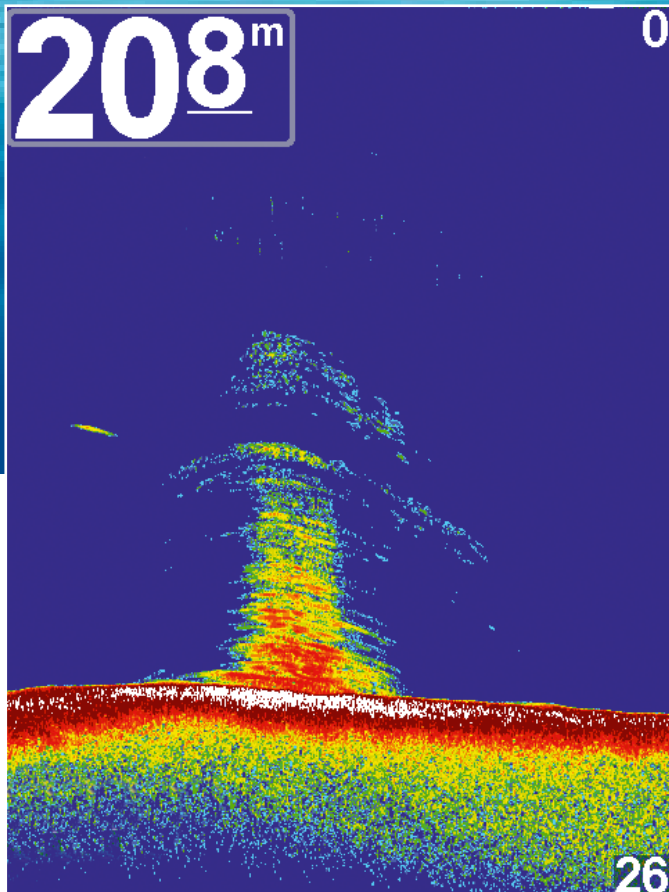


An interview with John Adams the author of How to Use a Fish Finder/ Echo Sounder

by Peter Goulding



No 1 - Full screen view

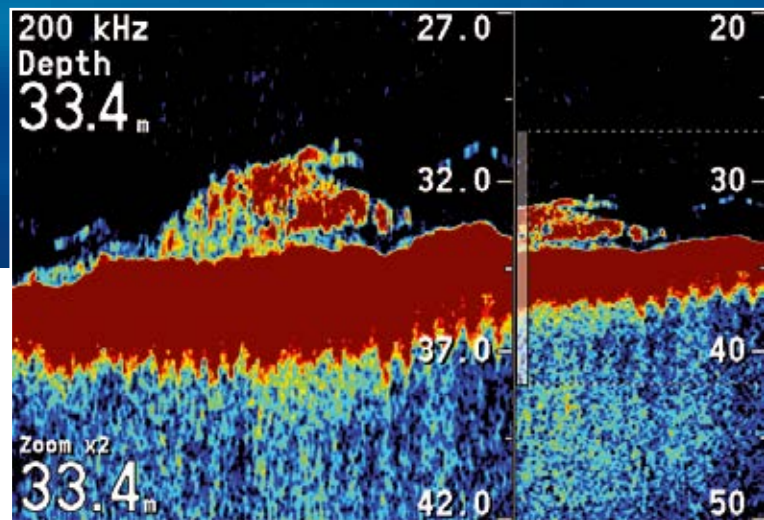
There is always much debate about who manufactures the best echo sounders, what do you say to people, when asked this question?

I really try to avoid answering that question, because it's best to let people make their own informed decisions. That's one of the reasons I wrote *How To Use An Echo Sounder Fish Finder*, to give fishers a more expanded view of echo fishing, that will better equip them to do their own research and choose a sounder that's right for them, and that suits the application they intend using it for.

What are some of the considerations in choosing a sounder?

Firstly, what is its purpose, and what is it going to be used for? Is it just for finding water depth, or specifically for fishing?

If it's only for finding water-depth, then a small digital depth sounder, with no display screen will do the job. These devices continually record water depth by a digital read-out only;



No 2 - Bottom Zoom using a bottom follower

some models can record depths up to 360 meters. There are also depth sounders designed for large ships which are used for safety/navigational purposes.

If the intention is to use an echo sounder for fishing, and identifying fish targets and bottom structure, then the echo sounder needs to be specifically designed for that purpose.

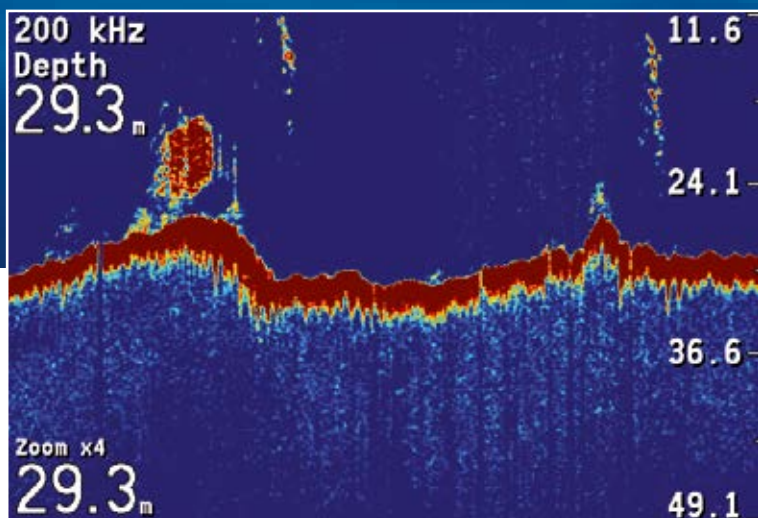
With so many different brands on the market how would you go about choosing one?

Good question. From my perspective I would probably stick with the well-known brands. One option to consider is to look for brands that manufacture echo sounders for commercial fishing purposes and also manufacture models to suit recreational fishers, using the same technology. It's a good deal.

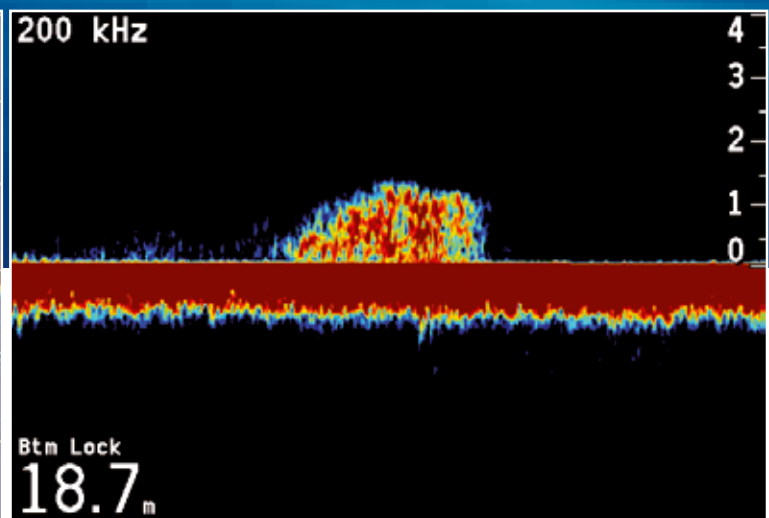
Which sounders did you use when you were fishing commercially?

I was 'brought up' with Furuno; however Koden and JRC sounders were also a popular choice. In the North-sea fishing fleets Furuno, Simrad and Atlas sounders were very common. This is why I never make recommendations for any specific brand, because it would not be appropriate for me to do so. It is very much a personal choice, because at

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No 4 - Depth set within upper and lower depth range limits



No 3 - Bottom Lock

the end of the day, they all do the same job and achieve the same outcome.

What type of recreational echo sounders do you own and use?

On my small boat I use both Humminbird and Ray Marine. I tend to rotate their use. I like using both of them. I tend to use the Humminbird the most, because it has a quick snap on/ off release on the head unit, which makes it easy to take off the boat for security purposes.

Why do so many people upgrade their sounder?

Fishers buying a sounder for the first time, tend to buy a basic level entry model to start with, which makes total sense. Then, if they decide to fish in deeper water, they need to upgrade to a higher performance transducer, providing lower frequencies, and models that have additional functions such as TVG (Time Variable Gain).

What are the common issues fishers have in using their sounder?

There is a range of them, but for many it's making sense out of the signals recorded on the display monitor. For many this is a complete mystery which is totally understandable. I sympathise with anyone who is just starting out and is

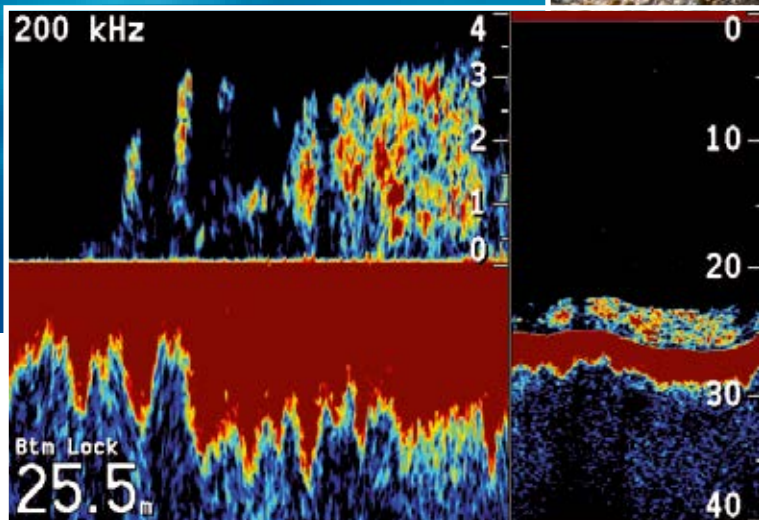
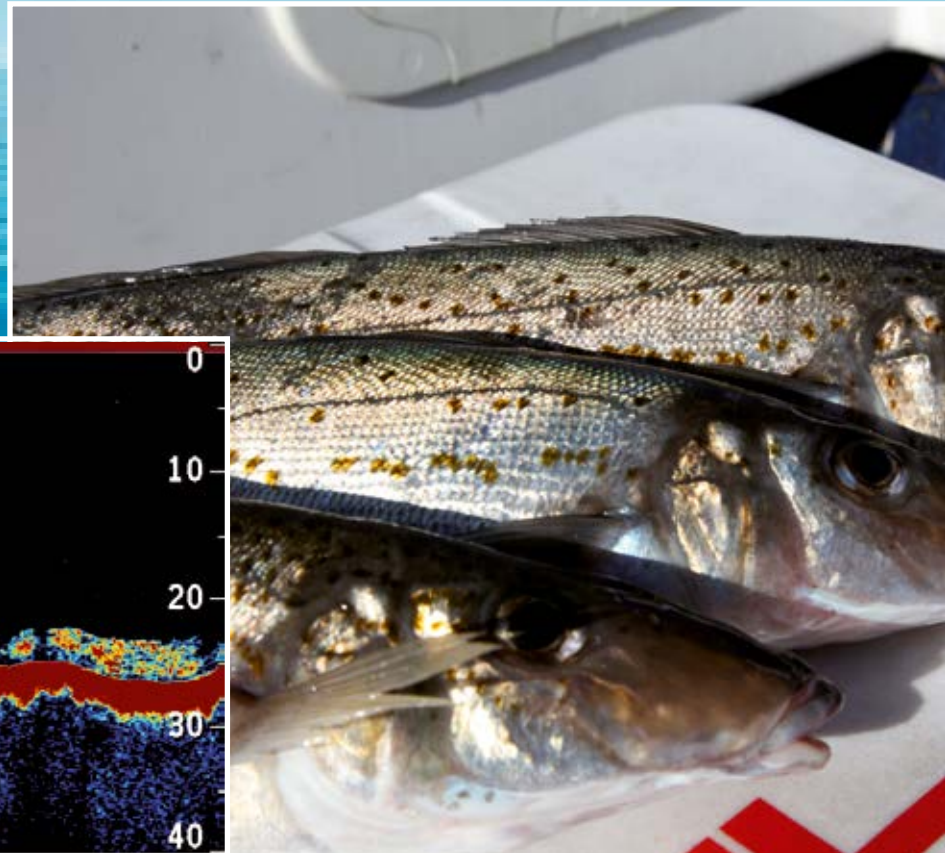
new to echo fishing. The good news is that there are no mysteries or secrets to echo fishing, only facts. Once the basic principles are understood, they can be applied to any colour echo sounder, in any waters, and only then will the information recorded on the display screen have some meaningful purpose.

What are the main display screen options available and how do you best utilise them?

It is handy to have a large display screen on the boat, but for many small boats owners this is not a reality, because of the cost and in many cases there is no room to fit one. This is not a major issue because echo sounders designed for fishing have a range of display screen viewing options that allow the screen to be enlarged, expanded or zoomed within any section of the water column. See examples of different screen views 1-5.

One example is when I am targeting demersal fish in, say, 40 meters, I will set the display screen on a full screen to start with, for example 0 - 50 meters. Then, when I detect fish targets or a bottom structure, I want to have a closer look at, I switch over to picture zoom, bottom zoom, marker zoom, or bottom lock to have a look at the targets on the display screen, before making a decision whether to drop a line on the spot.

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No 5 - Split screen Full screen view with bottom lock

When I am fishing for pelagic fish in the upper-mid section of the water column, I will switch over to a screen view that allows me to set the depth range in any section of the water column, for example from 20-80 meters.

In rough weather conditions the recording of the seabed can become ambiguous, caused by the boat heaving and pitching, rising and falling over the swell and waves. I will then switch over to Bottom-Lock, where fish targets are more clearly recorded above the seabed Bottom-Lock line. Some fishers prefer to use the seabed Bottom-Lock function even in flat, calm conditions; I am also one of them. See examples of screen views 1-4.

Which is the optimal frequency to use in shallow and in deep water?

High frequency (200 kHz) is selected in shallow water depths, and will produce highly resolved screen pictures. The depth-range at which this frequency can be operated is restricted due to its high acoustic absorption loss through the water during transmission. The frequencies operating range is determined by the performance level of the transducer. Sounding in water-depths of 0 - 200 meters will require a medium performance transducer.

Low frequencies (83/50/28 kHz) are selected in deeper water-depths, and will produce less resolved screen pictures. The depth-range at which these frequencies can be operated is not as restricted due to their low acoustic absorption loss

through the water during transmission. Their operating range is determined by the performance level of the transducer. Sounding in water-depths of 200 - 600 meters will only be achieved by using a high performance transducer.

How do you know where the fish are relative to the boat's position?

Good question. You don't. It is not possible to know the exact position of the fish relative to the boat's position. To explain this further: It is also important to understand what the transducer's beam angle represents, as this allows the operator to estimate the size of the detection area under the boat within the depth-range being fished. For example, fishing in a depth of 200 meters with a 45 degrees will produce a detection area directly under the boat of approximately 157 meter diameters; therefore taking a GPS position of fish detected on the display does not necessarily mean they are directly under the boat.

It is common to detect a school of fish on the display, then immediately turn the boat around to locate them, only to find they have disappeared. In this situation two things could have occurred: (1) the fish moved outside the circumference of the beam, they swam off; or (2) the position of the fish at the time of detection could have been to the front, rear or either side of the boat. Yet, all the fish targets recorded within the circumference of the beam would have been all recorded on the display screen at the same time, because they would have been all in the same detection area.



When and why do you use the Time Variable Gain function?

Because of the high acoustic absorption loss of the transmitted sound waves in deep water, the echo signals returning back to the transducer from fish targets will often be weak. This function amplifies those weaker signals, and ensures they are detected on the display screen.

This function is quite often misunderstood. For example, I was recently talking to a commercial demersal fisherman, who was fishing between 200 - 350 meters. He was showing me the setting on his sounder; he uses 50 kHz at that depth. I was interested in his TVG settings, and noticed that it was set on 200 KHz. I asked him how long it had been set on 200 KHz for, and he said 9 years! I tried to convince him to turn it over to 50 KHz, but he did not like the idea. His comment was that the sounder was working alright the way it was and he had no intention of changing any of the settings. He obviously did not understand the function.

Screen view examples 1-4

No 1: Full screen view.

No 2: Bottom Zoom using a bottom follower

No 3: Bottom Lock

No 4: Depth set within upper and lower depth range limits

To learn more about echo fishing, readers can purchase John Adams new book titled "How to Use an Echo Sounder/Fish-finder". Visit www.howtouseafishfinder.com to find more information about the book and to purchase on-line.