

SUUNTO

M9

QUICK GUIDE


SUUNTO

HOW TO TURN THE GPS ON/OFF

The GPS in Suunto M9 has to be turned on manually in most situations. The only instance when the GPS is turned on automatically is a Man Over Board (MOB) situation and 15 minutes before race start.

The GPS is turned off automatically when the battery is running low or it does not receive a fix within 15 minutes.

You have to turn the GPS off manually when not using it, hence it is the main consumer of battery power. You should use the GPS only when necessary.

To turn the GPS on or off:

1. Short press ENTER to access the Function menu.
2. GPS On/Off is already the first menu item. Short press ENTER. The ON/Off field is activated.
3. Change the setting to On or Off with the arrow buttons and short press ENTER.
4. Press STOP/CANCEL to exit the Function menu.

See the backside of this page for information about the display and buttons.

Note: Pressing the Enter button for more than 2 seconds in step 3 accepts the selection and exits the menu.

DISPLAY AND BUTTONS

GPS SIGNAL STRENGTH

- One hollow box: GPS on but no fix
- Bar of filled boxes: GPS has a fix:
Long bar means good signal

START/DATA button

Short press:

- Starts the stopwatch or the compass
- Accesses the information displays in the Navigation, Sailing and Racing modes and the MOB function

Long press:

- Activates the backlight

Mode indicator:

TIME

WEATHER

COMPASS

SAILING

RACING (when

activated, both the Racing and Navigation mode indicators are visible)

NAVIGATION

STOP/CANCEL button

Short press:

- Toggles shortcuts in the main modes
 - Returns to the previous menu/field
- Long press:
- Returns to the mode's main display
 - Resets the stopwatch

The Key Lock

Lock/unlock the keys by first short pressing ENTER and then START/DATA within 3 seconds. The black corners on the display indicate that the keys are locked.

UP and DOWN arrows:

- Switch between the main modes
- Scroll up and down in menus
- Increase/decrease the selected value

ENTER button

Short press:

- Enters the Function menu
- Enters submenus
- Accepts a selection

Long press:

- Enters the Set menu
- Accepts the selection and returns to the main menu

BATTERY LEVEL

- Blinking short bar: Low battery
- Climbing bar: Charging

INDICATORS

- Alarm or weather alarm is active
- Tracking is active
- Navigate is active



USING YOUR SUUNTO M9 FOR THE FIRST TIME

We recommend that you begin using your Suunto M9 in the simplest way - by learning how the GPS functions and how to use the basic navigation features such as creating waypoints, routes and using them in navigation.

Once you are familiar with the basics, you can get acquainted with the racing features and the use of electronic chart functions in the Suunto Sail Manager software and the SuuntoSports Internet service.

You should start using the Suunto M9 in the following way:

1. Turn on the GPS as explained in section "How to turn the GPS On/Off"
2. Observe the GPS signal bar – Once the hollow box becomes filled the GPS has a fix
3. Wait until more signal bars appear on the display. The GPS has then acquired the required satellite data for good accuracy. The GPS is now ready for use.
4. Scroll to the Sailing mode and Suunto M9 starts to display speed and heading as you move.

Note: *If you wish to follow the status of the GPS when it is acquiring GPS satellite data, press ENTER to access the Function menu and press ENTER again to access Position display.*

The Position display indicates the satellite status. (Sat _/_ :number of satellites used in calculating position / number of satellites visible.)

NAVIGATING BACK TO THE STARTING POSITION

The first time you use your Suunto M9, the unit does not contain any routes. When the GPS is on and you enter the Navigation mode the unit will guide you back to the starting location where the GPS acquired the initial fix.

Suunto M9 displays the following:

Upper row: Start (destination)

Middle row: Vessel heading

Lower row: Toggle with STOP/CANCEL for the following data – Current speed, average speed, bearing to destination, memory status

The upper part of the display shows fixed sighting marks and a bearing indicator represented by a circle. When the bearing indicator is inside the sighting marks, you are moving towards the destination.

The bearing indicator moves in a 120-degree arc in the upper part of the display. If the direction of the unit deviates more than this from the tracked bearing, the unit prompts the direction where to turn the unit with arrows. Once the circle appears on top of the display, the accurate bearing can be tracked again.

If you wish to view the distance to the destination do the following:

1. Scroll to Sailing mode and press START/DATA – a sailing data list is displayed
2. Press arrow down to scroll to dtw (distance to waypoint)
3. Press ENTER to confirm selection – You return to the Sailing mode
4. Press arrow down to scroll to Navigation mode. The avg (average speed) shortcut has been replaced by distance to waypoint shortcut.

NAVIGATING TO A SPECIFIC WAYPOINT

1. In the Navigation mode, long press ENTER to access the set menu
2. Scroll to Routes and press ENTER to access the routes menu
3. Scroll to MyPoints and press ENTER
4. Scroll to Create WP
5. The unit displays an order number for the waypoint being created. Select suitable number and press ENTER (select 1 for most frequently used waypoint, other number for less frequently used waypoints)
6. Enter correct coordinates by using arrow buttons. ENTER accepts and moves the cursor to next selection. (If GPS is on, the unit displays coordinates of current position.)
7. Long press ENTER to accept selection
8. Repeat steps 1-3 to access Mypoints
9. Select the created waypoint from list by long pressing ENTER when the waypoint is highlighted.
10. Suunto M9 will start guiding you to the selected waypoint.

If you wish to create routes, select Create in the routes menu . The creation of waypoints and activating routes for navigation follows the guidelines above.

Note: *Navigate must be set on. (See pages 22-23, Navigation mode.)*

Note: *MyPoints can contain up to 50 waypoints. Suunto M9 will name the waypoints with the date when it was created. You can change the name of the Waypoint on a PC using Suunto Sail Manager software.*

Note: *The very first time you initiate the GPS, it will take longer than usual for the GPS to start, as it has no reference to its current location. This may also happen if the GPS has not been used for a long time. Please activate your new Suunto M9 GPS at least once before sailing out. Subsequent GPS starts will take less time. To minimize the GPS initiation time, hold the unit steady in one position with the display facing up and make sure you are located in an open area so that the unit has a clear view to the sky. After starting the GPS (i.e. after it has a fix), the unit can be moved more freely without losing the connection to the satellites. The signal strength bar on the unit's display indicates the fix. (See side leaf of the front cover, Display and Buttons)*

THE SUUNTO M9 CONCEPT BRIEFLY

Suunto M9 is designed to provide cruising and racing sailors relevant information while they are sailing so that they can concentrate more on increasing their performance and on making the right decisions.

While you are cruising, the Suunto M9 delivers useful navigational information and helps you keep the boat on the correct course. You can store up to 50 routes and 500 waypoints in the unit's memory. Quick access to the MOB-feature allows quick reaction to a Man Over Board rescue situation.

During a race, the unit gives the advantage of a better start by calculating the correct start line bias each time the wind direction is updated. It also displays the distance to the start line together with the start timer to help you cross the line at the right moment. After the start, the unit helps you discover changes in the wind direction on upwind legs and keeps track of laylines for optimum tacking around buoys.

The Suunto Sail Manager software links the Suunto M9 to a PC and makes the navigation much easier by visualizing the routes and sailed tracks on ARCS marine charts. You can plan the routes in advance on a PC and then upload them to the Suunto M9. Suunto Sail Manager allows you to upload specific race courses to the unit even though the correct positions of the turn buoys are not known.

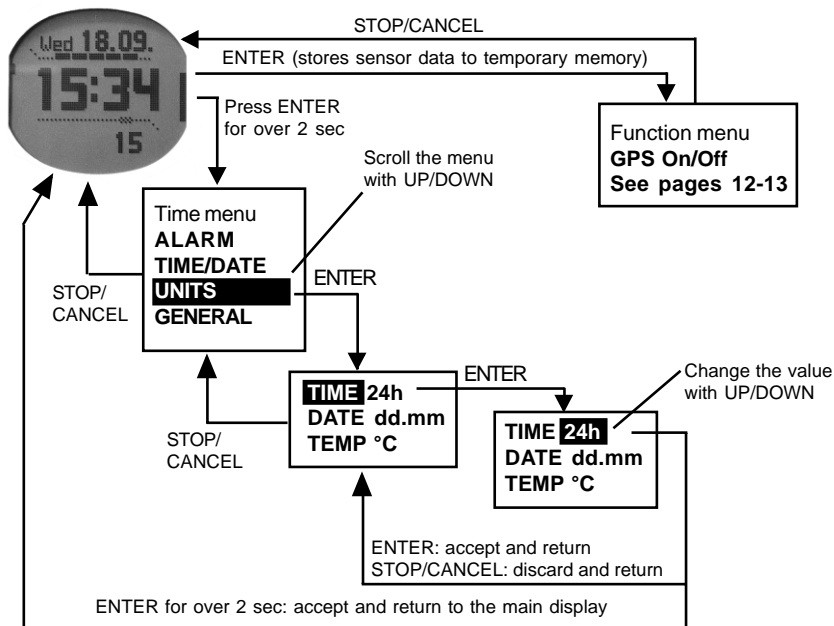
The SuuntoSports.com service allows you to download and view tracks and routes from the Suunto Sail Manager on a global coverage of ARCS marine charts. The users are able to compare their logs and share routes and other experiences within the community.

In addition to the GPS receiver, Suunto M9 also includes a chronometer with time sync from GPS satellites, a barometer with 7-day memory and a tilt compensated compass.

NAVIGATING IN THE MENUS

Each main mode in Suunto M9 has a submenu, which can have one or more submenus. You navigate in the menus with the ENTER, UP/DOWN and STOP/CANCEL buttons.

By pressing ENTER the Suunto M9 records data in the temporary memory, from all the sensors. This data is utilized in the Function menu features. For an example, see pages 26-29, sections Before and After the Race Start, for more information on using the ENTER button.



BEFORE YOU START

Before you start using your new Suunto M9, you should do the following:

- Charge the unit
- Read through this manual

To get the most out of your Suunto M9, you should also install the included Suunto Sail Manager software. The Suunto Sail Manager CD includes a more detailed manual that contains all the features.

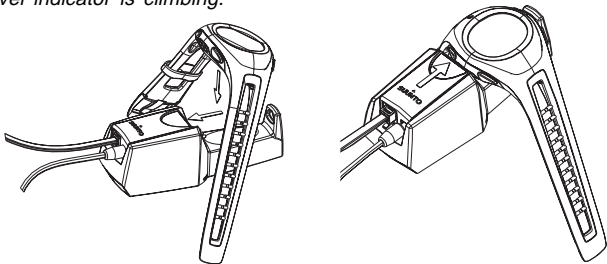
CHARGING THE BATTERY

Suunto M9 is equipped with a Li-Ion rechargeable battery. You can charge it from the mains outlet with the included charger, from a 9V battery or from your car's cigarette lighter (optional accessory).

To charge the unit, place the Suunto M9 on the docking station as shown in the picture and connect the charger to the docking station. During charging, the battery level indicator will continuously climb from bottom to top. When the battery is full, the battery level indicator is fully displayed.

To connect the docking station to your PC, connect the telephone modular jack of the interface cable to the docking station and the 9-pin D-connector to a free serial port in your PC. (If your PC does not have a serial port, you have to purchase a USB to serial port adapter separately.)

Note: Make sure the unit is placed correctly in the docking station to allow proper charging. Ensure the battery level indicator is climbing.



CARE AND MAINTENANCE

Only perform the procedures described in this manual. Never attempt to disassemble or service your Suunto M9. Protect your Suunto M9 from shocks, extreme heat and prolonged exposure to direct sunlight. If not in use, your Suunto M9 should be stored in a clean, dry environment at room temperature.

Suunto M9 can be wiped clean with a lightly moistened (warm water) cloth. If there are stubborn stains or marks, you can apply mild soap to the area. Do not expose Suunto M9 to strong chemicals such as gasoline, cleaning solvents, acetone, alcohol, insect repellents, adhesives and paint, as they will damage the unit's seals, case and finish. Keep the PC interface pins clean with e.g. a toothbrush. Make sure the area around the sensor is kept free of dirt and sand. Never insert any objects into the sensor opening.

WATER RESISTANCE

Suunto M9 is water resistance-tested up to 10 bar (equivalent of 100 m/330ft depth) according to ISO 2281 standard (www.iso.ch). However, it is not a diving instrument and therefore it should not be used to obtain data under water. Do not push the buttons under water.

Note: *Large amounts of water or dirt under the cover of Suunto M9 may disturb the satellite signal reception.*

MEMORY

The data memory in Suunto M9 is non-volatile i.e. data is not lost even if the battery runs out.

UNDERSTANDING GPS

OVERVIEW

Suunto M9 uses Global Positioning System (GPS) in determining the user's position. GPS incorporates a set of satellites orbiting the Earth at an altitude of 20 000 km at the speed of 4 km/s. The satellites send relatively weak radio signals at power levels comparable to normal household light bulbs. So, the GPS reception gets disturbed much more easily than, for example, cellular phone signal reception because the GPS signals that reach the Earth are thousands of times weaker than cell phone signals. However, due to the extreme sensitivity of the built-in GPS radio receiver, even the faintest signals can be picked up.

The GPS system is run by the United States Department of Defense and has been fully operational since 1995. At least 24 operational satellites circle the globe every 12 hours in 6 orbital planes with 4 satellites per plane to provide a true global coverage. A worldwide ground control network monitors the health and status of the satellites. The system works 24 hours a day regardless of the weather. It can provide service to an unlimited number of users and it is free of charge.

LINE-OF-SIGHT NEEDED

To ensure a good position measurement, there must be a line-of-sight connection between the satellites and the receiver. This means that the objects or materials between the satellites and the GPS receiver must not excessively attenuate the signal. In practice, water-containing objects, such as people, trees or other dense vegetation, can cause problems. The signals will not penetrate rocks or buildings or any metallic materials. However, the receiver usually works well under relatively thin plastic, fabric or wooden covers, e.g. inside boats.

ACCURACY

To calculate a position, a GPS receiver usually requires simultaneous reception from at least four satellites. The position accuracy typically increases with the number of satellites being tracked but the most important factor is actually the relative geometric position of the satellites. The best position estimate is obtained when satellites from different directions and angles can be tracked. In other words, the less obstructed the receiver's view of the sky, the better the accuracy.

The accuracy also improves with the number of measurements made on the same spot, as some errors will be averaged out. Under all-in-view satellite conditions a global average horizontal positioning error is 7.8 meters (95% confidence level). However, depending on the satellite constellation and the distortion the GPS signal experiences when traveling through the ionosphere, the instantaneous accuracy can vary from a couple of meters to over ten meters. The vertical position estimate is roughly two times more inaccurate than the horizontal.

GPS USAGE

When you turn on the GPS, the receiver starts searching for radio signals from the satellites and as soon as one is found, data starts flowing from the satellite to the receiver. The data includes a list of the satellite positions and the GPS time. The GPS time is highly accurate because each satellite has an atomic clock on board.

The data flows quite slowly and usually a little less than a minute is needed for the calculation of the first position estimate. To minimize the duration, you should maintain an unobstructed view of the sky right after turning on the GPS. Keeping the receiver stationary will also improve the initialization. You need the satellite positions and the GPS time before the receiver can perform the actual position calculation and before the GPS becomes functional. After the first position fix has been established, it still takes additional 10 minutes before all relevant data has been received from the satellites. The position estimate accuracy improves during this time as more satellites can be used for calculation.

The downloaded data is valid roughly for the next four hours during which the receiver starts more quickly, typically in less than 10 seconds if it was turned off in between.

You should turn off the GPS when you do not need it. This is because satellite tracking consumes large amounts of power. Suunto M9 uses the lowest power consuming GPS technology available but you should still turn off the GPS when you do not need it.

FUNCTION MENU

The Function menu is identical in all the main modes except for the Racing mode. To access the Function menu, press ENTER in the mode's main display. In the Function menu you can:

- Turn the GPS on or off manually (**GPS On/Off**)
- Record the location where the Man Over Board situation took place. (**MOB**)
- View position information (**POSITION**)
- Record the coordinates of the current location (**MEMPoint**)
- Record the wind direction and force (**WIND DIR**)

(For information on the Racing mode's Function menu, see pages 24-25.)

MOB

The MOB display shows the following:

MOB: The first row displays the identifier of the MOB function.

Distance: The second row displays the distance to the MOB location in the unit of your choice.

Bearing: The third row displays the bearing to the MOB location in degrees.

The MOB function has also a special information display that contains the coordinates and the recording time of the location point being tracked.

Short press START/DATA to enter the MOB Data display.

POSITION

When the GPS is on, the position display shows:

- Number of satellites used in the fix/number of satellites visible (Sat)
- Estimated position error (epe)
- Your current position coordinates, latitude and longitude in degrees or in degrees and minutes
- Your current altitude measured by the GPS or the time to the first fix (toggle with START/DATA button)

You can change the coordinate presentation in the Time mode (General settings).

MEMPoint

Turn on the GPS before you use the MEMpoint function.

MEMPoints can only be viewed in the Suunto Sail Manager.

WIND DIR

The following information is displayed in the WIND DIR function:

- **Sailing Timer:** When not racing, the Timer displays 0.00.
- **Wind direction**
- **Wind force**

For more information on setting the wind direction refer to pages 26-27, Before the Race Start.

TIME MODE

THE STOPWATCH

START/DATE

- Starts the stopwatch
- When the stopwatch is on, it stores lap times

STOP/CANCEL

- Stops the stopwatch
- After the stopwatch is stopped, it reviews lap times
- Long press (more than 2 sec) resets the stopwatch



The Time settings menu can be accessed by long pressing ENTER. This menu contains functions for setting the alarms (ALARM), setting the time and date (TIME/DATE), setting the units (UNITS) and for adjusting general settings (GENERAL).

ALARM

You can set 3 different daily alarms. Alarms can be acknowledged by pressing any button.

TIME/DATE

| | |
|-----------|--|
| TIME/DATE | for setting the time and date manually |
| DUAL TIME | for setting the dual time displayed on the lowest field of the display |
| SYNC | for setting the GPS time synchronization to ON/OFF: |
| OFF | GPS does not affect the time settings |
| ON | GPS adjusts the time and date to the time zone specified in the Suunto Sail Manager (your local time zone) when the GPS is activated |
| UTC | for selecting the correct time zone in relation to Greenwich time |

UNITS

| | |
|----------|---|
| TIME | time is shown in 24h or 12h format |
| DATE | date is shown in dd.mm or mm.dd format |
| TEMP | temperature is shown in Celcius or in Fahrenheit |
| PRES | pressure is shown in hPa or InHg |
| ELEV | altitude is shown in meters or feet |
| DIST | distance is shown in kilometers (km), miles (mi), nautical miles (nm) (short units meters (m), feet (ft), yards can be selected in Suunto Sail Manager) |
| SPEED | speed is shown in kilometers per hour (km/h), miles per hour (mph), knots (kt) or meters per second (m/s) |
| POSITION | position coordinates are shown in degrees (deg) or in degrees and minutes (dm) |
| DATUM | datum shows the number of the map datum |

GENERAL

| | |
|----------|---|
| LIGHT | sets the backlight to Normal/Off/Night. When set to night use, pressing any button activates the backlight. Note: <i>Unnecessary use of the backlight consumes large amounts power.</i> |
| BRIGHT | sets the backlight brightness. Note: <i>Higher brightness consumes more battery. Default setting is 3.</i> |
| CONTRAST | sets the LCD contrast. Note: <i>High contrast consumes more battery. Default setting is 4.</i> |
| TONES | Sets the button tones On/Off |

WEATHER MODE



The weather mode gives practical information on changing weather conditions. The illustrated air pressure graph can reveal unexpected changes in wind conditions caused by sudden changes in atmospheric pressure.

The Weather mode gives you practical information on:

- Absolute air pressure
- Air pressure graph
- Temperature
- Time

The air pressure graph shows changes in air pressure during the last 6 hours in 15-minute intervals.

The Weather settings menu is accessed by long pressing ENTER:

BARO MEM allows you to view the barometric trend for the last 7 days. The trend is stored in 1-hour intervals, so each display shows 24 measurements. The lower section of each display shows the maximum and minimum air pressure for that day.

Scroll between days by pressing the UP/DOWN arrows.

BARO AL sets the barometer alarm on or off. The barometer alarm warns you when the air pressure drops faster than 4 hPa (0,118 inHg) in 3 hours, which is typical in situations when a storm is arising. If you do not acknowledge the weather alarm, it is repeated in 10 minutes.

COMPASS MODE

Starts the compass
after time-out.
Locks the bearing
in the locked bearing
mode.

Cardinal or half cardinal
point abbreviations



Bearing in
degrees

Time/Locked bearing/
Bearing to a waypoint.
Toggle with STOP/CANCEL.

The Compass mode utilizes the Suunto 9-series 3D compass, which allows reading the compass reliably even if the unit is held tilted up to 30 degrees from horizontal to any direction.

Since the compass feature consumes a lot of power, the compass is automatically turned off after 45 seconds, after which it can be restarted with START/DATA.

The compass shortcuts are:

- Standard compass mode (with time in the lowest field)

The first row displays the cardinal and half-cardinal point abbreviations

The second row displays the bearing in degrees

- Locked bearing

In this mode you can lock the compass to any bearing by pointing the unit to the desired direction and pressing START/DATA. The locked bearing is displayed in the lowest field. By turning the unit so that the small circle is between the lines, the unit points to the locked bearing. If the circle is not visible, a small arrow shows where the unit has to be turned.

- Bearing to a waypoint (shortcut displays: bea)

If you are navigating a route from the Navigation menu, the third shortcut displays the bearing to the next waypoint. If you have not activated a route and the GPS is on, the shortcut displays the bearing to the initial position of the GPS fix. If the GPS is not on, the shortcut displays the latest value when the GPS was on.

Long press ENTER to access the Compass settings menu. Here you can:

- Set the declination (**DECLINATION**)
- Calibrate the compass (**CALIBRATE**)

DECLINATION

You can set the declination to:

Off The compass points to the magnetic north.

On You can set the declination manually.

Auto Declination is set from the declination grid based on your current position.
The globe is covered by a 4-degree grid (45 x 90 declination values).

CALIBRATE (see page 36)

SAILING MODE

Enter/Exit the Navigation data display. In the display use ARROW buttons to scroll.



Heading in degrees

Vessel's speed in the unit of your choice

Distance from start (dfs), Time from start (tfs) or Average speed (avg). Toggle with STOP/CANCEL.

The Sailing mode is used for measuring the ongoing changes in the position, heading and speed of a vessel and to provide relevant information while sailing.

Long press ENTER to access the Sailing menu. The menu contains the following functions:

TRACKING stores the vessel's position, heading and speed in the Suunto M9 memory during a selected time period.

TRACKS contains information recorded with the Tracking function.

RACE switches to the Racing mode. For more information on the Racing mode, see pages 24-25.

Press START/DATA to access the Sailing Data display. The menu contains the following functions:

- Average speed (avg)
- Maximum speed (max)
- Velocity made on course (vmc)
- Velocity against wind (vaw)
- Distance to waypoint (dtw)
- Distance to finish (dtf)
- Cross track error (xte)
- Distance made on course (dmc)
- Distance made good (dmg)
- Estimated time of arrival (eta)
- Estimated time enroute (ete)
- Time of sunrise (tsr)
- Time of sunset (tss)
- Distance to lay line (dll); works only in Racing mode
- Time to lay line (tll); works only in Racing mode

Scroll to desired data item and press ENTER to replace the Average speed (avg) shortcut in the main display.

Note: The same shortcut will also be visible in the Racing and Navigation modes.

NAVIGATION MODE

Enter/Exit the Navigation data display. In the display use ARROW buttons to scroll.

Name of route, name of waypoint or starting location



Heading (If GPS On) or total length of the route (If GPS Off.)

Bearing (bea), Speed (spd), Average speed (avg) or Memory status (mem). Toggle with STOP/CANCEL.

The Navigational mode stores up to 50 routes and 500 waypoints in the unit's memory, assisting you in your sailing activities. It provides useful navigational information and helps you keep the boat on the correct course. Information on routes and their individual waypoints can be viewed, edited and erased, to keep track of your sailing destinations.

Long press ENTER to access the Navigation menu. The menu contains the following functions:

- NAVIGATE** starts the navigation and lets you choose the preferred way of navigating through a route or to a single waypoint. The Navigation options are:
- RIGHT ARROW:** Activates the route for navigating in the correct order, from beginning or active waypoint to the end.
- LEFT ARROW:** Activates the route for navigating in the reversed order, from the end or from the active waypoint to the beginning.
- DOT:** Activates the navigation to a single chosen waypoint, on the selected route
- DASH:** Selected route is not active and activates the navigation to the location of the first GPS fix after turning on the GPS, instead of from the route start point.

ROUTES contains information on the routes recorded in the Suunto M9 memory. The routes and their individual waypoints can be viewed, edited and erased.

RACE switches to the Racing mode. For more information on the Racing mode, see pages 24-25.

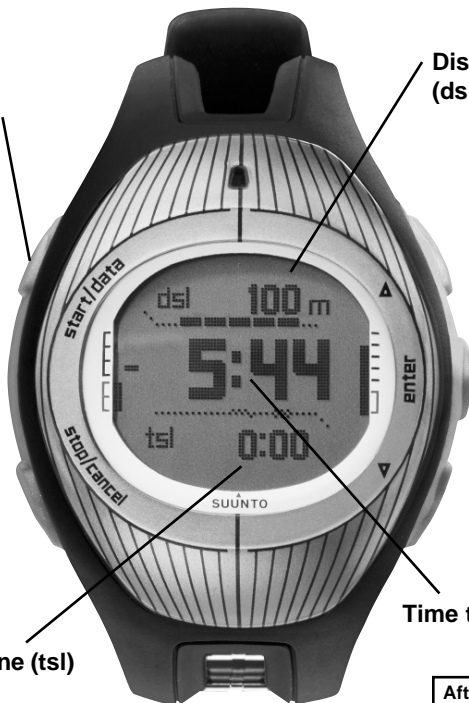
Note: When the GPS is off, the upper row always displays the name of the active route.

Note: When the GPS is on and the navigation is off, the upper row displays the starting location where the GPS had its first fix. When the navigation is on the upper row displays the next waypoint on the route.

RACING MODE

Enter/Exit the Racing data display. In the display use ARROW buttons to scroll.

Distance to start line (dsl)



Time to start line (tsl)

Time to race start

After the race start
For after the race button functionality see pages 20-21, Sailing mode

The Racing mode is a main mode reserved for racing functions, and can only be activated in the Sailing and Navigation modes.

BEFORE THE RACE START

Before starting the race, you need to set the following parameters in the Function menu:

- start line (**START LINE**)
- race timer (**TIMER SYNC**)
- wind direction (**WIND DIR**)

After you have set the parameters, the following is displayed:

Distance to start line (dsl): The first row displays the distance to start line.

Timer: The second row displays the time left to the start.

Time to start line (tsl): The third row displays the time left to cross the start line based on current speed, and heading.

Additionally, you can set the following in the Function menu before the race:

GPS turn the GPS On/Off

COURSE select a specific course from the Suunto M9 memory

DURING THE RACE

During the race, the display structure is the same as in the Sailing mode. After the race starts, the following information is displayed

- Heading
- Speed
- Shortcuts (Race Timer, Tacking Angle Difference (TAD), Average speed)

During the race, the Function menu allows you to:

- Record the locations of the turn buoys (**TURN BUOY**)
- Set tack headings for tacking angle difference measurement (**STARBOARD/PORT TACK**)
- Store and view wind directions (**WIND DIR** and **WIND DATA**)
- Store MOB location (**MOB**)

AFTER THE RACE

When the race ends and the user confirms the finish line in the Function menu, Suunto M9 displays the following information:

- Distance from start
- Total distance
- Shortcuts (Average speed, Timer)
- Restart (**RESTART**)
- Set the finish line (**FINISHLINE**)

BEFORE THE RACE START

At start:

1. Press ENTER to start the race timer.
2. Select *Timer Sync*.
3. Select the correct time to start.

Set the wind direction:

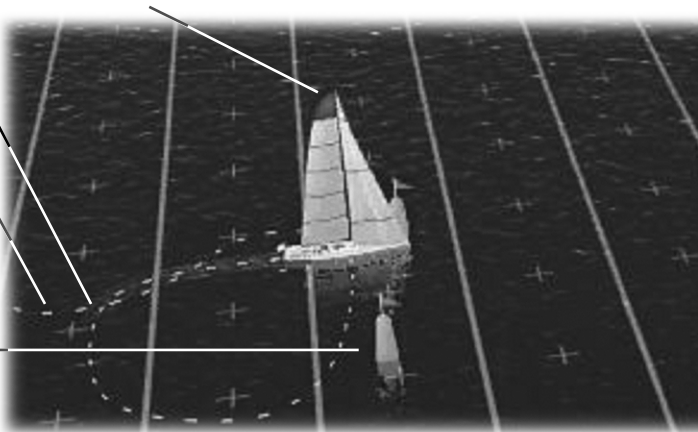
1. Point Suunto M9 towards the wind and press ENTER.
2. Select *Wind Dir*.
3. Select the correct wind strength and press ENTER.

At start:

1. Press ENTER to select the race course.
2. Select *Course*.
3. Select the correct course from the list.
4. Set *Navigate* to *On* in the Navigation mode. (See pages 22-23.)

At the starting buoys:

1. Press ENTER to store the location.
2. Select *Startline*.
3. Select the starboard and port buoy. (Both must be defined.)



Check the line bias:

Press START/DATA when the start line and the wind direction have been set. The Correct line bias is indicated by P (port) and S (starboard) and by the angle of the wind bias.

Check the wind trend:

Press START/DATA when the start line and the wind direction have been set. The Correct line bias is indicated by P (port) and S (starboard) and by the angle of the wind bias. The unit stores 20 latest wind directions.



Start line direction:
You can also save the start line location by storing one buoy and the direction of the start line. After storing the buoy, point the device along the start line and press ENTER to store the direction. Scroll to *Startline* and select *LineDir* to confirm the selection.

Synchronize the timer:

1. Press ENTER when the race committee gives a signal.
2. Select *Timer Sync*.
3. Select the correct time to start.

Time to start line (tsl):

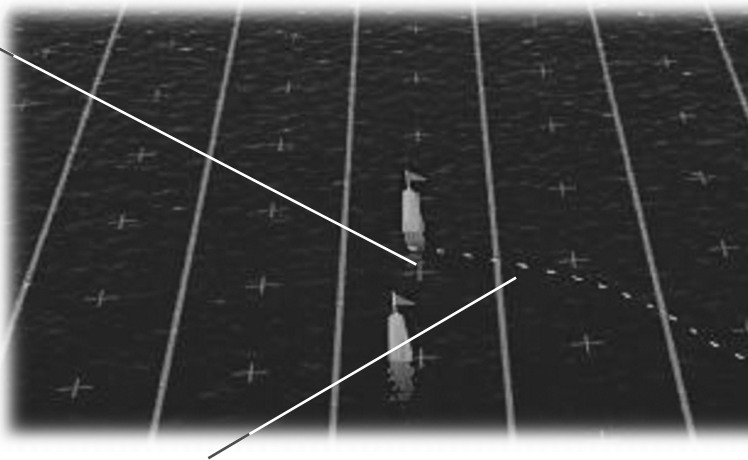
Suunto M9 calculates the time to start line based on the current speed and heading.

When time to the start line is the same as the race timer, you are approaching start line at the correct speed. Dsl indicates the distance to start line.

AFTER THE RACE START

At the finish line:

1. Press **ENTER** to store the race finish time.
2. Select *Finishline*.
3. The unit enters the race summary mode and displays the distance sailed, the time sailed and the average speed.



Set the TAD measurement for the port tack:

1. Press **ENTER** to store the tack heading.
2. Select *Port Tack* from the menu list.
3. Press **ENTER** to confirm the setting.

Tacking angle difference (TAD):

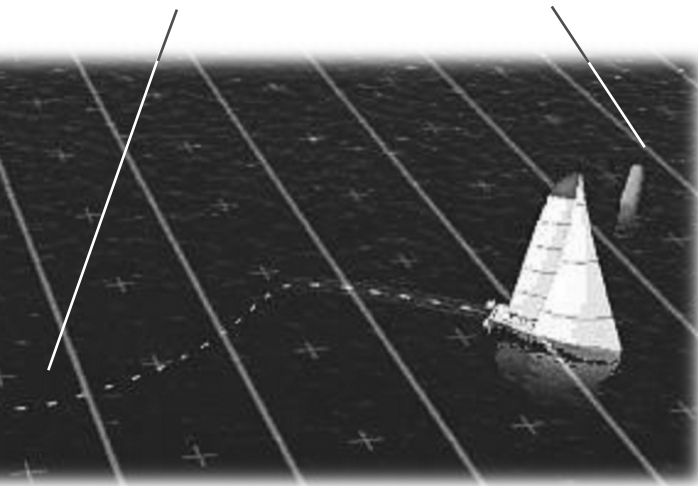
On up wind legs sail the optimum angle on both tacks and store the heading. The Suunto M9 indicates the difference in the vessel's direction. H (Header) indicates that the vessel is moving away from the target (wind heads up) and L (Lift) means the vessel is moving towards the target (wind is lifting). Header on one tack means lift on the other. You should always sail in lifts.

Set the TAD measurement for the starboard tack:

1. Press ENTER to store the tack heading.
2. Select *STB Tack* from the menu list.
3. Press ENTER to confirm the setting.

At the turn buoys:

1. Press ENTER to store the location.
2. Select the correct turn buoy from the menu list.
3. Press ENTER to confirm the buoy location.



Race Restart:
In case the race is restarted or another race is conducted on the same course, select *Restart*.
The Suunto M9 asks you to reset the timer for the new start but it keeps the wind and the start line information active.

Race Course and Buoys:

The race courses in the Suunto M9 can contain the same waypoints (turn buoys) multiple times. Updating the buoy location once also updates the same buoys in the list. This way, you can store different race course templates containing approximate buoy locations (when the actual buoy locations are not known). As you sail around the buoys and store their locations, the unit updates the laylines and other sailing data to refer to the specific buoy.

Laylines:

When the tack angles and the actual buoy locations have been stored, the Suunto M9 displays the time and distance left to layline based on the current speed and heading. Suunto M9 uses the latest tacking angles to calculate the layline location.

SUUNTO SAIL MANAGER

ADD MYPOINT

ADD FOLDER

ADD ROUTE

ADD WAYPOINT

DELETE

VIEW ON CHART

LOCATE ON CHART

REMOVE FROM CHART

CONNECT M9

DELETE

The screenshot shows the Suunto Sail Manager software interface. The left sidebar contains a tree view with folders like 'New User', 'My Boat', 'My Points', 'Underwater rocks', 'Shallow rocks', 'Visible rocks', 'Anchors', 'Flags', 'Waypoints', 'Hemipoints', 'Routes 2002', and 'Routes 2003'. The main map area displays a nautical chart of the Baltic Sea with various waypoints and routes. The bottom panel shows a table of waypoints with columns for Number, Name, Latitude, Longitude, Distance to next, and Course to next.

| Number | Name | Latitude | Longitude | Distance to next | Course to next |
|--------|--------|-------------|--------------|------------------|----------------|
| 1 | Start | 60°08.949'N | 024°51.319'E | 0.51 nm | 150 |
| 2 | Mark 2 | 60°08.473'N | 024°51.702'E | 0.75 nm | 111 |
| 3 | Mark 3 | 60°08.207'N | 024°53.100'E | 0.13 nm | 79 |
| 4 | Mark 4 | 60°08.233'N | 024°53.355'E | 0.34 nm | 82 |
| 5 | Mark 5 | 60°08.254'N | 024°53.640'E | 0.37 nm | 133 |
| 6 | Mark 6 | 60°08.002'N | 024°56.189'E | 0.45 nm | 180 |
| 7 | Mark 7 | 60°07.554'N | 024°56.194'E | 0.35 nm | 281 |

Chart datum: 60°08.521'N 024°51.120'E WGS84: 60°08.541'N 024°50.936'E (Chart: 2224 Helsinki)

The PC-connection enables you to transfer and store the data from Suunto M9 to your PC. Suunto Sail Manager allows you to view, organize and modify your data.

The PC interface allows the use of the ARCS electronic charts. The ARCS (Admiralty Raster Chart Service) charts are manufactured by the United Kingdom Hydrographic Office, UKHO. Suunto M9 contains the user permits for the charts and has to be connected to the docking station and the PC while charts are read. Check your local dealer for the availability of the ARCS products.

Note: *When purchasing ARCS charts you must have your user permit and PIN code available in order to register for the use of the chart. The user permit and PIN code is provided in the Suunto M9 sales package.*

INSTALLING SUUNTO SAIL MANAGER

Place the Suunto Sail Manager CD into your PC's CD-ROM drive. If the installation does not start automatically, select START-RUN in Windows. Select BROWSE and select SETUP.EXE at the Suunto Sail Manager CD. Follow the instructions of the Setup-program.

TRANSFERRING DATA

1. Make sure your computer has a free serial port.
2. Attach the Suunto M9 firmly to the docking station with the display facing up. Plug the adapter to the docking station and to an electric outlet. Plug the docking station to the serial port of the computer. The wristop enters the PC INTERFACE mode automatically.
3. Open the Suunto Sail Manager.
4. Click to open the Suunto M9 panel on the bottom left corner of the display. Click Connect to download the contents list and display them in a tree view in the Suunto M9 panel.
5. To transfer data between Suunto M9 and the Suunto Sail Manager, select an item and drag it to the destination folder.
6. When a confirm dialog appears, click it to start downloading.
7. When you have transferred the files to your PC, you can delete them from the Suunto M9 memory with Suunto Sail Manager and make room for new log files.

For further information, see the Suunto Sail Manager Help located in the Help menu.

SUUNTO SAIL MANAGER FEATURES

- Tracks: View tracks on chart or a list of track points, edit track-related information, sort tracks in folders and upload tracks to SuuntoSports.com.
- Routes: Create new routes, edit existing routes, view routes on chart, sort routes in folders and upload routes to Suunto M9 or SuuntoSports.com.
- My Points: Add, edit and view underwater rocks, shallow rocks, visible rocks, anchorages, markers and waypoints. You can also download these from SuuntoSports.com.
- Boat: Keep track of useful information related to your boat(s) and view the logbook related to each one.
- Charts: View, zoom and pan charts, install new charts or update old charts.
- Suunto M9: Modify Suunto M9 settings and clear the Suunto M9 memory to make room for new data.

SuuntoSports.com is an Internet site for all Suunto wristop computer users. In SuuntoSports.com you can share experiences and data collected using your Suunto M9. As a Suunto M9 owner, you can register and have access to all sailing-related services at SuuntoSports.com. These services help you to get the most out of your sailing and your Suunto M9.

SYSTEM REQUIREMENTS

- Internet connection (minimum requirement 56k modem)
- Internet Explorer 4.0 or newer, Netscape 4.7x or newer
- Display resolution: minimum 800x600 (1024x768 recommended)

SUUNTOSPORTS.COM CATEGORIES

SuuntoSports.com includes three different categories for each sport: MySuunto, Communities and Sport-specific pages.

MYSUUNTO

This section is meant for your personal information. You can store information about yourself, your wristop computer, your sailing activities, etc. When you upload your personal logs to SuuntoSports.com with Suunto Sail Manager, they are displayed in your personal information but not shown to anybody else. In My Suunto you can also manage the logs and decide whether they can be published within communities or presented to all SuuntoSports users.

When you have uploaded logs to SuuntoSports.com. You can also publish your logs and compare them with other users' logs. You can use the ARCS electronic charts and navigation functions.

The section also contains a personal calendar that you can use to mark personal events or practice information. The training diary can be filled with facts about your training and development, training locations and other useful information.

My Suunto offers access to a route planner where the users may plan their routes and view their routes and tracks. This feature contains a world wide database of ARCS electronic charts.

COMMUNITIES

In the Communities section, SuuntoSports.com users can form and manage their own groups or search for other groups. For example, you can create a group for all your sailor friends, and share information about each other's results, give advice and discuss, where and when you could go for a sailing trip together. Groups can be either open or closed. Closed groups mean that you have to apply for membership and be accepted before you can participate in group activities.

All groups have a home page that displays information about group events and includes sections for news, notice board and other information. Group members can also use group-specific bulletin boards, chat rooms and group calendars, and add links and create group activities. All registered SuuntoSports users are automatically members of the World of SuuntoSports community.

All logs can be viewed with track visualizer where the different participants of a community may observe their sailed tracks on a single chart.

SPORT-SPECIFIC PAGES

SuuntoSports.com has its own forum for each Suunto sport. The basic features and functions are the same for all sport forums - sport-specific news, bulletin boards and chat rooms. Users can also suggest links to sports-related sites and tips regarding the sport and equipment to be published on the site. They can also publish their own travel reports.

Sport forums include presentations of the sport-related resorts. Users can rank the resorts and comment on them, and the results are published next to the resort information. You can also create ranking lists for other things - for example, where is the highest peak, what group has most members, who has uploaded most logs, and so on.

HOW TO GET STARTED

Start your Internet connection and move to www.suuntosports.com. When the start page opens, click on the Register-symbol and register yourself and your Suunto M9. You can update your personal MySuunto profile at this stage or you can do it later.

After you have registered, you are automatically transferred to the SuuntoSports.com homepage, which presents the structure of the pages and the principle of operation.

Note: *SuuntoSports.com is developed continuously and therefore the contents may change.*

HINTS AND TROUBLESHOOTING

GPS does not take fix

Do you have clear visibility to the sky? Try holding the unit in an open area with clear visibility to the sky. Do not hold the unit against your body or hold your hand or head above the unit to block the view to the sky. Switch the GPS off and turn it back on again.

Suunto M9 displays “GPS stopped” or “Low Battery”

Suunto M9 shuts the GPS automatically after 15 minutes if the unit does not get a fix and displays “GPS stopped”. The GPS will also be shut down when the unit displays “Low Battery”.

Why doesn't the Suunto M9 start guiding to the next waypoint after passing the previous waypoint?

The Navigate function must be set to on in the Navigation menu. When activating a route, the navigation is set to off as default. Select the desired navigation mode (forward, reverse or single waypoint) to activate the guidance. This applies to race courses as well.

How can I make the battery last longer?

The main consumer of battery power is the GPS. You should use the GPS only when necessary. When you are indoors, turn the GPS off as it will probably not see satellites. The memory storage (such as Tracking) functions also consume power and should be avoided when battery power is low. Suunto Sail Manager contains settings to regulate GPS usage and memory storage intervals of the tracking function. Set the values to the desired intervals.

Heavy use of the backlight consumes the battery fast.

What happens if the battery runs out during a race?

The GPS will shut down and you will lose location, distance, heading and speed information. All other functions that do not use the GPS such as the race start timer and compass work normally.

Why does the unit show different wind directions before race start and after start?

During the race start, Suunto M9 displays wind directions as line bias (the wind deviation from the perpendicular line to the start line) whereas during the race the unit displays the wind geographic directions.

What if I mark the start line buoys or the turn buoys in the wrong position?

If you mark the position of the buoys again, the unit will overwrite the old position. You can perform this procedure as many times as required.

Suunto M9 memory is full

The main reason for low memory is the high amount of tracks in the Suunto M9 memory. The tracks can only be erased by downloading them to the Suunto Sail Manager. You should always remove tracks from the unit while it is connected to the PC. You can also regulate the memory capacity by selecting a lower logging interval for the tracking function.

How can I view MEMPoints?

The Memory Points can only be viewed in the Suunto Sail Manager.

The Suunto Sail Manager cannot connect to Suunto M9

Remove and reinstall the Suunto M9 to the docking station and try to connect again. The unit displays Interface Timeout after 10 minutes when it is placed in the docking station and there is no communication between the unit and the PC within the time period.

I cannot display ARCS charts in the Suunto Sail Manager?

The Suunto M9 contains user permits and needs to be connected to the PC when using ARCS charts.

Where can I find ARCS charts?

The ARCS (Admiralty Raster Chart Service) charts are manufactured by the United Kingdom Hydrographic Office, UKHO. Check your local dealer for availability of ARCS charts or visit the UKHO website (www.hydro.gov.uk)

CALIBRATING THE COMPASS

You should calibrate the compass if it does not seem to function properly, for example, when it displays the wrong compass heading or the heading changes too slowly. Strong electromagnetic fields, such as electric lines, loudspeakers and magnets, can affect the compass operation. Therefore it is advisable to calibrate the compass if your Suunto M9 has been exposed to these fields.

Note: *Calibrate the compass before using it for the first time, and before you leave for an extended outdoor activity.*

To calibrate the compass, select CALIBRATE in the Compass menu.

Hold the unit horizontally and rotate it slowly around the vertical axis until the down counter reaches zero.

Turn the unit vertically and rotate it slowly around the vertical axis until the down counter reaches zero.

After this the unit calculates a while after which the compass is calibrated and Suunto M9 displays the message 'COMPLETE'. Press Enter to return to the main display.



TECHNICAL SPECIFICATIONS

General

- Operating temperature -20 °C to +60 °C/-5 °F to +140 °F
- Storage temperature -30 °C to +60 °C/-22 °F to +140 °F
- Weight 79 g
- Water-resistant to 10 bar (ISO 2281 standard)
- Mineral crystal glass
- Rechargeable battery
- PC interface with a serial connector

Charger

- 240V or 110V depending on area of purchase
- Cigarette lighter charger 12V (optional accessory)

Memory

- 50 routes (10 race routes)
- 500 waypoints

Barometer

- Display range 300 to 1100 hPa / 8.90 to 32.40 inHg
- Resolution 1hPa / 0.05 inHg

Thermometer

- Display range -20°C to +60°C/-5°F to +140°F
- Resolution 1°C / 1°F

3D Compass

- Resolution 1°
- Tilt compensated to +/- 30 degrees from horizontal plane

GPS

- Resolution 1m / 3 ft
- 12 channels

DISCLAIMERS

GPS SYSTEM

Since the GPS satellites and delivery system are neither owned nor maintained by Suunto Oy, Suunto Oy takes no responsibility of possible malfunctions, changes in positioning quality or discontinuity of the GPS service in the future. Suunto will not reclaim products because of changes in the GPS service.

USER'S RESPONSIBILITY

Do not use Suunto M9 as the only navigation aid. Use all available navigation aids such as charts, compass, visual sightings etc. and compare them with the Suunto M9 navigation information. Make sure all conflicting information is resolved before continuing with navigation.

This instrument is intended for recreational use only. Do not use this instrument for obtaining measurements that require professional or industrial precision.

CE

The CE mark is used to mark conformity with the European Union EMC directive 89/336/EEC.

LIMITS OF LIABILITY AND ISO 9001 COMPLIANCE

If this product should fail due to defects in materials or workmanship, Suunto Oy will, at its sole option, repair or replace it with new or rebuilt parts, free of charge, for two (2) years from the date of its purchase. This warranty is extended only to the original purchaser and only covers failures due to defects in materials and workmanship that occur during normal use while in the period of the warranty.

It does not cover battery replacement, damage or failures resulting in accident, misuse, neglect, mishandling, alteration or modifications of the product, or any failure caused by operation of the product outside the scope of its published specifications, or any causes not covered by this warranty. There are no express warranties except as listed above.

The client can exercise the right to repair under the warranty by contacting our Customer Service department to obtain a repair authorization.

Suunto Oy and its subsidiaries shall in no event be liable for any incidental or consequential damages arising from the use of or inability to use the product. Suunto Oy and its subsidiaries do not assume any responsibility for losses or claims by third parties that may arise through the use of this device.

Suunto's Quality Assurance System is certified by Det Norske Veritas to be ISO 9001 compliant in all SUUNTO Oy's operations (Quality Certificate No. 96-HEL-AQ-220)

GPS DATUM LIST

| | | | | | |
|-----|-------|--|-----|--------|---|
| 000 | ADI-M | Mean Solution (Ethiopian and Sudan) | 041 | AIN-B | Saudi Arabia |
| 001 | ADI-E | Burkina Faso | 042 | BAT | Sumatra |
| 002 | ADI-F | Cameroon | 043 | EUR-H | Iran |
| 003 | ADI-A | Ethiopia | 044 | HKD | Hong Kong |
| 004 | ADI-C | Mali | 045 | HTN | Taiwan |
| 005 | ADI-D | Senegal | 046 | IND-B | Bangladesh |
| 006 | ADI-B | Sudan | 047 | IND-I | India and Nepal |
| 007 | AFG | Somalia | 048 | INF-A | Thailand |
| 008 | ARF-A | Botswana | 049 | ING-A | Vietnam |
| 009 | ARF-H | Burundi | 050 | ING-B | Con Son Island (Vietnam) |
| 010 | ARF-B | Lesotho | 051 | INH-A1 | Thailand (1997) |
| 011 | ARF-C | Malawi | 052 | IDN | Indonesia |
| 012 | ARF-D | Swaziland | 053 | KAN | Sri Lanka |
| 013 | ARF-E | Zaire | 054 | KEA | West Malaysia and Singapore |
| 014 | ARF-F | Zambia | 055 | KGS | Korean Geodetic System |
| 015 | ARF-G | Zimbabwe | 056 | NAH-A | Masirah Island (Oman) |
| 016 | ARS-M | Mean Solution (Kenya and Tanzania) | 057 | NAH-B | United Arab Emirates |
| 017 | ARS-A | Kenya | 058 | NAH-C | Saudi Arabia |
| 019 | PHA | Djibouti | 059 | FAH | Oman |
| 020 | BID | Guinea-Bissau | 060 | QAT | Qatar |
| 021 | CAP | South Africa | 061 | SOA | Singapore |
| 022 | CGE | Tunisia | 062 | TIL | Brunei and East Malaysia |
| 023 | DAL | Guinea | 063 | TOY-M | Mean Solution (Japan, Okinawa and South Korea) |
| 024 | EUR-F | Egypt | 064 | TOY-A | Japan |
| 025 | EUR-T | Tunisia | 065 | TOY-C | Okinawa |
| 026 | LEH | Ghana | 066 | TOY-B | South Korea |
| 027 | LIB | Liberia | 067 | AUA | Australia and Tasmania (Australian Geodetic 1966) |
| 028 | MAS | Eritrea | 068 | AUG | Australia and Tasmania (Australian Geodetic) |
| 029 | MER | Morocco | 069 | EST | Estonia |
| 030 | MIN-A | Cameroon | 070 | EUR-M | Mean Solution (Europe 1950) |
| 031 | MIN-B | Nigeria | 071 | EUR-A | Western Europe (1950) |
| 032 | MPO | Gabon | 072 | EUR-E | Cyprus |
| 033 | NSD | Algeria | 073 | EUR-G | England, Channel Islands, Scotland and Shetland Islands |
| 034 | OEG | Old Egypt | 074 | EUR-K | England, Ireland, Scotland and Shetland Islands |
| 035 | PTB | Mean Solution (Burkina Faso and Niger) | 075 | EUR-B | Greece |
| 036 | PTN | Congo | | | |
| 037 | SCK | Namibia | | | |
| 038 | SRL | Sierra Leone | | | |
| 039 | VOR | Algeria | | | |
| 040 | AIN-A | Bahrain Island | | | |

GPS DATUM LIST

| | | | | | |
|-----|-------|--|-----|-------|--|
| 076 | EUR-I | Italy (Sardinia) | 114 | NAS-P | Caribbean |
| 077 | EUR-J | Italy (Sicily) | 115 | NAS-N | Central America |
| 078 | EUR-L | Malta | 116 | NAS-T | Cuba |
| 079 | EUR-C | Finland and Norway | 117 | NAS-U | Greenland (Hayes Peninsula) |
| 080 | EUR-D | Portugal and Spain | 118 | NAS-L | Mexico |
| 081 | EUS | Mean Solution (European 1979) | 119 | NAR-A | Alaska (excluding Aleutian Islands) |
| 082 | HJO | Iceland | 120 | NAR-E | Aleutian Islands |
| 083 | IRL | Ireland | 121 | NAR-B | Canada |
| 084 | OGB-M | Mean Solution (England, Isle of Man, Scotland, Shetland Islands and Wales) | 122 | NAR-C | CONUS |
| 085 | OGB-A | England | 123 | NAR-H | Hawaii |
| 086 | OGB-B | England, Isle of Man and Wales | 124 | NAR-D | Mexico and Central America |
| 087 | OGB-C | Scotland and Shetland Islands | 125 | BOO | Columbia |
| 088 | OGB-D | Wales | 126 | CAI | Argentina |
| 089 | MOD | Sardinia | 127 | CHU | Paraguay |
| 090 | SPK-A | Hungary | 128 | COA | Brazil |
| 091 | SPK-B | Poland | 129 | PRP-M | Mean Solution (Bolivia, Chile, Columbia, Ecuador, Guyana, Perua and Venezuela) |
| 092 | SPK-C | Czechoslovakia | 130 | PRP-A | Bolivia |
| 093 | SPK-D | Latvia | 131 | PRP-B | Northern Chile (near 19deg S) |
| 094 | SPK-E | Kazakhstan | 132 | PRP-C | Southern Chile (near 43deg S) |
| 095 | SPK-F | Albania | 133 | PRP-D | Colombia |
| 096 | SPK-G | Romania | 134 | PRP-E | Ecuador |
| 097 | CCD | Czechoslovakia | 135 | PRP-F | Guyana |
| 098 | CAC | Mean Solution (Florida and Bahamas) | 136 | PRP-G | Peru |
| 099 | NAS-C | Mean Solution (CONUS) | 137 | PRP-H | Venezuela |
| 100 | NAS-B | Western USA | 138 | HIT | Southern Chile (near 53deg S) |
| 101 | NAS-A | Eastern USA | 139 | SAN-M | Mean Solution |
| 102 | NAS-D | Alaska (excluding Aleutian islands) | 140 | SAN-A | Argentina |
| 103 | NAS-V | Aleutian islands (East of 180deg W) | 141 | SAN-B | Bolivia |
| 104 | NAS-W | Aleutian islands (West of 180deg W) | 142 | SAN-C | Brazil |
| 105 | NAS-Q | Bahamas (excluding San Salvador Island) | 143 | SAN-D | Chile |
| 106 | NAS-R | San Salvador Island | 144 | SAN-E | Colombia |
| 107 | NAS-E | Canada Mean Solution (including Newfoundland) | 145 | SAN-F | Ecuador (excluding Galapagos Islands) |
| 108 | NAS-F | Alberta and British Columbia | 146 | SAN-J | Baltra, Galapagos Islands |
| 109 | NAS-G | Eastern Canada | 147 | SAN-G | Guyana |
| 110 | NAS-H | Manitoba and Ontario | 148 | SAN-H | Paraguay |
| 111 | NAS-I | NW Territories and Saskatchewan | 149 | SAN-I | Peru |
| 112 | NAS-J | Yukon | 150 | SAN-K | Trinidad and Tobago |
| 113 | NAS-O | Canal Zone | 151 | SAN-L | Venezuela |
| 40 | | | 152 | ZAN | Suriname |

GPS DATUM LIST

| | | | | | |
|-----|-----|---|-----|-------|---|
| 153 | AIA | Antigua, Leeward Islands | 191 | JOH | Johnston Island |
| 154 | ASC | Ascension Island | 192 | KUS | Caroline Islands, Fed. States of Micronesia |
| 155 | SHB | St. Helena Island | 193 | LUZ-A | Philippines (excluding Mindanao Island) |
| 156 | BER | Bermuda Islands | 194 | LUZ-B | Mindanao Island |
| 157 | DID | Deception Island, Antarctica | 195 | MID | Midway Islands |
| 158 | FOT | Nevis, St. Kitts, Leeward Islands | 196 | OHA-M | Mean Solution (Old Hawaiian) |
| 159 | GRA | Faial, Graciosa, Pico, Sao Jorge and Terceira Islands (Azores) | 197 | OHA-A | Hawaii |
| 160 | ISG | South Georgia Islands | 198 | OHA-B | Kauai |
| 161 | LCF | Cayman Brac Island | 199 | OHA-C | Maui |
| 162 | ASM | Montserrat, Leeward Islands | 200 | OHA-D | Oahu |
| 163 | NAP | Trinidad and Tobago | 201 | PIT | Pitcairn Islands |
| 164 | FLO | Corvo and Flores Islands (Azores) | 202 | SAE | Espirito Santo Island |
| 165 | PLN | Canary Islands | 203 | MVS | Viti Levu Island (Fiji Islands) |
| 166 | POS | Porto Santo and Madeira Islands | 204 | ENW | Marshall Islands |
| 167 | PUR | Puerto Rico and Virgin Islands | 205 | WAK | Wake Atoll |
| 168 | QUO | South Greenland | 206 | BUR | Bungka and Belitung Islands |
| 169 | SAO | Sao Miguel, Santa Maria Islands (Azores) | 207 | CAZ | Camp McMurdo Area, Antarctica |
| 170 | SAP | East Falkland Island | 208 | EUR-S | Iraq, Israel, Jordan, Lebanon, S. Arabia and Syria |
| 171 | SGM | Salvage Islands | 209 | GSE | Kalimantan (Indonesia) |
| 172 | TDC | Tristan Da Cunha | 210 | HEN | Afghanistan |
| 173 | ANO | Cocos Islands | 211 | HER | Former Yugoslavia |
| 174 | GAA | Republic of Maldives | 212 | IND-P | Pakistan |
| 175 | IST | Diego Garcia | 213 | PUK | Russia |
| 176 | KEG | Kerguelen Island | 214 | TAN | Madagascar |
| 177 | MIK | Mahe Island | 215 | VOI | Tunisia/Algeria |
| 178 | REU | Mascarene Island | 216 | VOI-2 | Tunisia/Algeria |
| 179 | AMA | American Samoa Islands | 217 | YAC | Uruguay |
| 180 | ATF | Iwo Jima | 254 | KKJ | Kartta Koordinaatisto Järjestelmä, Finland |
| 181 | TRN | Tern Island | 255 | WGS84 | |
| 182 | ASQ | Marcus Island | | | |
| 183 | IBE | Efate and Erromango Islands | | | |
| 184 | CAO | Phoenix Islands | | | |
| 185 | CHI | Chatham Islands (New Zealand) | | | |
| 186 | GIZ | Gizo Island (New Georgia Islands) | | | |
| 187 | EAS | Eastern Islands | | | |
| 188 | GEO | New Zealand | | | |
| 189 | GUA | Guam | | | |
| 190 | DOB | Guadalcanal Island | | | |

USER PERMIT AND PIN CODE

When purchasing ARCS charts you must have your user permit and PIN code available in order to register for the use of the chart. The user permit and PIN code is provided in the Suunto M9 sales package.



CHECKLIST

After purchasing this instrument, make sure the package contains the following items:

- › Suunto M9
- › Docking Station
- › Charger
- › PC-interface cable
- › CD containing the Suunto Sail Manager software and the Suunto M9 instruction manual
- › Suunto M9 Quick Guide

Should any of these be missing from the package, contact the resale agent who sold you the package.

www.suunto.com

Made in Finland