

## U.S. Coast Guard Search and Rescue Gets a Boost from New Technology

**A**lthough U.S. Coast Guard search aircraft/vessels can home in on the secondary, and relatively weak, 121.5-MHz signal emitted by EPIRBs and Personal Locator Beacons (PLBs), new equipment works with the stronger 406-MHz frequency. According to Captain Kip Louttit, “EPIRB, ELT, or PLB manufacturers are required by U.S. regulations to have a 121.5-MHz homer as an integral part of the beacon. This signal is only required to have a power of 25 milliwatts, while the 406 signal that goes to the satellites is 5 watts. Aircraft have a difficult time picking up the 121.5 homer even within

5 miles, but they have recently been locking on to the 406 signal with their new direction finders from as far away as 80 and 150 miles!”

As well as equipping SAR crews with 406-MHz DF gear, the Coast Guard will be equipping land-based towers in its Rescue 21 system with 406 signal recognition and DF capability, further tightening the PLB safety net. The other, yet-to-be-decided safety and communications issue is the role of Rescue 21’s position-polling feature, and whether or not a mini VHF/GPS alarm type device will evolve. Instead of using satellite technology to pinpoint a victim,



*A red LED on the Sea Marshall display indicates the location of the 121.5-MHz alert signal relative to the boat’s heading.*

such gear would make use of VHF Channel 70 DSC position handling and distress calling digital architecture. Even if this technology is slow to evolve, what’s available today can significantly increase the odds of rescue, and a person in the water (PIW) wearing a PFD, and equipped with a strobe, whistle and 406-MHz PLB has more than a few acronyms on their side.