

# StarFish HULL-MOUNT SONAR QUICK-START GUIDE

## 1 BEFORE YOU START

Check that your StarFish system contains the following items...

- StarFish hull-mount sonar transducer head (& cable).
- StarFish transducer hull mounting bracket
- StarFish top-box electronics module.
- AC to DC universal power adapter (and international plug adaptors).
- DC power lead - cigar plug (fused) to 2.1mm plug.
- DC power lead - cigar socket to crocodile clips.
- USB 2.0 Cable (type-A to type-B connectors)
- StarFish "Scanline" software and drivers CD.
- User Guides
- Bag of tools and sundries.

Additionally, you will also require the following...

- Microsoft Windows XP, Vista or Windows 7 compatible computer (or laptop), with 1 free USB port.
- Battery (for DC operation) or protected AC mains outlet.
- Tools and fasteners for securing the transducer/bracket to your boat.



**Before using your StarFish product for the first time, read and follow the "Important Safety Instructions" at the start of the "System User Guide".**

## 2 INSTALL SOFTWARE

- Insert the "Scanline" software CD into your computer.
- The set-up program should automatically run, but if it does not start, run the "ScanlineMenu.exe" program located in the root directory of the software CD.
- When the CD menu appears, select "Install StarFish Scanline" to start the set-up program.
- This process may take a couple of minutes, please be patient. Follow the on-screen instructions to install the main software and required hardware drivers.
- Once the installation program has completed, you may connect the USB "top box" electronics module to your computer.



**Note: Do not connect the sonar USB electronics to the PC until the "Scanline" software and drivers have been installed, this will simplify the installation procedure.**

## 3 CHOOSE A POWER SUPPLY

### CHOOSE A POWER SUPPLY

Before setting up your StarFish system, you first need to decide on the power source you will use - either...

- A 9V to 28V 5W DC supply (such as a battery or boat electrical system)
- or...
- Mains at 110V-240V AC (47Hz to 63Hz) from the universal AC-DC adapter included with the system.



For best performance of the StarFish, you should ensure any power source is "clean", meaning it is free from electrical noise possibly caused by mains-inverters, motors or any other similar "high-current switching" devices.

Additionally, for DC supplies, the source should be a fully regulated and smoothed power source - a dedicated battery is ideal for this.



**To avoid electrical shock, you should only use the AC supply in a dry and enclosed environment, such as a cabin on board a boat.**



**Ensure the supply has suitable protection such as quick-trip circuit breakers and an RCD.**



**Only handle the StarFish equipment with dry hands.**

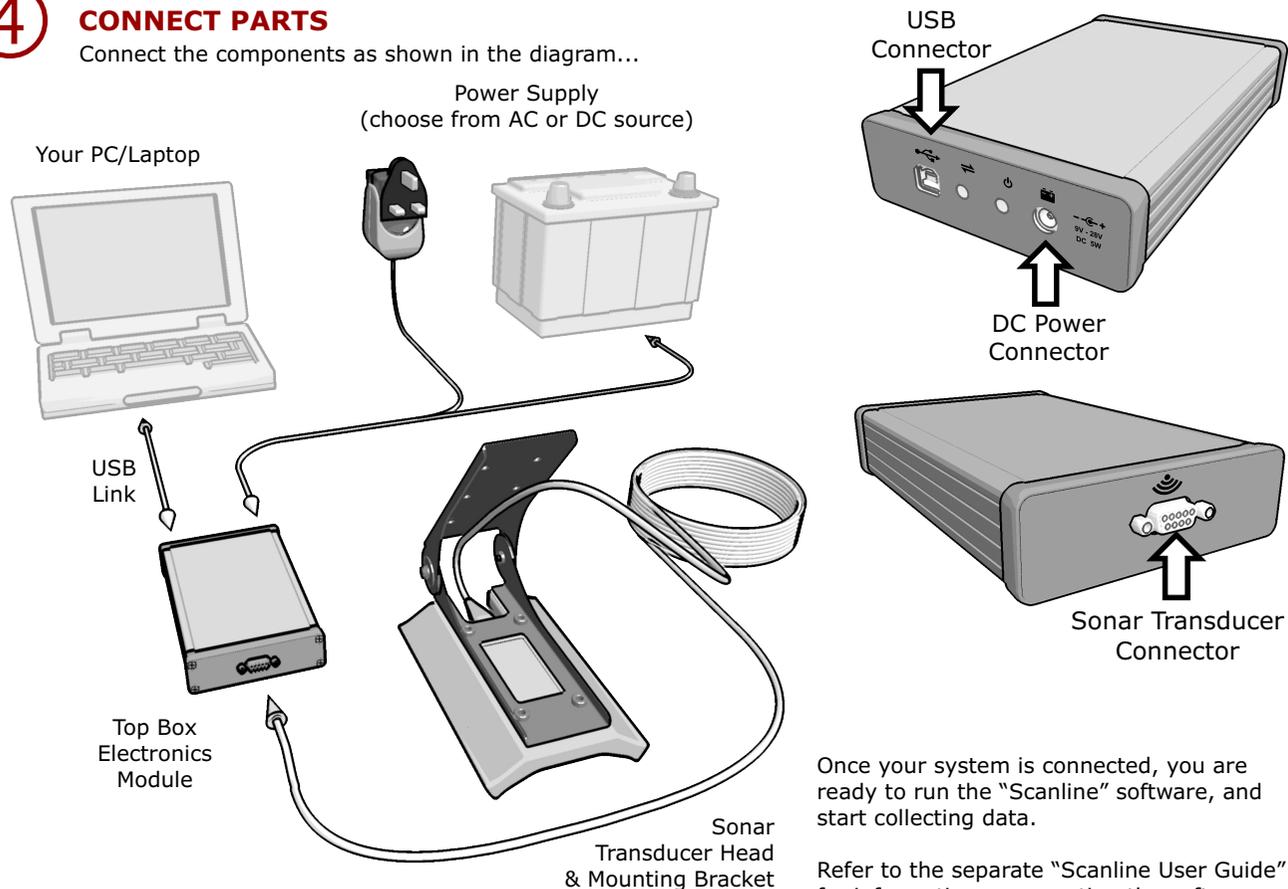


**While the StarFish has internal voltage and current protection circuitry, any supply you use should be externally fused with a quick blow fuse rated at 1A.**

## 4 CONNECT PARTS

### CONNECT PARTS

Connect the components as shown in the diagram...



Once your system is connected, you are ready to run the "Scanline" software, and start collecting data.

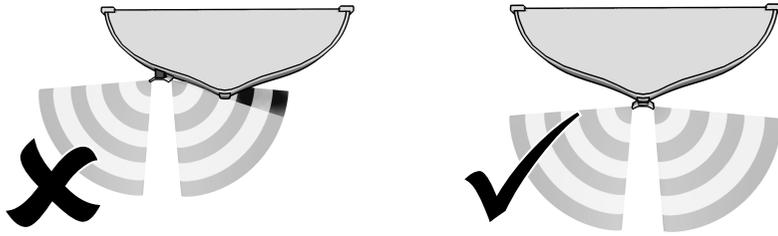
Refer to the separate "Scanline User Guide" for information on operating the software.

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## MOUNTING THE TRANSDUCER

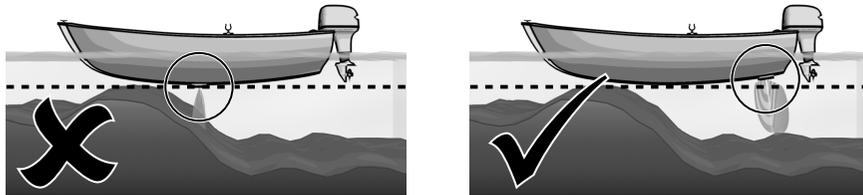
### Avoid creating acoustic shadows...

Acoustic shadows will create blind spots in the sonar's field of vision and may reduce its maximum working range. Reflections from the hull may create a 'ghost' or mirror image of the opposite channel on the sonar display.



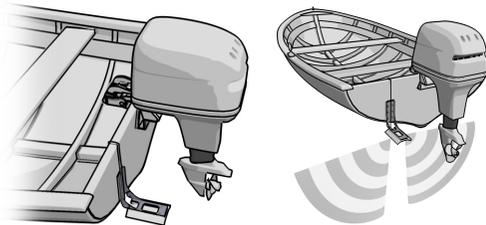
### Reduce vulnerability to grounding

When mounting the sonar on your vessel, make sure there is always a point on the hull that is lower than the transducer's location. This will reduce the risk of damage to the transducer should you run aground or collide with any submerged obstacle.



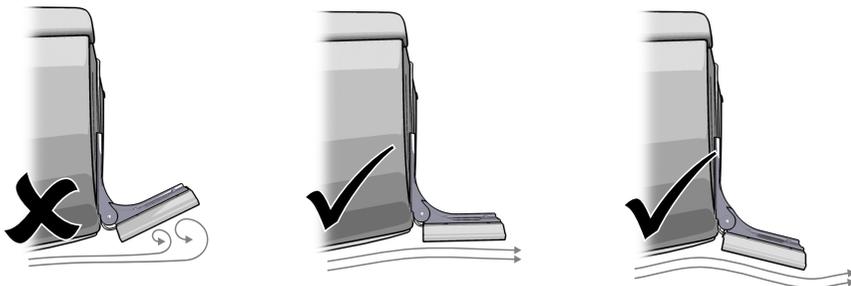
### Position in relation to the vessels propeller

Ideally the StarFish transducer should be mounted to the vessel's hull in front of the vessel's propeller, as this introduces small air-bubbles into the water which in-turn act as reflectors of sound and degrade the range and quality of the sonar imagery.



### Avoid cavitation & turbulence

When mounting the transducer onto the hull of your boat, it is important that a location is chosen that under normal conditions is known to be free from turbulence and aeration. You should also ensure the transducer is angled such that cavitation and turbulence is minimised on the transmitter and receiver surfaces as this may distort or degrade the sonar imagery. The figures below illustrate this principle...



**When attaching the transducer, bracket or cable to the boat, choose a location and fixing such that the watertight nature of the hull is not compromised! If in doubt, please contact the manufacturer of your vessel.**



**If using an outboard motor to propel and steer your boat, ensure that the propeller does not touch the transducer when the steering is at its extremities.**



Try and keep a minimum distance of 400mm between the transducer and propeller to minimise mechanical interference (noise).



If it is not possible to mount the transducer in front of the propeller, efforts should instead be made to mount the transducer lower than it, such that its turbulence does not obstruct the acoustic beams.



Avoid mounting the transducer behind features on the hull of your vessel (such as rivets, strakes or steps) that may introduce cavitation or turbulence into the water.



When routing the transducer cable...

- Try to avoid running it parallel and in close proximity to other high-current cables, radio antenna cables or anything else that may be a source of electrical interference.
- Do not bend the cable to a radius less than 30mm as this may shorten its life.
- Do not use a fixing method that may cut, damage or excessively crush the cable.

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## START SCANNING

Once you've connected and set-up the sonar as described in the previous sections, you're ready to start towing the sonar and begin collecting data.



Operating the sonar is relatively straightforward, but there are a few guidelines and precautions you should observe to achieve the best results...

- For the best image results, ensure the mounting of the transducer meets all the recommendations in the user guide.
- Keep the boat speed constant, and ideally between 1 and 4 knots for the best results. At slower speeds more display lines will be acquired for smaller targets (giving a higher resolution image).
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- Be aware of hazards to navigation and the sonar transducer. The sonar transducer head will only show you the depth of the seabed below it, not from the surface, and not in front of it. So, if you are scanning in close proximity to the seabed, you should be keeping a close eye on the sonar display.
- If in doubt of the underwater terrain or possible hazards, always assume the worst case, and give plenty of clearance between the sonar transducer and the seabed.
- As your StarFish is operating close to the surface, its imagery may be distorted by the motion of the boat due to waves and surface chop on the water, or it may receive reflections from these at longer ranges. Consequently, your StarFish will not perform well in rough stormy conditions.



**You should not rely on the sonar as a navigational aid for your vessel, or for avoiding shallows, submerged or mid-water hazards.**