

# How to Talk on a Marine VHF Radio

## General Information

1. Wait a short bit to make sure no one else is using the radio before pushing the button to talk.
  - a. Make sure button is depressed before starting to talk and don't let up on the button until you have finished talking. Not doing so will cut off the beginning or end of your message.
  - b. Never leave the button depressed when not talking. Doing so ties up the radio so no one else can use their radios. Sometimes kids will play with it (never a good idea!), or maybe the mic's caught between cushions, etc.
2. Before talking, take a second or two to think about what you are going to say. The object is to not drag out into a long or confusing message. Short and complete is the goal.
3. Hold the mic a few inches away from your mouth, sideways to your mouth so you are speaking across the mic, not directly into it.
4. Speak slowly (so info can be written down, if necessary), clearly, and not too loud or soft. The goal is to not have to repeat information. This wastes radio time and, if an emergency, delays information to first responders.
5. The first part of your conversation is the "hail", or call to the recipient (by their boat name; never use a person's name):
  - a. First, their boat name should be repeated 3 times, then followed by your boat name:
    - i. *"Mystic Sea, Mystic Sea, Mystic Sea, this is Deep Diver. Over"* ("Over" means you expect a reply.)
    - ii. Why repeat 3X?
      1. First time is to get their attention: "Hmm, did I just hear my boat's name on the radio?"
      2. Second time: "Oh! Yes, someone is calling me!"
      3. Third time: gives them time to get to the radio as well as to pick up a pen and paper, if needed.
  - b. They will reply to you: *"Deep Diver, this is Mystic Sea. Over."*
  - c. You start your message: *"Mystic Sea, Deep Diver. Go to Channel 68. Over."* (Note that 68 should be stated by individual numbers, "six eight")
  - d. They reply: *"Deep Diver, Mystic Sea. Channel 68. Roger. Out."* ("Roger" means you understand. "Out" means conversation is over; no more talking by either party. Both of you switch to Channel 68, repeat the hail as in "a" above, then proceed with conversation.)

- e. Note that once 2-way communication had been established, an abbreviated "hail" was given with every transmission back and forth (boat name of recipient followed by boat name of caller). This is good practice so that should another boater happen not to be hearing all of your conversation, or hearing perhaps just one of you, they don't butt into your conversation thinking they are talking to someone else. In an emergency, this can be very confusing and will likely result in delay for help.
- f. What if your recipient doesn't respond? Hail again after 2 minutes. If still no response, wait another 2 minutes and hail again. Then wait 15 minutes to repeat the hailing sequence. Marine radios should not be tied up with useless calls/conversations.

## Safety Situations

1. There are 3 types of safety radio calls with which you may be involved:
  - a. **Distress call** – for imminent life-threatening situation (boat fire, taking on water, etc). The hail from the distressed boat is "**MAYDAY**". Give as much detail as possible – slowly and distinctly. The recipient may ask for additional information. The recipient should never have you go to a different channel; stay on CH 16.
    - i. MAYDAY calls take precedent over any and all other radio calls. If you hear one and cannot assist, stay off the radio completely until the situation has resolved.
    - ii. If you are making the MAYDAY call, the first information you give after the hail is your **location**:
      1. GPS coordinates (latitude and longitude) - read off your boat's GPS.
      2. If you don't have lat/long available, give a good geographic description of your location.
    - iii. Then give **how many people are on board**, including yourself and how many kids. State if anyone is **hurt** and/or **in the water**.
    - iv. Tell the **nature of your distress**: fire, taking on water, etc
    - v. Provide your cell phone number as a backup in case radio communications fail. (Note: cells phones may not work)
    - vi. If there is time, give a **description of your boat** and its present condition (stable, holed, sinking, etc)
    - vii. *IF NOT ALREADY BEING WORN, MAKE SURE EVERYONE HAS THEIR LIFE JACKET (PFD) ON and FASTENED PROPERLY.*
    - viii. Example of distress call (**red**) – slowly, clearly, etc:
      1. **MAYDAY, MAYDAY, MAYDAY.** This is *Deep Diver, Deep Diver, Deep Diver.* **MAYDAY, Deep Diver.**

2. Location is latitude 43° 04' 23" N, longitude 89° 24' 04" W.

(Read lat/long by individual numbers: "latitude four three degrees, zero four minutes, two three seconds north; longitude..." etc.

If no GPS, give accurate geographic location: "3.5 miles southwest of Murray Lighthouse and about 200 yds north of the green bell buoy")

- a. Note: many people may not have their GSP set to degrees/minutes/seconds as stated above. (The decimal point below is pronounced DAY-see-mal.)
  - i. They may have their GPS set to decimal degrees:  
lat 43.073052° N, long 89.40123° W (see green below)
  - ii. or decimal minutes (probably the most common):  
lat 43° 04.383120' N, long 89° 24.073800' W
  - iii. or possibly even decimal seconds:  
lat 43° 04' 22.987" N, long 89° 24' 04.428" W
- b. Whatever the GSP setting, read it *exactly* as it is on the screen, including "degrees", and/or "minutes", and/or "seconds".

Do not read anything into it, like mistaking the decimal point for a division between degrees and minutes: 43 degrees 073052 minutes. That is not what 43.073052 degrees means.

- c. Whatever the GSP setting, they can all be changed into any other setting by using conversion factors. (If interested, see the last page below.) Don't be alarmed by this. Just read the GPS screen exactly as it is displayed and all should be good.

3. We have 5 people aboard, 3 are kids. 1 adult has a broken arm.

4. We experienced a collision with a larger boat and are taking on water.

5. Deep Diver is a 26' Catalina sailboat, white with blue hull, with a blue bimini; now dismasted. (might also include, if there's time: "Other boat is a 35' powerboat, red and white, now adrift and moving away from us toward the north." Rescuers might find you more easily, especially if you stated your location as a geographic location, if they knew to look for 2 boats in the same area.)

6. Cell phone number is XXX-XXX-XXXX. Out.

- b. Urgent calls – for problems that may need assistance but not in immediate danger (ran out of gas, person in the water, adrift in open water (not near rocks), etc). The hail from the distressed boat is "Pan-pan" (pronounced *pahn-pahn*). Give as much detail as possible – slowly and distinctly, as you would with a MAYDAY call (see above). The recipient may ask for additional information and may take you to another channel, if you agree. If this occurs, make a plan to switch back to CH 16 in set amount of time (e.g., 1 min) if communications are not established on the alternate channel.

- i. Pan-pan calls take precedence over all radio calls except MAYDAY. (May move to distress level if the situation deteriorates, *e.g.*, bad weather is moving in or someone is seriously injured.
- ii. Example of urgent call (**red**) – slowly, clearly, etc:
  1. **Pahn-pahn, pahn-pahn, pahn-pahn. This is Deep Diver, Deep Diver, Deep Diver requesting assistance.**
  2. **We are located at lat 43° 04.383120' N, long 89° 24.073800' W.**
  3. **We have 5 people aboard, 3 are kids. No injuries or illness.**
  4. **We are adrift due to running out of gas.**
  5. **Deep Diver is a 26' Catalina sailboat, white with blue hull, with a blue bimini.**
  6. **Cell phone number is XXX-XXX-XXXX. Out.**
  7. Responder will keep in touch with you about assistance.
- c. **Safety** calls - for problems relating to navigation, messages about events (made by USCG or USCG Auxiliary on a specific time schedule, *e.g.* hourly), tour boats giving their location info if it affects other boaters, etc. The hail is "**Securite**" (pronounced **say-KUR-it-tay**). Securite calls are given on CH 16 if they can be completed within 30 seconds. If the message is longer, a hail will go out over CH 16 introducing the Securite call and telling listeners to switch to CH 22A for the complete message. On CH 22A, the hail will start from the beginning and give the entire message. (22A is the USCG channel they use to communicate with the public. "A" is "alpha" and means this is a US channel so make sure your radio is on the US, not international, designation.)
  - i. There might be times you consider broadcasting a Securite message. (As a recreational boater, *never instruct listeners to switch to CH 22A*. Your message needs to be <30 seconds and completed on CH 16.)
  - ii. Example of a Securite call (**red**) – slowly, clearly, etc.  
**Securite, securite, securite. This is Deep Diver reporting a large, mostly submerged log blocking a part of the entrance to McMurphy Marina. All vessels use caution when transiting in and out of the marina. Deep Diver, out.**

#### Miscellaneous Information

1. If you do a radio check, it is required to be done between you and a specific boat, preferably on CH 09, not CH 16. You must hail a specific boat and ask for a radio check. It is illegal to put out a general hail hoping someone will hear it and reply to your radio check. (It is also illegal to hail the Coast Guard or Auxiliary for a radio check; they will not respond, nor do they monitor CH 09.)
2. It is illegal to use foul language, joke around, or make hoax calls on VHF marine radios as well as letting kids play around on the radio. The Coast Guard has transmission tracking capabilities and can find you. Penalties involve fines and imprisonment.

## Converting Lat/Long to Decimal Equivalents - and Vice Versa

First thing to understand - Conversion Factors → there are: 60 seconds (") in 1 minute ('), and 60' in 1 degree (°) of Latitude or Longitude

Consider: Does  $30^{\circ} 50' = 30.5^{\circ}$  ?

How much of 60 is 50? nearly all of 60 (83% of 60, to be more precise: 50 divided by 60)

$0.5 = \frac{1}{2}$ , and  $\frac{1}{2}$  of 1 degree is  $30'$ , not  $50'$ . **So  $50'$  is not equal to  $0.5^{\circ}$  ( $\frac{1}{2}^{\circ}$ ).**

In fact,  **$30^{\circ} 50' = 30.83^{\circ}$** , not  $30.5^{\circ}$ . And  **$30.5^{\circ} = 30^{\circ} 30'$** , not  $30^{\circ} 50'$ .

See what difference that can make in how your GPS is set up and how it is read. You can set it to any unit you'd like, but you, and others on your boat, need to know how to read the numbers that appear. (Your GPS might show 3-4 decimal places; that's OK, just makes location much more accurate.)

### Here is some practice in converting units:

Math Rules: **To find a decimal equivalent, divide** minutes and/or seconds by 60.

**To find deg/min/sec** from a decimal equivalent, **multiply** the decimal by 60.

Example: Madison is located at L  $43.05^{\circ}\text{N}$ , Lo  $89.23^{\circ}\text{W}$ . What are the degrees and minutes of L/LO? (In other words, change the decimal degrees to degrees and minutes.)

$0.05^{\circ} \times 60 \text{ minutes/degree} = 3 \text{ min}$ , so  $43^{\circ} 03'\text{N}$ , and

$0.23^{\circ} \times 60 \text{ min/deg} = 13.8 \text{ min}$ , so  $89^{\circ} 13.8'\text{W}$

(If you'd like, you can see how many seconds  $0.8'$  is:  $0.8' \times 60'' = 48 \text{ sec.}$ , so Lo  $89^{\circ} 13' 48''\text{W}$ .)

If you go to seconds for Lo, you should also go to seconds for L. In this case, 3 had no fractions, so just hold the seconds place with zeros: L  $43^{\circ} 03' 00''\text{N}$ .)

Don't get hung up with the math. *Think* about what the numbers mean; do they make sense intuitively? If not, just reverse the math and see if those numbers make better sense. We did thinking like this in the "Consider" section above. Here's some practice for you. (answers in red with "think" examples on 2; "thinks" apply to all)

1. a. Convert  $71.6^{\circ}\text{E}$  to degrees and minutes:  **$71^{\circ} 36'\text{E}$**   
b. Convert  $37.1^{\circ}\text{S}$  to degrees and minutes:  **$37^{\circ} 06'\text{S}$**  Think: how much of 1 is 0.1? Not much. How much is 6' out of 1 min? Not much. Make sense?  
c. Convert  $158.4^{\circ}\text{W}$  to degrees and minutes:  **$158^{\circ} 24'\text{W}$**   
d. Convert  $158^{\circ} 37.7'\text{W}$  to degrees, minutes, and seconds:  **$158^{\circ} 37' 42''\text{W}$**  Think: how much of 1 is 0.7? About 3/4. How much is 42' out of 1 min? About 3/4 (42 parts of 60 parts). Make sense?
2. a. Convert  $45^{\circ} 57'\text{N}$  to decimal degrees:  **$45.95^{\circ}\text{N}$**   
b. Convert  $132^{\circ} 17'\text{W}$  to decimal degrees:  **$132.28^{\circ}\text{W}$**   
c. Convert  $3^{\circ} 59'\text{S}$  to decimal degrees:  **$03.98^{\circ}\text{S}$**   
d. Convert  $53^{\circ} 27' 43''\text{W}$  to decimal minutes:  **$53^{\circ} 27.72'\text{N}$**

**Always pay attention to the labels on the numbers!**

Now, go check out your GPS. How is it set up? Do you like that, or do you want it to read differently? Set it however you like. You can always change it later.