Sonar Locator Systems

The object at left in the photo is a Model 590 UnderwaterAcoustic Beacon, less formally known as a Pinger; the other unit is a Pinger Tester. Developed and manufactured by Burnett Electronics Lab, Incorporated, San Diego, California, the Pinger is an underwater locator device attached to an airplane's flight recorder for recovery of the recorder in the event of a crash. The flight recorder tapes cockpit conversation prior to the crash; its recovery provides clues as to what caused the accident and suggests measures to prevent similar occurrences.

Activated upon immersion in the water, the Pinger's battery-powered transmitter sends omnidirectional signals for as long as 500 hours. The signals are picked up by a receiver on the surface, for example, Burnett's transistorized Model 512 (the company manufactures several types). The Model 512 is designed for use by a diver with SCUBA gear operating from a small surface craft. Lowered over the side of the boat, the sensitive receiver detects Pinger signals and converts them to audible sounds whose strength is directly proportional to the direction and distance from the signal. This provides an initial bearing to the Pinger; the diver then enters the water and swims to the Pinger's location, using the receiver as a hand-held homing system.

Burnett Electronics' underwater sound/search systems trace their lineage to research performed by Langley Research Center and the U.S. Navy in the early 1960s. The Navy had designed a search/locator system for recovery of underwater mines. Langley, with a similar need for locating research sounding rocket payloads parachute-lowered to the ocean, used the Navy design as a departure point for development of an improved system. Langley then contracted with Burnett Electronics to refine the system and supply receivers for NASA and Navy use. Burnett subsequently used the expertise gained in the Langley contract as a base for company-funded development of an advanced line of sonar systems for government and commercial use.

Burnett Electronics now manufactures several types of Pingers and associated receiving equipment, including deepwater beacons for such research purposes as whale tracking or marking underwater discoveries, and such commercial uses as spotting

wellheads, pipeline junctions and valves in underwater oil production operations. A sophisticated Model 570 beacon sends acoustic signals from depths as low as 20,000 feet to help oil drilling vessels remain directly over a drill hole. A special purpose Pinger is the Model 522, which provides a way for a diver trapped underwater to signal his position to a monitoring team on the surface. In addition to Navy, aircraft, ocean research and other water-related applications, Burnett manufactures ultrasonic listeners that detect gas leaks in refrigeration and air compression systems on trucks and heavy equipment. The company is engaged in research on several new acoustic-sonar systems.