

GARMIN FISHFINDER/SOUNDER COMPARISON

GARMIN MODEL	UNIT DIMENSIONS	DISPLAY SIZE	DISPLAY RESOLUTION	DISPLAY TYPE	TOUCHSCREEN	WEIGHT	WATERPROOF	NMEA INPUT/OUTPUT	CANON COMPATIBLE	SUPPORTS AIS	SUPPORTS IBC	AUDIBLE ALARMS	GARMIN SONAR COMPATIBLE	DUAL FREQUENCY SONAR CAPABLE	DUAL BEAM SONAR CAPABLE	GARMIN MODEL	SPLIT-SCREEN ZOOM	SPLIT-SCREEN SONAR GPS	ULTRASCROLL	SEE-THRU TECHNOLOGY	FISH SYMBOL ID	AUTOGAIN TECHNOLOGY	WHITELINE	ADJUSTABLE DEPTH LINE	A-SCOPE	BOTTOM LOCK	WATER TEMP LOG & GRAPH	WATER TEMP SENSOR INCLUDED	WATER SPEED CAPABLE	FREQUENCY	TRANSMIT POWER	VOLTAGE RANGE	MAX DEPTH	CONE ANGLE	GARMIN MODEL
FISHFINDER 300C	4.5" x 4.5" x 2.4"	2.1" x 2.8", 3.5" diag	240 x 320 pixels	QVGA	-	9.6 oz	Y (IPX7)	-	-	-	-	Y	Y	-	Y	FISHFINDER 300C	Y	-	Y	-	Y	Y	Y	Y	-	Y	Y	Y	-	80/200 kHz (dual beam)	Dual Beam, 150 W (RMS), 1,200 Watts (peak to peak)	10-20 VDC	900 ft (dual beam)	45° or 15° (dual beam)	FISHFINDER 300C
FISHFINDER 400C	5.7" x 5.0" x 2.9"	2.6" x 3.3"	240 x 320 pixels	QVGA	-	17.6 oz	Y (IPX7)	-	-	-	-	Y	Y	Y	Y	FISHFINDER 400C	Y	-	Y	-	Y	Y	Y	Y	Y	Y	-	-	50/200 kHz (dual frequency), 80/200 kHz (dual beam)	Dual Frequency: 500 Watts (RMS), 4,000 Watts (peak to peak); Dual Beam, 400 Watts (RMS), 3,200 Watts (peak to peak)	10-35 VDC	1,500 ft (dual frequency), 900 ft (dual beam)	45°/10° (dual frequency), 45°/15° (dual beam)	FISHFINDER 400C	
ECHO 100	4.1" x 5.8" x 2.8"	2.38" x 3.21"; 4" diag	160 x 256 pixels	8-level grayscale FSTN	-	9.5 oz	Y (IPX7)	-	-	-	-	Y	Y	-	-	ECHO 100	-	-	Y	-	Y	Y	Y (always on)	-	-	-	Y	-	200 kHz	100W (RMS)/800W (peak to peak)	10V - 20V input	600 ft freshwater*	60° (single beam)	ECHO 100	
ECHO 150	4.1" x 5.8" x 2.8"	2.38" x 3.21"; 4" diag	160 x 256 pixels	8-level grayscale FSTN	-	9.5 oz	Y (IPX7)	-	-	-	-	Y	Y	Y	Y	ECHO 150	-	-	Y	-	Y	Y	Y (always on)	-	-	-	Y	-	200/77 kHz	200W (RMS)/1,600W (peak to peak)	10V - 20V input	1,300 ft freshwater*	60° or 120° (dual beam)	ECHO 150	
ECHO 200	6.0" x 5.9" x 1.8"	2.9"W x 4.0"H; 5" diag	320 x 480 pixels	16-level grayscale, HVGA	-	17.6 oz	Y (IPX7)	-	-	-	-	Y	Y	Y	Y	ECHO 200	Y	-	Y	-	Y	Y	Y (always on)	Y	Y	Y	Y	Y	200/77 kHz	300W (RMS)/2,400W (peak to peak)	10V - 28V input	1,500 ft freshwater*	60° or 120° (dual beam)	ECHO 200	
ECHO 300c	4.1" x 5.8" x 2.8"	2.1" x 2.8"; 3.5" diag	240 x 320 pixels	QVGA, 256 colors	-	11.6 oz	Y (IPX7)	-	-	-	-	Y	Y	Y	Y	ECHO 300c	Y	-	Y	-	Y	Y	-	Y	Y	Y	Y	Y	200/77 kHz	300W (RMS)/2,400W (peak to peak)	10V - 28V input	1,500 ft freshwater*	60° or 120° (dual beam)	ECHO 300c	
ECHO 500c	6.0" x 5.9" x 1.8"	2.9" x 4.0" ; 5" diag	234 x 320 pixels	QVGA, 256 colors	-	17.6 oz	Y (IPX7)	-	-	-	-	Y	Y	Y	Y	ECHO 500c	Y	-	Y	-	Y	Y	-	Y	Y	Y	Y	Y	200/77 kHz	500W (RMS)/4,000W (peak to peak)	10V - 28V input	1,900 ft freshwater*	60° or 120° (dual beam)	ECHO 500c	
ECHO 550c	6.0" x 5.9" x 1.8"	2.9" x 4.0" ; 5" diag	480 x 640 pixels	VGA, 256 colors	-	17.6 oz	Y (IPX7)	-	-	-	-	Y	Y	Y	Y	ECHO 550c	Y	-	Y	-	Y	Y	-	Y	Y	Y	Y	Y	200/77 kHz	500W (RMS)/4,000W (peak to peak)	10V - 28V input	1,900 ft freshwater*	60° or 120° (dual beam)	ECHO 550c	

*Depth capacity is dependent on water bottom type and other water conditions.

GLOSSARY

- Ultrasroll** > displays fish targets at higher boat speeds
- Fish Symbol ID** > helps identify fish targets
- AutoGain** > minimizes clutter, maximizes targets
- Technology**
- Adjustable depth line** > measures depth of underwater objects
- A-scope** > real time display of fish passing through transducer beam
- Whiteline** > indicates hard or soft bottom
- Bottom lock** > shows return from the bottom up

DUAL FREQUENCY vs. DUAL BEAM

Dual beam is only reference to the beam that the transducer shoots to the bottom of the waterway. The units enable a transducer to shoot two beams at once at two frequencies (ie. 50kHz/200kHz). The transducer is not enabled with the dual beam settings. The units enable the transducer to use this feature, and only certain units enable this. Transducers run on the frequency settings, which differ, depending on usage. The frequency is the sine wave, and the cone is the angle that the frequency shoots at.

Generally, dual frequency is better for deeper water, about 200' or deeper, while dual beam enabled GPS units are best for shallow water, as it allows for two different cone widths, giving a better resolution of the targets below.

WHAT'S THE DIFFERENCE BETWEEN TRANSDUCER FREQUENCIES?

The transducers that Garmin devices are compatible with can have either a 200 kHz (2000,000 cycles per second) or a 50 kHz (50,000 cycles per second) frequency. Some transducers labeled "dual frequency" can use both frequencies.

A higher-frequency sound wave (200 kHz) will provide a higher-resolution picture of what is present under the water, but the range will be short. Fishermen in more shallow lakes, who want a crisp clear picture of the bottom need to use a higher-frequency transducer. A higher-frequency transducer will put out quicker, shorter, and more frequent sound waves. Like the ripples made when a small pebble is thrown into still water, small waves of sound move evenly out and away from the source. Because they are just small waves, they will not travel far, and small obstacles will cause them to bounce back. Higher-frequencies are more sensitive to small objects and will send back detailed information which will show as crisp high-resolution pictures on the chartplotter/sounders screen. The 200 kHz can read depths to around 200-300 feet.

Low-frequency sound waves (50 kHz or 77kHz) will not give the user as clear a picture of the bottom, but they have greater range for very deep areas where high-frequency sound waves cannot reach. A low-frequency unit will work well in the depths of the ocean. A low-frequency transducer will put out longer and less frequent sound waves. Like the ripples made when a large boulder is thrown into still water, larger waves of sound move deeper into the water. Because the low-frequency waves are so large, they wash right over small obstacles. Low-frequency sound waves are not as sensitive in detecting small fish or other small obstacles as compared to high-frequency waves. Although they can read greater depths, they will not send back detailed information or clear crisp pictures.
> Source: *Garmin Support, FAQ, March 14, 2011*

SONAR SETTINGS ON FISHFINDERS/SOUNDERS

Here is a list of the settings on the Sonar page and what they are used for:
> **Frequency:** This is the frequency the transducer will output.

- > **Single Frequency:** With a single frequency transducer, the frequency setting can only be set to 200 kHz.
- > **Dual Beam:** The frequency setting on this model is referred to as a "Beam". With a dual beam transducer and a dual beam compatible device, the Beam choices are "Wide" or "Narrow". If using a dual beam transducer and a non-Dual Beam device, the frequency setting will need to be 200 kHz.
- > **Dual Frequency:** With this model of transducer, there are 3 frequency settings available: "200 kHz" (for shallow water), "50 kHz" (for deeper water), or "Dual Frequency" (both 200 kHz & 50 kHz running at the same time).

> **Gain:** This function controls the sensitivity of the transducer. For example, when the vessel is in 15 feet of water, the device may lose the sonar display and depth. This can occur because too strong of a signal is being received by the transducer due to the shallow depth and therefore it is unable to read the returning signal. In this case, the "Gain" would need to be reduced on the device. The opposite is true when in deeper water. If your sonar display is not picking up everything, the "Gain" may need to be increased.

> **Range:** This function controls the depth which will be displayed between the transducer and this setting. If "Range" is set to "auto" (the recommended setting), the depths on the right side of the display will automatically track the bottom. The "Range" can also be set to a specific depth. For example, if searching for structure no deeper than twenty feet, the "Range" would be set to twenty feet. The sonar page will then only show returns of what are between zero and twenty feet.

> **Ultra Scroll:** On devices with this feature, this function controls the rate of the scrolling speed on the display. This can be set from "Pause" to "100%".

> **Depth Line:** This feature allows a specified depth to be referenced by placing a dark line at this depth across the entire display.

> **Whiteline:** This function highlights the strongest signal from the bottom to help identify its hardness or softness. The strongest signal from the bottom will appear as a bright color (on color models). On a monochrome display, the bottom appears as a grayscale pattern. A hard bottom displays a thicker bottom while a softer bottom displays a thinner bottom layer. This function can be used to determine the bottom surface for anchoring purposes or for seeking out a specific species of fish by the bottom type they inhabit.
> Source: *Garmin Support, FAQ*