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Configuring your GPS Unit

Congratulations! You pulled out the plastic, and, like (almost) everyone else, you are now the proud and very confident owner of a GPS unit. Regardless of your background, sailing history or personal preferences, everybody will agree that these small, affordable units have become almost standard equipment onboard all boats. They add reliability, accuracy and ease to all the tasks that kept navigators quite busy in years gone by.

But **STOP!** Not so fast. Do you really understand all the parameters that can be configured on the countless pages at your fingertips? While you should try to work your way through the handbook to get the most out of your investment, here is a short summary of key settings and some concerns that can, if not addressed properly, turn your trip into an adventure. You will usually find them on the Navigation Setup or similar page of your unit.

- 1) Make sure **WAAS (Wide Area Augmentation) is turned ON**. Without it, your GPS will not have the benefit of the better accuracy.
- 2) **Set the value for the Datum to WGS84 or to the Datum of your chart**. This allows the satellite signals to be properly mapped to the right 'shape' of the earth and to provide you with Latitude/Longitude that matches your chart. If the Datum is not set properly your position will not be accurate.
- 3) **Set the value for Magnetic Correction to AutoMag (or something like it)**. GPS intrinsically only 'knows' True North. AutoMag will adjust the value for Variation to give you the correct magnetic directions for anything from courses to bearings.
- 4) **Make sure critical units are set properly**. Distances in Nautical Miles; Speed in knots (nautical miles per hour); Latitude/Longitude in [degrees/minutes/decimal minutes] e.g., 41 °23.547'. Anything else will be difficult and potentially misleading for your interpretation.
- 5) **Using Waypoints, make sure you set them in the right Datum (see above) and correctly**. Here is where a good plan can go bad. Waypoints should be checked on the chart and should be safe to approach.
- 6) **Make sure Routes are sensible**. Once keyed in or captured, consider the risk to navigation from tides and currents. You know that the accuracy of surveys and the density of depth soundings is often less than the accuracy of your GPS with WAAS (Wide Area Augmentation)...and you don't want to 'find' the differences!
- 7) **Ask yourself as you are looking at this marvel of technology: Would you undertake this voyage without the GPS?** Over-reliance on accuracy presents its own risks especially during night sails.
- 8) **Do you have a backup means of navigation available (charts, compass, DR Plot, etc.)?** Despite its ease of operation, a GPS should not replace solid knowledge and the

ability to work with simple tools. Remember, the COLREGS hold all of us to high standards by requiring precautions that are the “ordinary practice of seamen”.



Figure 1: The combination of traditional navigation techniques and tools together with a modern GPS and Chartplotter provides a safe, efficient and enjoyable environment for the skilled navigator.

GPS and its integration with Chart Plotters, RADAR, DSC, AIS and other equipment is a powerful tool that can make all of us safer on the water. Use it wisely and have an enjoyable time this summer!



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