Fishfinding and Sonar jargon-buster. What do these terms and acronyms mean?

**Garmin Sonar Technology**

Garmin makes several different types of sonar and each requires a different type of transducer to work most efficiently. Matching the transducer to your device’s sonar is very important.

**HD-ID™ Sonar**

Traditional sonar that is available on Garmin fishfinders. Dual-beam, HD-ID sonar transmits two frequencies, generally either 77/200 kHz or 50/200 kHz combos.

**CHIRP Sonar Technology**

CHIRP sonar transmits a sweep of many frequencies within a long duration pulse. The equivalent sound energy is hundreds of times greater, resulting in more energy on target. This provides huge advantages in detail, resolution and accuracy at much greater depths.

**Garmin DownVü™ and SideVü™ Scanning Sonar**

DownVü scanning sonar gives you an ultra clear sonar picture of objects, structure and fish that pass below your boat while SideVü scanning sonar shows fish and structure that is off to the sides of your boat. DownVü/SideVü scanning sonar with CHIRP technology is also available for some compatible chartplotter/sonar combos.

---

**Humminbird Sonar Technology**

**CHIRP SONAR**

Only Humminbird® lets you view low, mid and high CHIRP ranges, either individually or all at once. Dial in a specific kHz, search a defined range or cover the entire spectrum—it’s up to you. Because it uses a broader range of frequencies, Humminbird CHIRP also delivers extreme target separation, lower noise and richer, higher-resolution images and the power to reach depths of 10,000 feet (3,000 meters).
WELCOME TO 360 IMAGING

Revolutionary Humminbird® 360 Imaging™ offers a detailed, 360 degree view around your boat. Visualize it as a thin sonar wall extending 150 feet to either side of your vessel. This wall rotates to create a 300-foot circle enabling you to see areas virtually impossible to reach with other types of sonar. And, because the sonar wall moves, you don’t have to, so you can see where fish are, before they see you.

WELCOME TO SIDE IMAGING

It’s all in the details. Gain a 180 degree side-to-side perspective on the world below the surface with remarkable Humminbird® Side Imaging®. In an instant, the ultra-thin beam scans the area up to 240 feet to the left and right of your boat location—for total coverage of up to 480 feet. The return image for each slice is then added to the images taken immediately before and after to build an incredible view of the lake bottom. You can then magnify the detail of the image with the zoom feature or mark the GPS location of promising cover or structure directly on the screen.

UNDERSTANDING DOWN IMAGING

The detailed images of Down Imaging are created with high-frequency sound waves emitted in ultra-thin slices. The sonar returns from these waves produce a “snapshot” of what’s below your boat.

SWITCHFIRE

Building on our legacy of sonar innovation, exclusive Humminbird® SwitchFire™ puts anglers in complete command of how their sonar returns appear. With two unique display modes, you can adjust to your fishing conditions on the fly. Add or remove detail; account for water depth, temperature and turbulence; even experiment with lure presentations—all at the push of a button.

DIGITAL SIGNAL PROCESSING

Digital Signal Processing (DSP) is mathematical data manipulation technology. Sonar products produced by Humminbird® use transmitters and receivers that produce actual analog sound pulses and bounce them off objects, such as suspended fish and the bottom, and these analog signals must be converted to a digital format using an Analog-to-Digital converter in order to be understood by the sonar processor.

LOWRANCE Sonar Technology

CHIRP

CHIRP sonar is cutting edge echosounder technology. Unlike the single frequency of the Broadband Sounder technology, CHIRP continuously sweeps a spectrum of frequencies. Sweeping frequencies makes two improvements to the sonar image:
Better target separation- Because CHIRP uses a range of frequencies, rather than a single pulse, CHIRP sonar greatly improves the ability to distinguish fish targets that are very close together or on the bottom. Fish become easier to differentiate from the structure they are holding to.

Less interference from errant noise that would have been picked up by a single frequency sonar. CHIRP creates a unique range of frequencies and listens for only those sonar returns, this gives CHIRP sonar the ability to distinguish between what is a real echo, and what is just extra disturbances bouncing around underwater.

**Broadband Sounder**

Single frequency sonar—also referred to as Broadband—is commonly annotated as 50kHz, 83kHz, or 200kHz. Broadband is essential sonar technology at its finest. Broadband relies on pings and echoes from a single frequency. This technology is great for tracking bottom, finding schools of baitfish, displaying predator fish, and bait tracking.

**StructureScan HD**

StructureScan HD allows users to scan an area with a very high frequency signal, producing picture-like images. 455 and 800kHz frequency selections allow users to choose between 455 for scanning great ranges, and 800 for close-in, higher resolution detail. StructureScan HD literally turns the sonar paradigm on its side with the ability to search to the left and right of your boat rather than only below. StructureScan HD imagery can be overlaid on top of cartography for a detailed, up-to-date view of structure in relation to your position. Called StructureMap™, this is excellent way to find underwater structure and changes in bottom layout.

**SpotlightScan™**

SpotlightScan is boater-controlled directional sonar that allows anglers to scan an area they are interested in fishing while on approach. For use with cable-steer trolling motors, it aims two sonar signals similar to StructureScan HD in a specific direction. An angler can view productive fish-holding spots, such as drop-offs, channels, and underwater structure, before positioning a boat over top of them making it easier to find and cast to fish.

**Raymarine Sonar Technology**

**Experience Visionality™**

Raymarine's award winning CHIRP DownVision technology gives anglers underwater vision so close to reality, we call it Visionality! Experience Visionality and view the world beneath your boat on the Raymarine Dragonfly and the new
Raymarine Dragonfly7! Dragonfly includes two discrete CHIRP sonar channels. The first is an ultra-high resolution DownVision channel and the second is a high-resolution fish targeting sonar channel. View each sonar channel independently or switch to dual sonar split screen mode for the ultimate underwater intelligence.

Expand your underwater horizon with the CP200 CHIRP SideVision™ sonar

The CP200 CHIRP SideVision™ Sonar expands your underwater horizon with crystal-clear, bank-to-bank displays of fish, bait and underwater structure.

Engineered with the same CHIRP sonar technology as Raymarine’s award winning DownVision™ the CP200 uses advanced CHIRP signal processing technology to let you see further, see more clearly, and detect more fish than traditional side scanning sonars.