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## **BACK TO THE BASICS**

### **RADAR ANTENNA & EPIRB**

#### **RADAR**

**Beam width** is the angular width, horizontal or vertical, of the path taken by the radar signal. Horizontal beam width is the principal factor which affects bearing resolution. The narrower the beam width, the better the resolution and target discrimination. As the length of the antenna radiator increases, beam width becomes narrower, so a larger antenna will invariably offer better target discrimination.

\* *RADAR* is an acronym for *Radio Detection And Ranging*

#### **EPIRB**

*Category I* EPIRBs can be either activated manually or set to activate automatically in the event of a disaster at sea. These EPIRBs are generally housed in a specially designed bracket on deck and the buoyant beacon is designed to rise to the surface and emit two signals, an emergency homing signal on 121.5 MHz and a digital identification code on 406 MHz that can be used to identify the stricken vessel.

*Category II* EPIRBs are similar to *Category I* EPIRBs but are generally manual activation only.

*Class B* EPIRBs, also called *Category B* or "*Mini B*", operate a 121.5 MHz homing signal only and are usually manual activation only units. Due to their limitations, *Category B* EPIRBs are slowly being phased out.

When a beacon is activated, one or more satellites pick up its transmission. The satellite transmits the signal to a ground control station that processes the signal and forwards the data, including approximate location, to a national authority that in turn forwards the data to a rescuing authority, such as the Coast Guard. EPIRBs with optional GPS receivers will send exact position data rather than depending upon the satellite Doppler shift method of determining position.

\* *EPIRB* is an acronym for *Emergency Position Indicating Rescue Beacon*

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