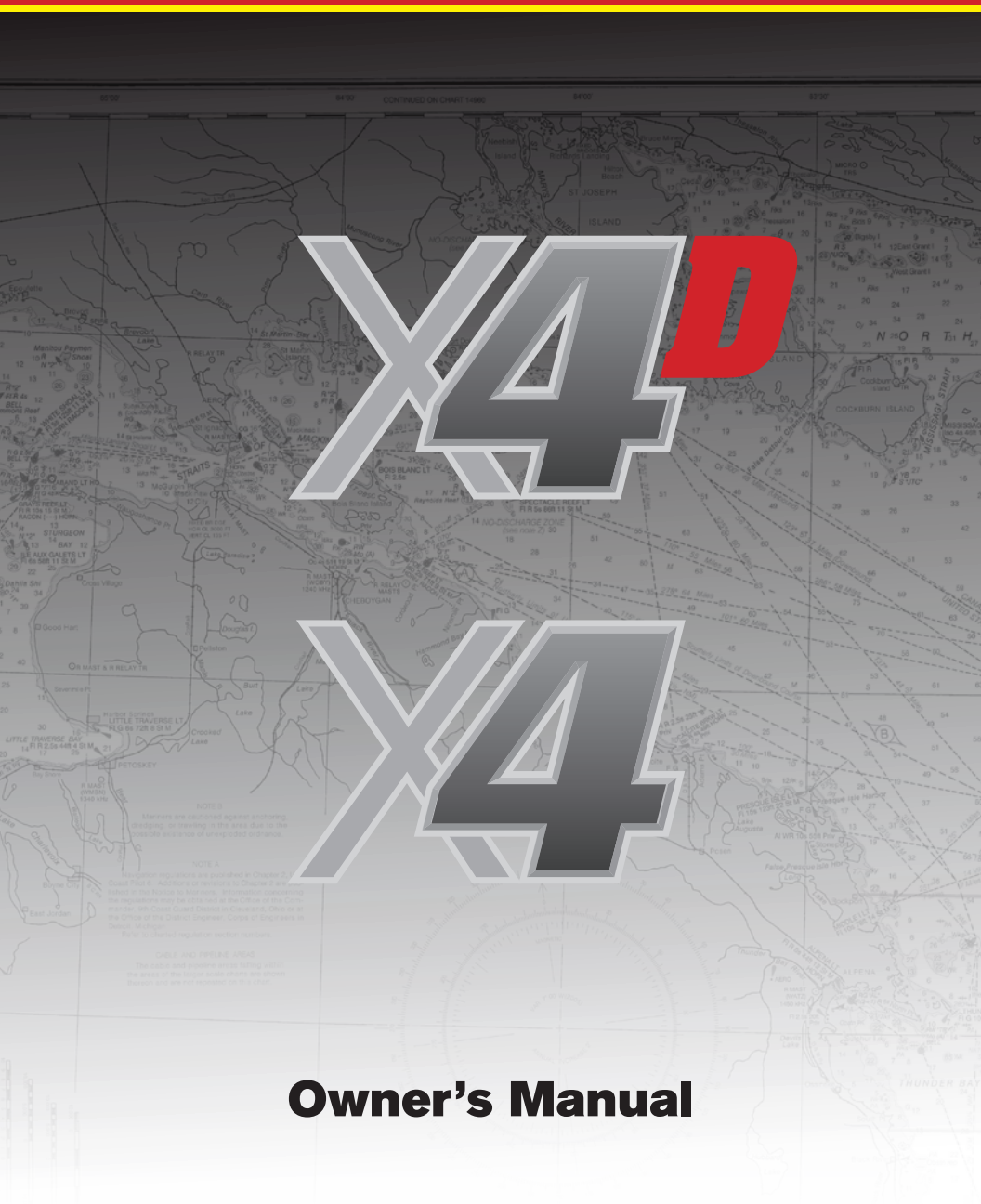
Fish Hawk™
ELECTRONICS



X4D

X4

Owner's Manual

Fish Hawk™
ELECTRONICS

Thank you for your purchase. For over 30 years anglers have relied on Fish Hawk Electronics to give them accurate speed and water temperature information to help them catch more fish. As a family owned and operated small business, we enjoy working personally with each of our customers.

If you like our products and customer service, please tell your fishing friends about us and take a moment to write a review or visit us at facebook.com/Fish-HawkElectronics.

If you have any questions about your Fish Hawk, please contact us. Thank you again, and have a safe and enjoyable fishing season

Sincerely,

Trevor Sumption

Trevor Sumption
President, Grayden Outdoor, LLC.

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The Search for the Right Water Temperature

Every body of water has temperature changes from the top to the bottom. There are layers of water where the temperature will be significantly different. These are differences referred to as "temperature breaks" or the "thermocline." Often fish will travel along the thermocline or temperature break, and finding these areas is key to finding fish

Each species of fish lives in a preferred water temperature range. The chart below shows the preferred water temperature range for the most popular freshwater game fish and baitfish species in Fa enheit.

Preferred Water Temperature Ranges (shown in Fahrenheit)			
Species	**Lower Limit**	**Optimum**	**Upper Limit**
Brown Trout	44	52	75
Chinook Salmon	40	44	60
Coho Salmon	44	54	60
Crappie	60	70	75
Kokanee		52	
Lake Trout	40	42	55
Largemouth Bass	50	70	80
Atlantic Salmon	45	50	60
Rainbow Trout	44	54	63
Smallmouth Bass	50	65	73
Steelhead	42	45	62
Walleye	50	67	76
Alewife	48	54	72
Cisco		53	
Emerald Shiner		61	
Gizzard Shad		69	
Rainbow Smelt	43	50	57
Spottail Shiner		54	

Fish suspend in the water column by water temperature. Using your Fish Hawk will allow you to find them. With the Fish Hawk you can create a temperature profile of the water column by lowering the probe close to the bottom and observing the water temperature as you slowly raise the probe to the surface. This will allow you to find the correct water temperature for the species you are targeting.

Fish Hawk X4/X4D Components

The Fish Hawk can be purchased as a complete system or as an Upgrade Kit for previous models. Replacement Probes are available separately if needed. Depending on which configuration you have purchased, your package will include the following:

Fish Hawk System

- Transducer with 30' cable
- Transducer mounting kit
- LCD display
- Power cord for LCD display
- LCD display stand
- Fish Hawk Probe
- Breakaway cannonball wire safety lead
- Protective rubber probe bumper
- This Owner's Manual

Fish Hawk Upgrade Kit

- LCD display
- LCD display stand
- Fish Hawk Probe
- Breakaway cannonball wire safety lead
- Protective rubber probe bumper
- This Owner's Manual

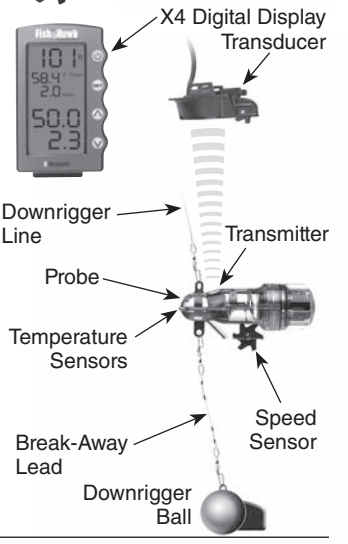
Fish Hawk Probe

- Fish Hawk Probe
- Breakaway cannonball wire safety lead
- Protective rubber probe bumper
- This Owner's Manual

How the Fish Hawk Operates

The Fish Hawk Probe is fastened to the downrigger cable just above the downrigger ball and has sensors that constantly monitor water temperature and speed as it travels through the water. The probe sends a sonar signal with that information to the Transducer mounted on the back of the boat. The Transducer, which is hooked up to the LCD display, sends the data from the Probe and the water's surface to the liquid crystal display (LCD) mounted in the boat.

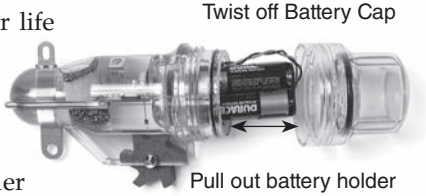
As the water temperature, speed or depth (model X4D only) changes, the LCD updates to reflect the new information. To compensate for wave action, speed is calculated over a 20-second period. The probe operates at depths from 1 to 300 feet.



The Fish Hawk Probe

Installing the Batteries

The Probe is powered by four AA Alkaline batteries (not included.) Do not use Heavy Duty or rechargeable batteries. Fresh Alkaline batteries will provide 100+ hours of in-the-water life depending on water temperature. To install the batteries:



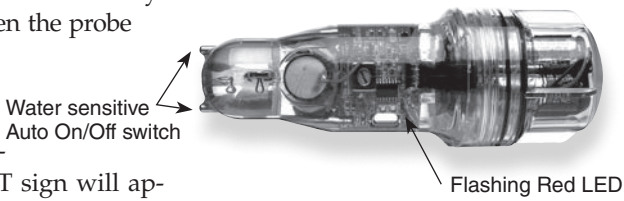
Unscrew the probe's battery cap. Carefully pull the battery holder out of the probe. Place the four batteries into the battery holder matching the appropriate +/- terminals. *Please note: pay special attention to the polarity of the batteries because the probe will function if only three of four batteries are correctly installed, but the readings provided may be inaccurate.*

Place the battery holder back into the probe with the battery wires facing the rear of the probe. The wires are designed to be longer to make replacing batteries easier. *Please note: if the battery holder is replaced with the wires facing the front of the probe the slack wire can get caught in the threads of the cap, damaging the battery wires. While this easily repaired it may cause you to lose fishing time with the p obe.*

Turn the battery cap back onto the probe and hand-tighten snug. *Do not overtighten.* The battery cap has a double O-ring design that does not need to be overly tight to keep water out of the battery compartment. Keep the O-rings clean and lightly lubricated.

Turning the Probe On and Off

The Fish Hawk Probe features a water sensitive auto on/off switch that turns the probe on when it is lowered into the water and shuts the probe off when it is removed from the water, conserving battery life. To test the probe, simply wet your fingers and place them across the two activated metal temperature sensors coming out of the front of the probe. A red LED inside the body of the probe will flash when the probe is on.



Low Battery Warning

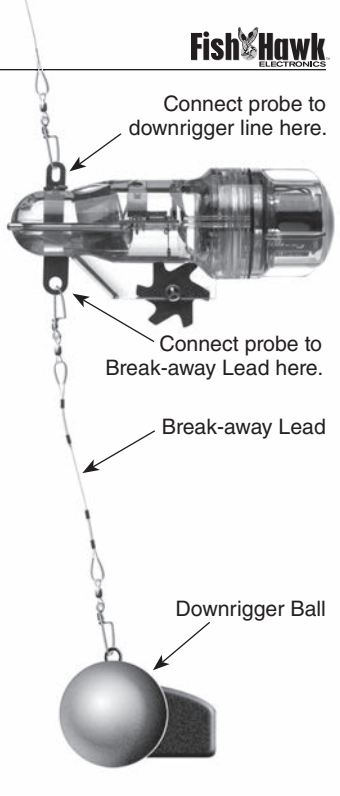
When the probe's batteries are low a LOW BAT sign will appear in the center of the LCD display. When the LOW BAT sign is present and the probe readings appear as dashes it is time to change the batteries in the probe.

Attaching the Probe to the Downrigger Cable

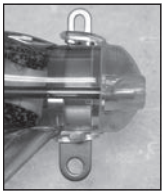
Terminate your downrigger cable following your downrigger manufacturer's instructions. Prior to attaching the probe it is a good idea to inspect the downrigger cable for and kinks or frays that might weaken the downrigger cable which could cause you to lose your valuable Fish Hawk Probe. Attach using a high quality snap run through the stamped stainless steel loop on top of the Fish Hawk Probe.

Attaching the Downrigger Ball

Included in the box is a break-away wire lead that goes between the Probe and the downrigger ball. Attach one end of this lead to the stamped stainless steel loop on the bottom of the Fish Hawk Probe and the other end to the downrigger ball. The break-away lead is approximately 60lb test and is designed to break in the event you snag your downrigger weight on the bottom.



Probe "Bumper"



A clear silicone rubber bumper comes installed on the Fish Hawk Probe. The bumper provides additional protection for the thermistor tubes against accidental damage. For storage, remove the Probe Bumper, insuring that trapped moisture does not turn the probe on when not in use.

Note

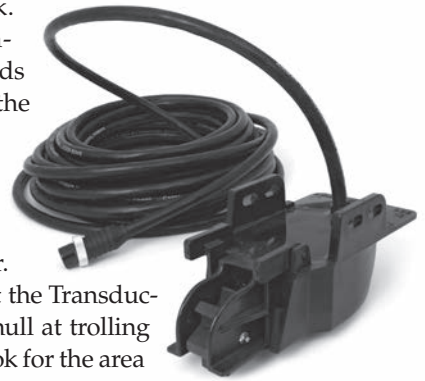
The X4/X4D probe is very durable, but denting the temperature sensor probes will cause your probe to read 03.9 or 04.0. Remove the probe from the downrigger cable and store in a protected place when not in use.

Selecting the Proper Weight Downrigger Ball

Although it is minimized, water resistance from the Probe will cause some additional drag on the downrigger line. If you consider the sway in the downrigger line to be too much, a heavier downrigger ball can be used (i.e. switching from a 10 pound ball to a 12 pound ball.)

Installing the Transducer

Properly installing the Transducer on the back of your boat is key to getting the best performance from your new Fish Hawk. Properly located, the Transducer will be completely immersed in the water at trolling speeds and will ride nearly flush with the bottom of the hull at planning speeds.



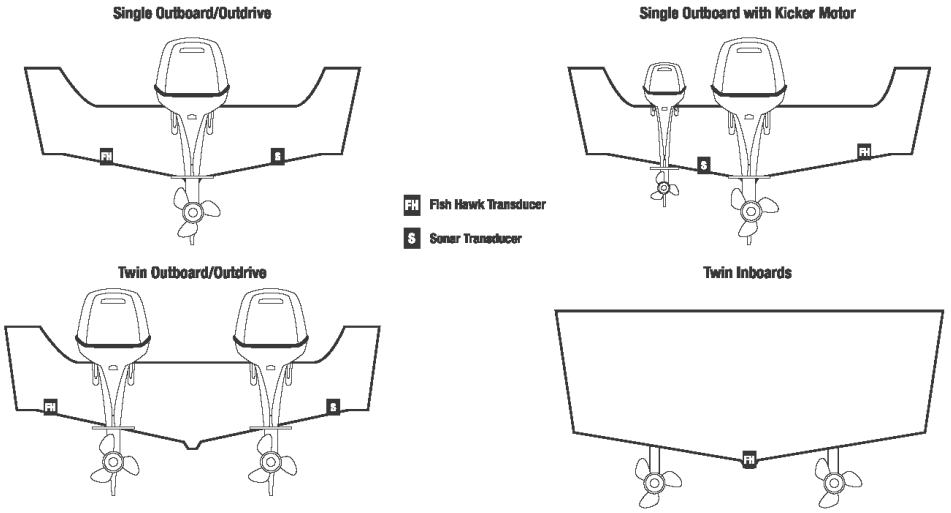
Selecting a Location for the Transducer

The Transducer should be located in an area not affected by turbulence from the hull or motor. To locate the best place on the transom to mount the Transducer, observe the water flow out from under the hull at trolling speeds and while on plane. At trolling speeds look for the area

that has the least amount of prop or back wash. At planning speed look for the area with the least amount of turbulence or bubbles. This will be the best place to mount the Transducer.

Mount the Fish Hawk Transducer as far away as possible from other transducers that operate within 20 kHz of the 70 kHz Fish Hawk Transducer. When possible, mount your Fish Hawk Transducer on the opposite side of the boat from other transducers. The Transducer has a wide angle of 77-degrees that permits the signal to be received near the surface while increasing reception the deeper the probe goes.

Typical Transducer Locations



More Transducer Mounting Tips:

• Most often the Fish Hawk Transducer should be mounted using the same criteria as most fish finders

• DO NOT cut the Transducer cable. If the cable is too long simply coil the excess out of the way. Ten foot cable extensions are available for sale on-line from Fish Hawk Electronics if a longer cable is needed.

• When possible run the Transducer cable through its own hole through the transom above the waterline.

• Watch the Transducer installation video found on the Fish Hawk Website by clicking on “Videos” in the “About” dropdown menu.

• We install marine grade plastic transducer mounting boards on the back of our boats because they allow us to change the position of transducers without drilling new holes in the transom.

Sonar Interference

Sonar interference is caused when similar sonar frequencies are used in close proximity to one another. The Fish Hawk uses a 70 kHz frequency while most fis finders operate around 200 KHz, meaning the Fish Hawk will not interfere with most fish finders. Some dual frequency finders use a 50 or 83 kHz frequency that can interfere with the Fish Hawk at high gain settings if the transducers are mounted too close together on the transom. You can opt not to use the 50 or 83 kHz frequency in your fish finde 's settings if it causes a problem, or relocate the Transducer on the transom. Fish finders that have a user adjustable pulse width setting can be set to less than 800 microseconds if they cause interference. Lowering the gain will help the Fish Hawk minimize interference but may reduce the usable depth range.

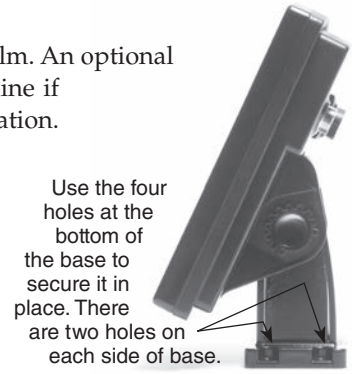
The Fish Hawk LCD Display

Installing the Display

Place the display in a visible location on the helm. An optional foul weather cover is available for purchase on-line if you plan on leaving the display in an exposed location.

You can flush mount the display into your boat's console by cutting a 3 1⁄2" wide x 6 1⁄8" tall hole in the dash and using a silicone sealant to secure the display in place.

The display requires that two connections be made; the power cord and the Transducer. Additional wire can added to the power cable if you follow the proper polarity (+/-.) The display is protected by an in-line 1 amp fuse. As with most radio or sonar devices, we recommend wiring the display directly to a 12-volt battery. Connecting to a fuse block can result in unwanted electrical noise that can interfere with the Fish Hawk.

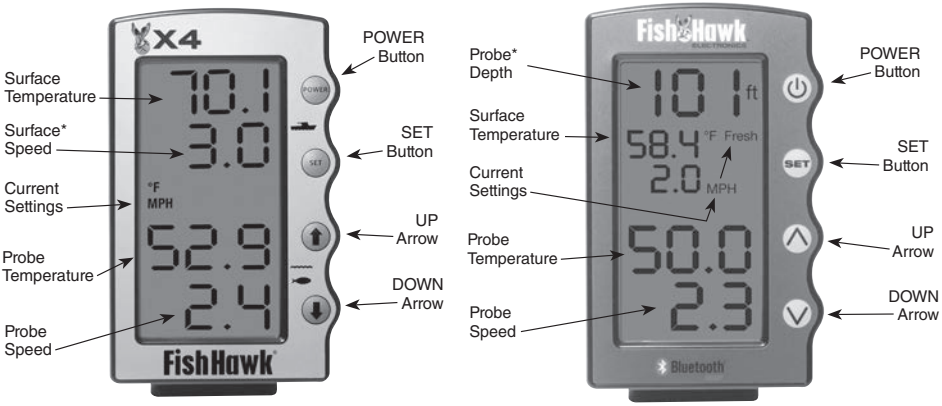


Adjusting the Angle of the Display

You can remove, or adjust the angle of the LCD display by pressing the tabs at the top of the mounting base.

Using the Fish Hawk Display

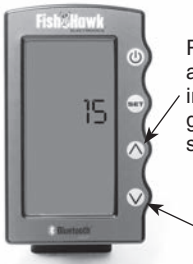
The Fish Hawk Display is divided into a top and bottom section. The top half of the display shows water temperature and boat speed at the surface, and the bottom half of the display shows water temperature and speed at the probe. Actual Probe depth is displayed as the top number on the model X4D. If the probe signal is not detected, dashes will appear for both the probe temperature and speed. To indicate that the probe is functioning correctly, every time a new signal is received the decimal points in the probe readings will flash



The POWER button turns the display on and off. The display draws 35 mA when on and .3 mA when off. The display is equipped with a backlight for low-light conditions. Enable the backlight by pressing the UP arrow or turn the backlight off by pressing the DOWN arrow. The model X4D has three levels of backlighting.

The display has four screen settings. To access each setting press the SET button, each time the SET button is pressed, the display will move to the next setting.

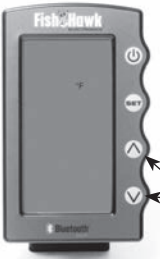
- Screen #1 allows you to set the gain (sensitivity) with a range of 0-25, the default is 15. Use the UP and DOWN arrows to adjust.
- Screen #2 allows you to set the temperature unit of measure to Fahrenheit or Celsius, the default is Fahrenheit. Use the UP and DOWN arrows to adjust.
- Screen #3 allows you to set the speed unit of measure to MPH, KNOTS, or KPH, the default is MPH. Use the UP and DOWN arrows to adjust.
- Screen #4 allows you to calibrate the sensor readings, + or – 5 degrees F on the temperature, and up to two-times adjustment for the speed. Use the UP and DOWN arrows to adjust. You can exit these screens by pressing the POWER button at any time. All changes are saved at that point.



Current gain setting being displayed.

Setting the Gain–Screen #1

The gain is also referred to as sensitivity, and ranges from 0 to 25. The factory default setting of 15 usually provides excellent results. The gain control only has an effect on the probe function. Most of the time no or only small adjustments are necessary. Increasing the gain allows probe readings to be received from greater depths. Lower gain settings reduce the possibility of other sonar or electrical interference, and also may be necessary in shallow water



Setting the Temperature Unit of Measure–Screen #2

This screen allows you to select which temperature unit of measure is displayed on the screen. The Fish Hawk will display temperatures ranging from 32 degrees to 104 degrees Fahrenheit.

Press UP or DOWN arrow to toggle between °F and °C.

Current temperature configuration.

Setting the Speed Unit of Measure–Screen #3

This screen allows you to select the unit of measure for speed. The surface and probe speeds will automatically be in the same unit of measure. The Fish Hawk will display speeds from .4 MPH to 11 MPH at the probe and from .4MPH to planning speeds at the surface.

Press UP or DOWN arrows to toggle between the MPH – KNOTS – KPH settings.

Current speed configuration.

The reading will flash when selected.

Press the SET button to select the next item to calibrate.

Calibration Indicator.

Press UP or DOWN arrows to define the setting that is flashing.

Calibrating the Sensors–Screen #4

While not necessary, you have the ability to calibrate speed if desired. Remember that due to differences in transducer mounting, no two boats will read speed exactly the same. Calibration is best done when water conditions are calm. Lower the Probe 5-feet under the transducer and compare the surface speed to the Probe speed. Press the SET button until the speed reading flashes for the sensor you want to adjust. Once that speed reading flashes, press the UP or DOWN arrow to adjust. Once you've adjusted the speed readings to match each other, press the POWER button once to save your changes.

Factory setting values are denoted for each sensor by a missing decimal point. If you wish to go back to the factory settings press the UP or DOWN arrow until the reading flashes without a decimal point. The factory default value is always in the middle of the adjustment range. When the reading flashes without a decimal point, press the POWER button once and the factory default will be restored.

Using the Fish Hawk Mobile App

The Fish Hawk model X4D features built in Bluetooth® Smart wireless technology that sends display data to mobile devices. Download the free Fish Hawk Electronics Mobile App from the App Store (for Apple® devices with iOS 8 or newer) or Google Play (for Android® devices.)

Once downloaded, the Fish Hawk Electronics App will allow you to use your mobile device as an auxiliary display anywhere in the boat.

The App's Catch Log feature allows you to save the details of every catch, in-

cluding: the species and size of fish caught, Probe depth, Probe temperature, Probe speed, time, GPS coordinates (optional,) and notes (lure info, weather conditions, etc…) The Catch Log is organized by date, and you can easily share logged catch information with fishing buddies in other boats via text message or email

Routine Maintenance

Your Fish Hawk requires simple maintenance to keep it working properly. Use the following schedule to keep your Fish Hawk in top working order:

Item	Check	Action	Interval
Liquid Crystal Display	Check for dirt and water spots on the screen.	Clean with soft cloth.	Daily
Transducer	Check for marine growth or deposits on the face.	Clean with a soft bristle brush.	Weekly
Downrigger Cable	Check for kinks for fraying.	Replace cable.	Daily
Probe Batteries	Check for power.	Replace if LED is not flashing inside the probe or if LO BAT appears on the display.	Daily
Probe O-Rings	Check for dirt and lubrication.	Clean and apply a light coating of silicone lubricant if dry. Do not over-lubricate.	Weekly
Break-away Cable	Check for kinks or fraying.	Order replacement cable if bad.	Daily
Probe	Check for condensation in battery cap	Loosen battery cap at the end of each day	Daily

Trouble Shooting

Please refer to the following table to help you identify and correct some of the more common troubleshooting scenarios we encounter.

Problem	Possible Cause	Solution
Display won't turn on	The 1-amp in-line fuse is broken	Replace the 1-amp fuse found near the end of the power cord
No probe data appears on the display	The probe is out of the water	The probe is only on when in the water
	The batteries in the probe are dead	Replace with fresh alkaline AA batteries
	The transducer is not placed correctly on the transom	Locate the transducer in a spot on the transom where bubbles are minimized. Do not locate the transducer near a kicker motor. Make sure the transducer face is level with the water's
	The Gain adjustment is set too low	Press the SET button on the display. The default setting is 15, use the arrow up key to increase the gain. The Gain may need to be set higher in water deeper than 150' or with cannon balls
	The probe is too close to the boat	The probe needs to be at least 5-feet under the transducer

Problem	Possible Cause	Solution
The probe temperature on the display reads 3.8 - 4.0	The thermistor tubes on the probe have been damaged	To prevent this from ever happening, remove the probe from the downrigger cable when not in use, or secure the probe tightly to the downrigger with a bungee. Unfortunately there is no way to repair the damage, the probe must be replaced.
Probe numbers on the display are erratic	Sonar interference from a 50 or 83 KHz transducer located next to the Fish Hawk transducer (70 KHz) on the transom.	The fastest way to eliminate this is to turn off the 50 KHz or 83 KHz beam on your fish finder ad You can also try reducing the Gain setting on the Fish Hawk display by pressing the SET button and then the arrow down key, or separating transducer cables if tied together. The permanent solution is relocating the transducer away from other 50 or 83 KHz transducers on the transom.
Surface and probe numbers on the display are erratic	Electrical interference from the boat	Run the Fish Hawk display power cord directly to the boat battery and not through a fuse panel
The Fish Hawk display turns on or off when you start the engine.	There is an open ground in the power system	Replace the standard spark plugs with resistor value spark plugs

Warranty

The Fish Hawk has one-year warranty from the date of purchase that covers all defects in materials and workmanship for the original owner. Grayden Outdoor LLC will at its sole discretion repair or replace components that fail during normal use. Failures due to abuse, neglect, or loss are not covered under this warranty.

Service

"HELP, I can't fish without my Fish Hawk!" Many customers tell us that their Fish Hawk is so important to their fish catching success that they won't fish without it. Fishing season is too short and we want you to maximize every trip out – which means keeping your Fish Hawk in the water. That's why we make getting service easy, to get you back on the water as quickly possible. If you have a question we'll return your call or e-mail the same day (Monday through Friday 8a.m. -4:30p.m. CST.)

Warranty Repairs

If your Fish Hawk product was purchased within one-year, please contact us and we'll arrange to repair or replace the product at no cost to you. Please have a copy of your sales receipt, or credit card statement, or cancelled check available.

Out of Warranty Repairs

If your product is outside of the one-year warranty, you can send it to us right away without contacting us and we'll fix it for a flat rate (see chart below.) Please ship the product back to us along with a note describing the problem, your return shipping address, phone number, and payment for the repair, plus $10 for return

shipping. We recommend sticking your address label on each part you ship back to us. Payment may be made by check or credit card. If you choose to include your credit card information, please provide the expiration date and security code.

Flat Rate Charge Repair Time*

Model	Flat Rate Charge	Repair Time*
X4D Probe	$200	up to 3 working days
X4D LCD	$240	up to 3 working days
X4 Probe	$165	up to 3 working days
X4 LCD	$200	up to 3 working days

*Repair time does not include inbound or outbound transit times

SERVICE TIPS

Here are some other tips that make the repair process more hassle free:

• Ship your product back via Fed Ex, UPS, or Priority Mail so you get a tracking number.

• Very seldom is the Transducer the problem – contact us prior to removing the Transducer from the boat.

• Visit our website, www.fishhawkelect onics.com to view trouble shooting videos and FAQ, it may save you time and money.

• Attach an address label to each piece you send to us

Contact Information:

Grayden Outdoor, LLC.
Phone (218) 454-4760
Fax (218) 824-1422
www.fishhawkelect onics.com

Return Shipping Address:

Grayden Outdoor, LLC.
Attn: Fish Hawk Service
7845 Brians Way
Brainerd, MN 56401

Fish Hawk ELECTRONICS

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