

DT-X Deployment and Transducer Mounting Examples for Mobile Surveys

Best methods of deployment and mounting are based on a variety of factors which include; the desired measurements and targets of interest (e.g., depth, direction, targets of interest, location of targets in the water column), water conditions (e.g., waves, speed of currents), vessel type (e.g. size, draft, displacement, current or wake generation), and other user or environmentally defined variables.

Here we provide some examples of solutions for transducer mounting/deployment that may assist you in determining the best solution for deployment of your transducer(s). Please contact BioSonics if you have any questions or wish to share your deployment method with other users.

Examples of users' solutions appropriate for mounting BioSonics acoustic transducers for mobile surveys.



"A" frame mount example for a small boat (Photo courtesy of Ray Valley, Minnesota DNR).



Indiana DNR has developed a mount for the complete DT-X system, including the computer. This system allows the transducers to be brought inboard, and the echosounder and computer to be secured onto the frame.



Indiana DNR system in operation. Note that the transducer mount has been extended over the side of the boat and rotated down to put the transducers in the water. The GPS receiver is on top of the white pole (GPS not visible in the photo).

These mounts slide outwards then allow the transducer to be lowered to the desired depth. Angled plates forward of the transducer deflect aquatic vegetation away from the face of the transducer. (Courtesy of Don Morgan, US ACE)



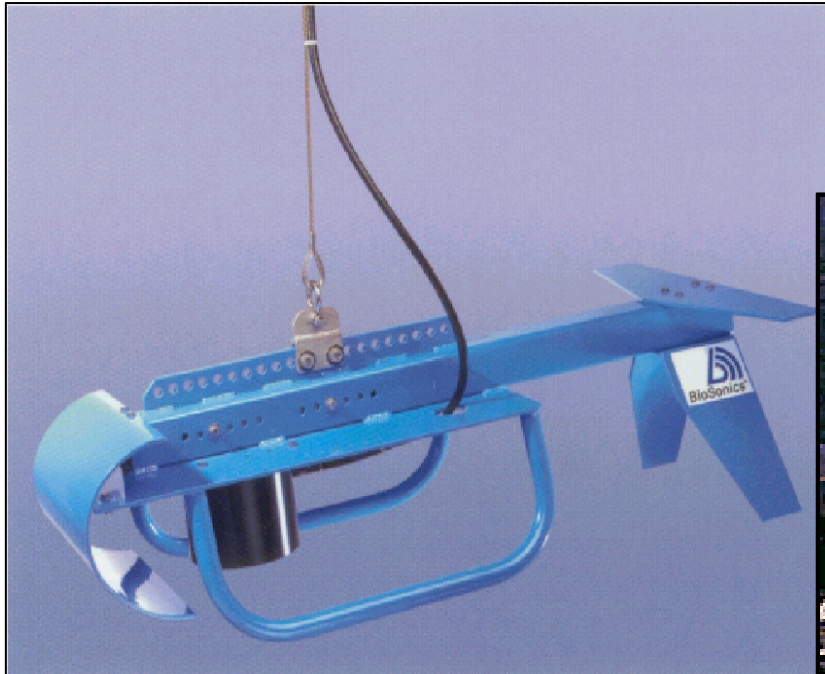
Transducers, lowered into the water with view of normal operational depth for this system. This SAV detection system keeps the transducers as shallow as possible, the mount design minimizes fouling by surface vegetation.



Transducer Mount constructed for use on an inflatable boat. This mount allows for the GPS receiver to be directly above the transducer. The mount can be swiveled out of the water for transport and can be vertically adjusted using the set-screw on the vertical (square) tube (Credit to Patrick Schneider, AQUASON, Spain).



Towed body deployment: A dead-weight towed body de-couples some of the towing vessel movements (primarily pitch and roll) from the transducer. This means that the transducer moves up and down in the water column rather than following the movement of the vessel (bow up and down, roll from side to side). This maintains a more constant vertical (or horizontal, if so deployed) transducer aspect. See BioFin Information Sheet for more detail.



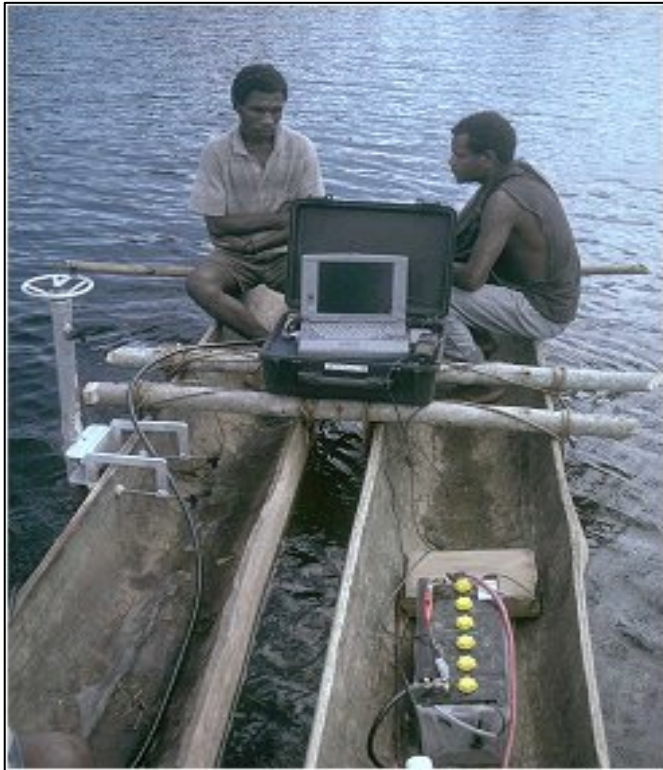
Deployment of BioSonics BioFin from oceanographic research vessel in Antarctic program. Courtesy Dr. Robin Ross, UC Santa Barbara, Palmer LTER Program.

US Fish & Wildlife Service mounting for deployment of a BioFin and transducers. Note the use of standard off-the-shelf scaffolding components to construct the frame (no welding required) on the forward davit, and manual winch.



Aft davit is bent and welded, requiring more shop work, but a more permanent solution. Both work well. Photos: Clif Tipton US FWS, Anapolis, MD.





BioSonics digital echosounder system mounted between two dugout canoes in Paupu New Guinea. Photo courtesy of Ross Smith, Hydrobiology Pty Ltd. Australia.

BioSonics digital echosounder system deployed from a small skiff, with GPS antenna located on the same pole to which the transducer is mounted. A better location to avoid "noise" would be on the side of the boat, about 2/3 of the way back from the stern. Photo – US Army Corps of Engineers, Bruce Sabol. Corps of Engineers



DT-X mounted on a kayak for use at a remote location. Courtesy of Darrin Freshwater Institute, Rensselaer Polytechnic Institute.