



As with all outdoor marine electronics, the GPS handhelds' screens must be easy to read in sunlight. Above, the West Marine 76 CS (top row, far left), Garmin 76CSx, and Uniden Mystic screens (bottom row, far left) stand out.

.....

HOW WE TESTED

Years ago, a GPS test might have compared position accuracy, tabulated waypoint storage capacity, or examined each unit's routing capability. Today, however, technology has evolved to the point where such comparisons are relatively pointless. Virtually all the handhelds we see today are accurate, afford more than ample waypoint storage, and have the same ability to plan, plot, and save routes.

For this, an updated version of an often-repeated handheld GPS test, we were more interested in practical issues such as how the units hold up to immersion in salt water, how easy it is to create and enter waypoints and routes, and how visible the screen is (both in bright sunlight and after dark). We were also concerned about display size—can you actually see the display while bouncing around on a boat—and about performance issues. How quickly does it acquire satellites and report a position? Can it maintain reception belowdecks or under a bimini top? What is the actual battery life? How well does the unit integrate with other on-board electronics via an NMEA connection? How about the user-friendliness of the cartography? These are just some of the practical considerations we looked at as we compared the nine handheld GPS units we were provided.

For the power-consumption test, we wanted to ensure parity among the units that used AA battery power so all were set up with fresh Duracell "Ultra" alkaline

batteries. The Uniden Mystic VHF / GPS combination unit we tested and the West Marine 276C Plus were equipped with rechargeable Lithium ion battery packs as standard equipment, and each was given a 24-hour recharge before we began the test. The results of this test revealed that, in general, the units that employed the newest technology used much less power, dramatically extending battery life.

To test waterproof integrity, we tried to mimic the IPX-7 standard test, commonly used by marine manufacturers to validate their "waterproof" claims. The test requires that the product survive being submerged for 30 minutes in one meter of water without any problems. For our test, we put all of the units in a barrel that was not quite one-meter deep and left them there for 30 minutes. Although all of the units we compared claimed to meet this standard or the JIS-7 standard (also one meter for 30 minutes), not all of the test units fared well in our barrel test.

Of the nine units we compared, five of them actually floated. We couldn't get them to stay submerged without force. The other four units went down like bricks. We rather like the ability to float, as more than a few GPS handheld units have slipped out of a boat bag only to disappear into the briny deep.

All usage and screen visibility testing was done on Narragansett Bay in Rhode Island aboard an open powerboat with a top speed of 22 mph. We tested under both daylight and nighttime conditions.