel.

Press the **X** key or select the **Clear cursor** menu option to remove the cursor and the cursor window from the panel. This also centers the chart to the vessel position.

Select the **Restore cursor** menu option to display the cursor in its previous location. The **Clear cursor** and **Restore cursor** options are useful features for toggling between the vessel's current location and the cursor position.

Measuring distance

The cursor can be used to measure the distance between your vessel and a selected position, or between 2 points on the chart panel.



1. Position the cursor on the point from where you want to measure the distance. Start the measure function from the menu. The measuring icons appear with a line drawn from the vessel center to the cursor position, and the distance is listed in the cursor information window.

2. You can reposition the measuring points by dragging either icon as long as the measuring function is active

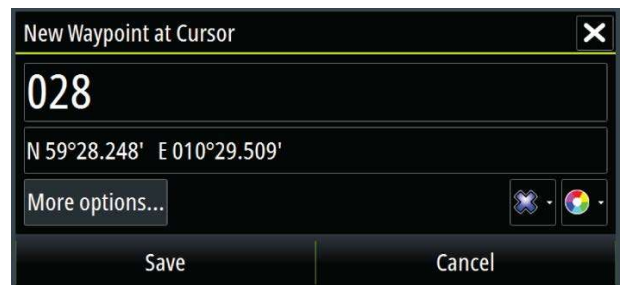
Ú **Note:** The bearing is always measured from the grey icon to the blue icon.

You can also start the measuring function without an active cursor. Both measuring icons are then initially located at the vessel position. The grey icon follows the vessel as the vessel moves, while the blue icon remains at the position given when you activated the function.

Terminate the measuring function by selecting the **Finish measuring** option or by pressing the **X** key.

Saving waypoints

Save a waypoint at a selected location by positioning the cursor on the panel, and then selecting the new waypoint option in the menu. In the Chart and Nav panels, you can save a waypoint at the vessel position, when the cursor is not active, by selecting the new waypoint option in the menu.



If your unit has a **MARK** key, you can press this key to immediately save a waypoint. If the cursor is active, the waypoint is saved at the cursor position.

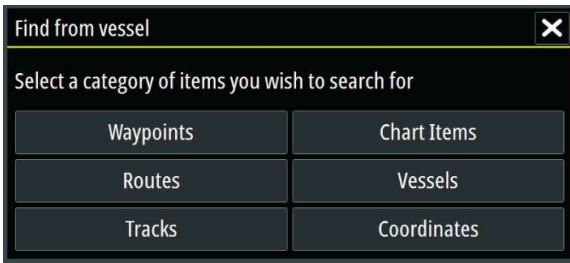
If the cursor is not active, the waypoint is saved at your vessel's position.

Creating routes

Create routes as follows on the chart panel.

1. Position the cursor on the chart panel
2. Select **New** followed by **New route** in the menu
3. Tap the chart panel to position the first route point
4. Continue positioning the remaining route points
5. Save the route by selecting the save option in the menu.

Find objects on chart panels



Search for other vessels or various chart items from a chart panel. Activate the cursor on the panel to search from the cursor position. If the cursor is not active, the system searches for items from the vessel's position.

Navionics view options

Chart shading

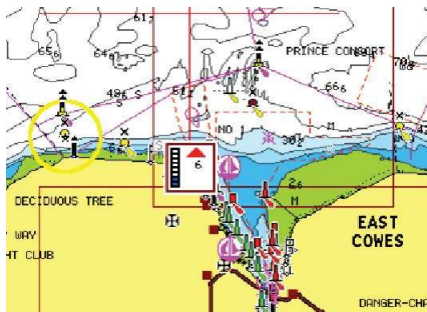
Shading adds terrain information to the chart.

Navionics dynamic tide and current icons

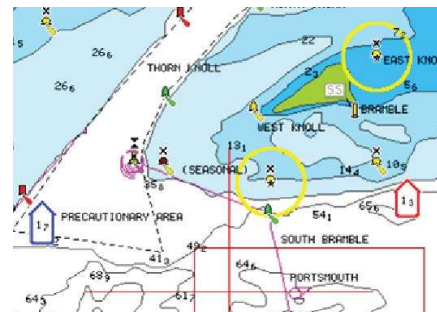
Shows tides and currents with a gauge and an arrow instead of the diamond icons used for static tides and current information.



The tide and current data available in Navionics charts are related to a specific date and time. The system animates the arrows and/or gauges to show the tides and currents evolution over time.



Dynamic tide information



Dynamic current information

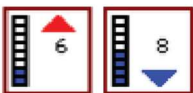
The following icons and symbology are used:

Current Speed



The arrow length depends on the rate, and the symbol is rotated according to flow direction. Flow rate is shown inside the arrow symbol. The red symbol is used when current speed is increasing, and the blue symbol is used when current speed is decreasing.

Tide Height

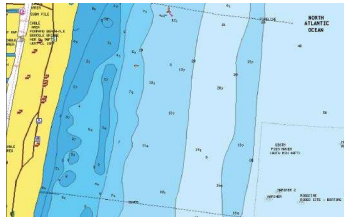


The gauge has 8 labels and is set according to absolute max/min value of the evaluated day. The red arrow is used when tide is rising, and the blue arrow is used when tide is falling.

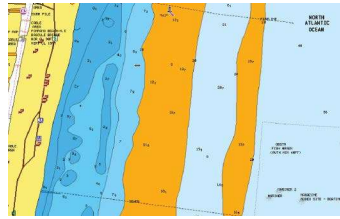
Note: All numeric values are shown in the relevant system units (unit of measurement) set by user.

Depth highlight range

Select a range of depths filled with a different color allows highlight of a specific range of depths. The range is only as accurate as the underlying chart data, meaning that if the chart only contains 5 meter intervals for contour lines, the shading is rounded to the nearest available contour line.



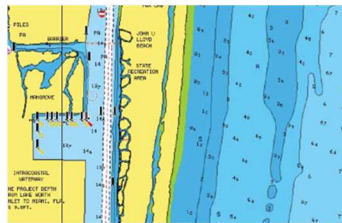
No Depth highlight range



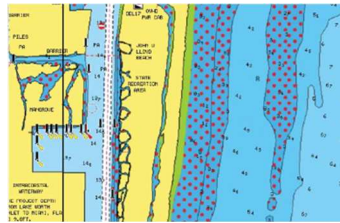
Depth highlight range: 6 m - 12 m

Shallow water highlight

Highlights areas of shallow water between 0 and the selected depth (up to 10 meters/30 feet).



No shallow water highlighted



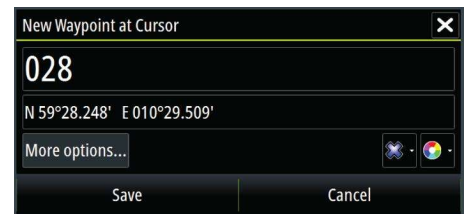
Shallow water highlight: 0 m - 3 m

Ú **Note:** The built in Navionics database features data down to 20 m, after which it is all white.

4. Waypoints, Routes, and Tracks

Waypoints

A waypoint is a user generated mark positioned on a chart with latitude and longitude coordinates. A waypoint is used to mark a position you later may want to return to. Two or more waypoints can also be combined to create a route.



Saving waypoints

You can save a waypoint at a selected location by positioning the cursor on the panel, and then selecting the new waypoint option in the menu. In the Chart and Nav panels, you can save a waypoint at the vessel position, when the cursor is not active, by selecting the new waypoint option in the menu. If your unit has a **MARK** key, you can press this key to immediately save a waypoint. If the cursor is active, the waypoint is saved at the cursor position. If the cursor is not active, the waypoint is saved at your vessel's position.

Moving a waypoint

1. Select the waypoint you want to move. The waypoint icon expands to indicate that it is active.
2. Activate the menu and select the waypoint in the menu
3. Select the move option
4. Select the new waypoint position
5. Press the **Enter** key or the rotary knob to confirm the new position.

Edit a waypoint

You can edit all information about a waypoint from the **Edit Waypoint** dialog. This dialog is activated by selecting the waypoint's pop-up, by pressing the rotary knob, or from the menu when the waypoint is activated. The dialog can also be accessed from the Waypoints tool on the **Home** page.

Delete a waypoint

You can delete a waypoint from the **Edit Waypoint** dialog or by selecting the **Delete** menu option when the waypoint is activated. You can also delete waypoints from the Waypoints tool on the **Home** page.

Routes

A route consists of a series of route points entered in the order that you want to navigate them. When you select a route on the chart panel it turns green, and the route name is displayed.

Creating a new route on the chart panel

1. Activate the cursor on the chart panel
2. Select the new route option from the menu
3. Position the first waypoint on the chart panel
4. Continue positioning new route points on the chart panel until the route is completed
5. Save the route by selecting the save option in the menu.

Edit a route from the chart panel

1. Select the route to make it active
2. Select the route edit option in the menu
3. Position the new route point on the chart panel:
 - o - If you set the new route point on a leg, a new point is added between existing route points
 - o - A new route point outside the route is added after the last point in the route.
4. Drag a route point to move it to a new position
5. Save the route by selecting the save option in the menu.

Delete a route

You can delete a route by selecting the **Delete** menu option when the route is activated or from the Routes tool on the **Home** page.

Tracks

Tracks are a graphical presentation of the historical path of the vessel, allowing you to retrace where you have travelled. Tracks can be converted to routes from the **Edit** dialog. The system automatically tracks and draws the vessel's movement on the chart panel until the length reaches the maximum points, and then automatically begins overwriting the oldest points. The automatic tracking function can be turned off from the Tracks dialog.

Creating new Tracks

Start a new track from the **Tracks** dialog, activated by using the **Tracks** tool on the Home page. Tracks are made up of a series of points connected by line segments whose length depends on the frequency of the recording. You can select to position track points based on time settings, distance, or by letting the system position a waypoint automatically when a course change is registered.

Ú **Note:** The Tracks option must also be turned ON in the chart settings to be visible.

5. Navigating

The navigation function allows you to navigate to the cursor position, to a waypoint, or along a predefined route. For information about positioning waypoints and creating routes, refer to "*Waypoints, Routes, and Tracks.*"

Navigate to cursor position

To start navigating to a cursor position on any chart or radar position the cursor at the selected destination on the panel, and then select the **Goto Cursor** option in the menu.

Ú **Note:** The **Goto Cursor** menu option is not available if you are already navigating.

6. Sail Steer panel

The Sail Steer panel provides a composite view of key sailing data. All data is displayed relative to the yacht's bow, providing a clear and easy to understand image of important sailing data. The Sail Steer panel can be shown as a full screen panel, or in a multi-panel page. The number of data fields included in the panel is dependent on available panel size.



1. User configurable data fields
2. Vessel heading
3. COG (Course Over Ground)
4. Apparent wind*
5. Port and starboard laylines.
6. Magnetic or True reference
7. TWA (True Wind Angle) - Green if on TWA upwind or downwind. Blue if off target by 10 degrees or more, or on a free leg.
8. Bearing to current waypoint
9. Active (next) waypoint ID
10. Rudder angle
11. Magnetic variation
12. Tide rate and relative direction

Selecting data fields for the Sail Steer panel

Data sources connected to the system can be viewed on the Sail Steer panel.

1. Select the Sail Steer panel to make it active.
2. Select the **MENU** button and select the edit option. Edit mode is indicated in top of the panel.
3. Select the instrument field you want to change.
4. Select the **MENU** button again to select info.
5. Repeat the steps to change other instrument fields.
6. Save your settings by selecting the save option in the menu.

Sail Time calculations

The system calculates the time and distance to a waypoint taking into consideration that the vessel is sailing on a layline course to the waypoint. Data showing time calculations will be indicated with an -S extension:

Sail Steer overlay

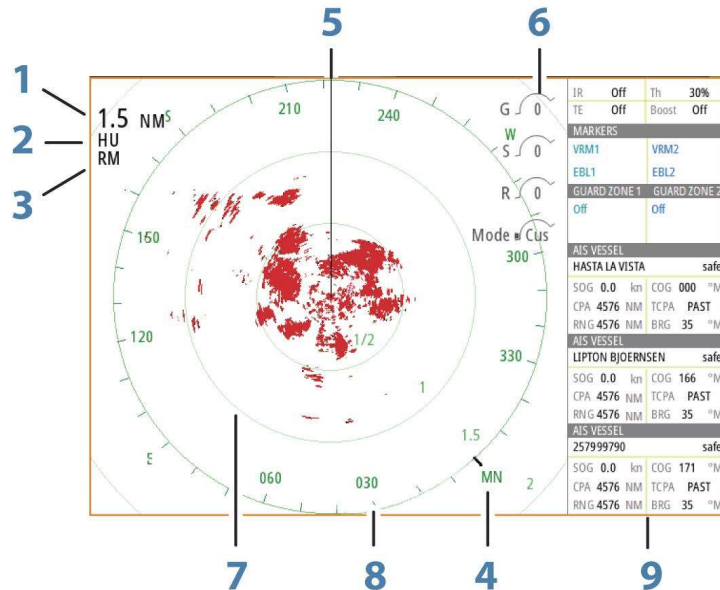
The Sail Steer image can overlay on the Chart. You toggle the Sail Steer image overlay on and off in the Chart setting dialog. The Sail Steer overlay is not shown when the cursor is active or when panning the chart. Select the clear cursor option to display the Sail Steer overlay again.

7. Radar

The radar panel can be set up as a full screen view or combined with other panels. The radar image can also be displayed as an overlay on a chart panel. **Note:** Radar overlay requires data from the heading sensor.

The Radar Panel

1. Range
2. Orientation
3. Motion
4. Compass*
5. Heading line*
6. Rotary controls
7. Range rings*
8. Range markers*
9. Data bar



*Optional radar symbology.

Radar symbology can be turned ON/OFF collectively from the Radar menu, or individually

Dual radar

Connect to any combination of two supported radars and see both radar images at the same time.

Note: Interference will be seen on the Broadband Radar on most ranges when a pulse and a Broadband radar are transmitting at the same time on the same boat. We recommend to only transmit on one radar at a time. For example, transmit Broadband radar for typical navigational usage, or pulse radar to locate weather cells, defined coastlines at a distance and to trigger Racons.

You can select a dual radar panel by pressing and holding the Radar application button on the **Home** page, or by creating a favorite page with two radar panels.

Selecting the radar source

Specify the radar in the radar panel by selecting one of the available radars in the radar source menu option. If you have a multiple radar panel, the radar is set individually for each radar panel. Activate one of the radar panels, and then select one of the available radars in the radar source menu option. Repeat the process for the second radar panel and select an alternative radar for this panel.

Note: The 3-digit radar source number is the last 3 digits of the radar's serial number.

Radar overlay

The radar image may be overlaid on the chart which can help to easily interpret the radar image by correlating the radar targets with charted objects. When the radar overlay is selected, basic radar operational functions are available from the Chart panel's menu.

Selecting radar overlay source on chart panels

To select the radar source of the radar overlay displayed on the chart panel, use the **Radar options** and then **Source** chart panel menu options to select the radar source.

Radar operational modes

The radar's operational modes are controlled from the Zeus² unit. The following modes are available:

Off: The power to the radar scanner is turned off.

Standby: The power to the radar scanner is on, but the radar is not transmitting.

Transmit: The scanner is on and transmitting. Detected targets are drawn on the radar PPI (Plan Position Indicator).

Radar Range

You adjust radar range by turning the rotary knob or by selecting the zoom icons on the radar panel.

Adjusting the radar image

The radar image may be improved by adjusting the radar sensitivity by filtering out the random echoes from sea and weather conditions. The radar control images are located in the upper right corner of the radar panel. You can adjust the image settings by selecting the radar control image or by pressing the rotary knob. You can also adjust the image settings from the radar menu.

Gain: The gain controls the sensitivity of the radar receiver. A higher gain makes the radar more sensitive to radar returns, allowing it to display weaker targets. If the gain is set too high, the image might be cluttered with background noise. Gain has a manual and an automatic mode. Toggle between automatic and manual mode in the slide bar, or by pressing and holding the rotary knob.

Sea clutter: Sea clutter is used to filter the effect of random echo returns from waves or rough water near the vessel. When you increase Sea clutter, filtering the on-screen clutter caused by the echoes of waves is reduced. The system includes predefined Sea clutter settings for harbor and offshore conditions, in addition to the manual mode where you can adjust the settings. You select Sea clutter modes from the menu, or by a long press on the rotary knob. You can only adjust the Sea clutter value in manual mode.

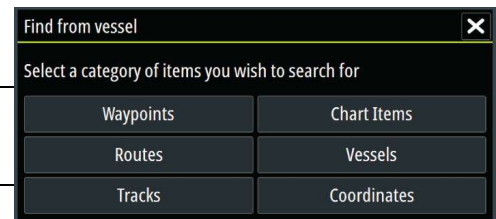
Rain clutter: Rain clutter is used to reduce the effect of rain, snow, or other weather conditions on the radar image. The value should not be increased too much as this may filter out real targets.

8. AIS

Targets detected by AIS (Automatic Identification System) are displayed and tracked. AIS targets can be displayed as overlay on radar and chart images which is an important tool for safe travelling and collision avoidance. Alarms can be set to notify you if an AIS target gets too close or if the target is lost.

AIS target symbols

	Sleeping AIS target (not moving or at anchor).
	Moving and safe AIS target with course extension line.
	Dangerous AIS target, illustrated with bold line. A target is defined as dangerous based on the CPA and TCPA settings.
	When no signals have been received within a time limit, a target is defined as lost. The symbol represents the last valid position of the target before the signal was lost.
	Selected AIS target, activated by selecting a target symbol. The target returns to the default target symbol when the cursor is removed from the symbol.



Searching for AIS items

You can search for AIS targets by using the **Find** option in the Tools panel or the menu when the chart is displayed. If the cursor is active, the system searches for vessels around the cursor position. Without an active cursor, the system searches for vessels around your vessel's position.



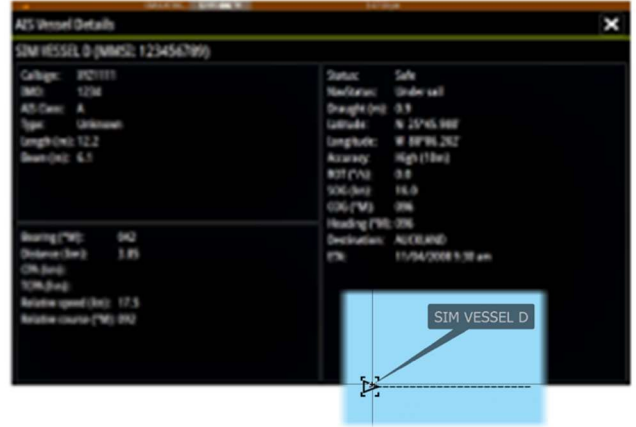
AIS vessels on a chart panel



AIS vessel on a radar panel

Viewing information about single AIS targets

When you select an AIS icon on the chart or radar panel the symbol changes to Selected target symbol, and the vessel's name is displayed. You can display detailed information for a target by selecting the AIS pop-up, or from the menu when the target is selected.



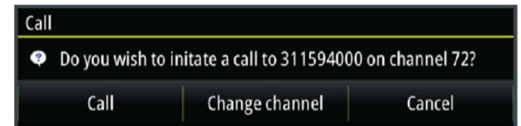
AIS VESSEL					
SIM VESSEL A					safe
SOG	15.0	kn	COG	271	°M
CPA	0.31	NM	TCPA	0:00:12	
RNG	0.32	NM	BRG	9	°M
AIS VESSEL					
SIM VESSEL B					safe
SOG	20.0	kn	COG	271	°M
CPA	-	NM	TCPA	-	
RNG	0.42	NM	BRG	324	°M
AIS VESSEL					
SIM VESSEL E					safe
SOG	0.0	kn	COG	006	°M
CPA	0.81	NM	TCPA	0:00:09	
RNG	0.81	NM	BRG	269	°M

AIS information on radar panels

The radar data bar includes information on up to 3 AIS targets. The targets are listed with the closest target on top, and are color coded to indicate target status.

Calling an AIS vessel

If the system includes a VHF radio supporting DSC (Digital Select Calling) calls over NMEA 2000, you can initiate a DSC call to other vessels from the Zeus². The call option is available in the **AIS Vessel Details** dialog, and in the **Vessel** status dialog activated from the **Tools** panel. From the **Call** dialog you can change channel or cancel the call.



The **Call** dialog is closed when the connection is established.

9. Instrument panels

The Instruments panels consist of multiple gauges - analog, digital and bar - that can be customized to display selected data. The Instruments panel displays data on dashboards, and you can define up to ten dashboards within the Instruments panel.

10. Audio

Enabling audio

A compatible audio device connected to the NMEA 2000 network should automatically be identified by the system. If not, enable the feature from the **Advanced Settings** dialog.



The Audio panel

Activate the audio panel by activating the audio tile in the Instrument bar. The control buttons, tools and options vary from one audio source to another as described later in this chapter.

1. Audio source
2. Audio control buttons
3. Audio tile
4. Audio tools



Operating the audio system

Select the Audio tile in the Instrument bar to activate the Audio overlay. Select the options icon and then select the audio server. Select the source icon and then select the audio source. Use the panel buttons to control your audio system

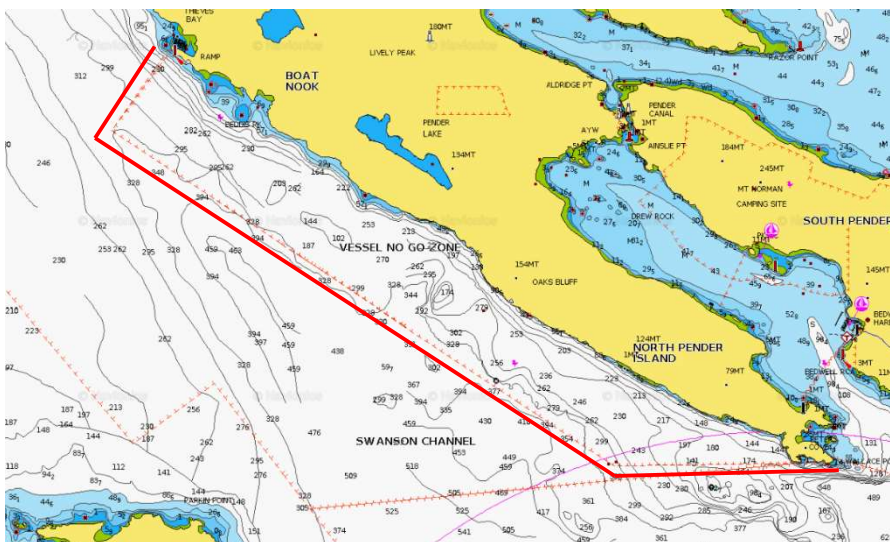
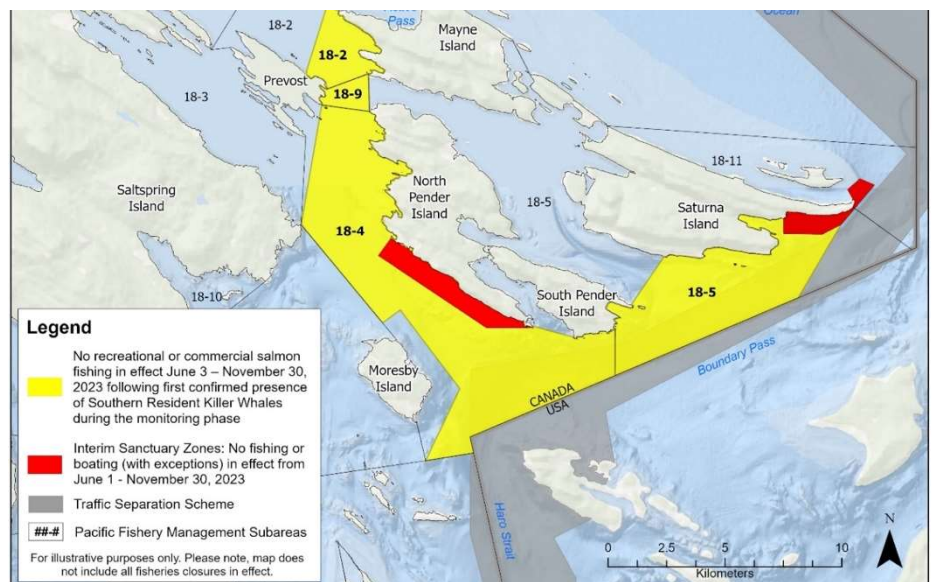
11. Tides

Displays tide information for the tide station nearest to your vessel. Select the arrow panel buttons to change the date or select the date field to access the calendar function. Available tide stations can be selected from the menu.

Being Whale Wise on the Salish Sea

Our local Killer Whales are a wonderful part of the local family, but they are having a difficult time surviving due to declining salmon runs. These whales use echo location to find and catch their food. Noise pollution from boats and ships make it harder for them to thrive. In an effort to decrease human impact the Canadian and US governments have implemented rules. We provided you a summary of these rules in the packet you receive when you arrived and there is more information in section 10 of the white reference book onboard Kipper Kite. In general, stay at least 400 ft. away from the whales. Sometimes they come to you, if this happens shutdown the engine and turn off the instruments (assuming this is safe to do). They can hear the pings of the depth sounder – this is why we have you turn off the instruments.

In Canada they have gone a step further by creating Vessel No Go Zones where boats are not allowed. This regulation improves the environment for the whales. The red areas in the diagram to the right show these zones.



To the left is an example of what No Go Zones look like on Kipper Kite chart plotter. The red lines have been added to help point out the dashed lines, which are what you will see on the plotter.

Note this is just to the west of Bedwell Harbour, so on your way in or out of there be sure to avoid this area.