THE PROFISH II SONAR • PLOTTER

Welcome

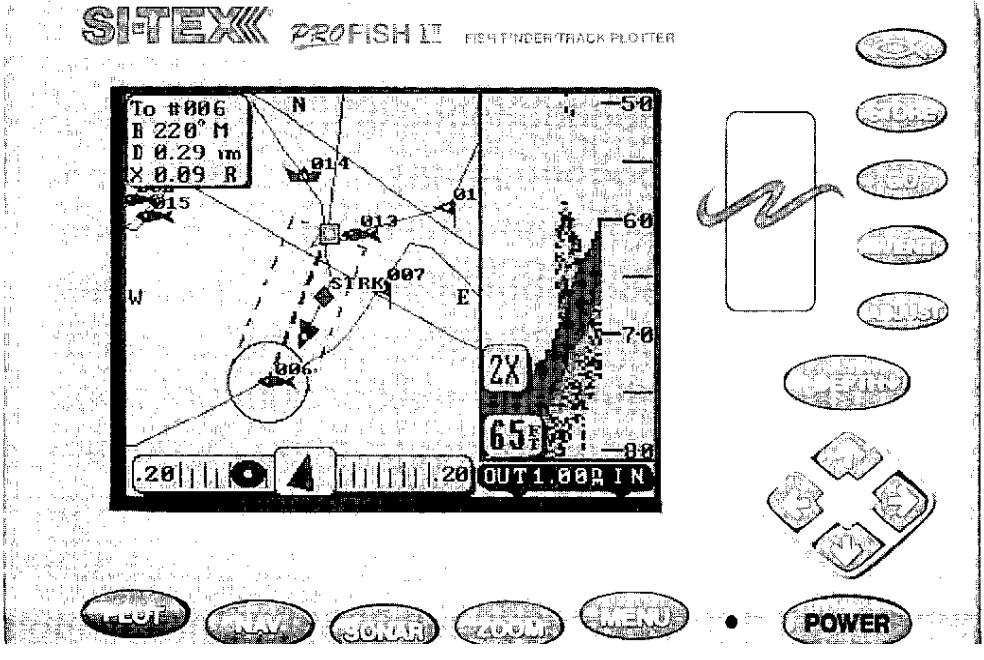
Welcome to the SI-TEX *PRO*FISH II. You have selected the most advanced and easiest to use Sonar and Plotter combination ever offered to mariners. Whether you are a novice or a professional, your PROFISH II gives you the tools to find the fish and when supported by a GPS or Loran, it will guide you to them. Your *PRO*FISH II is one more example of SI-TEX's continuing commitment to producing accurate and user friendly products for both pleasure and commercial boating.

CAUTION

The *PRO*FISH II Sonar and Plotter employs the latest in proven technology to provide accurate navigation information. The Plotter functions of the *PRO*FISH II are totally dependent upon the capability of the navigation source, GPS or Loran C, to provide accurate position information. This device is only an aid to navigation. It should be used in conjunction with all other navigation sources such as charts, manual soundings and visual sightings to cross check navigation accuracy. For safety, always resolve any uncertainty before continuing navigation.

Power Warning

During installation, be sure to use a fused power block with a 2 Amp fuse. If not available, install a 2 Amp in-line fuse holder.



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Introduction

The latest developments in color LCD display technology, microprocessor control and sonar technology have been combined to give you a powerful fish hunting instrument. Your *PRO*FISH II Sonar and Plotter has a full color sunlight readable display, dual beamwidth 300 Watt rms (2400 W p-p) Sonar transmitter for reading depths to 1,500 feet and simple push button operating controls. The Sonar and Plotter functions may be used independently or combined with just the press of a button, however digital depth is always displayed so you know where the bottom is. The Plotter uses information from any NMEA 0183 compatible GPS or Loran to provide a pictorial view of your vessel's position and the location of favorite fishing spots. The unit is enclosed in a rugged watertight die cast aluminum case with built in provisions for three mounting options. Several different optional transducer styles with temperature and speed sensors are available to suit your needs.

To get the most from your *PRO*FISH II , it is important to take the time to read through this manual and understand its operating features.

Although many features may be familiar to experienced users, your *PRO*FISH II goes beyond every-day fish-finders and sets new limits for flexibility and convenience.

Standard Equipment

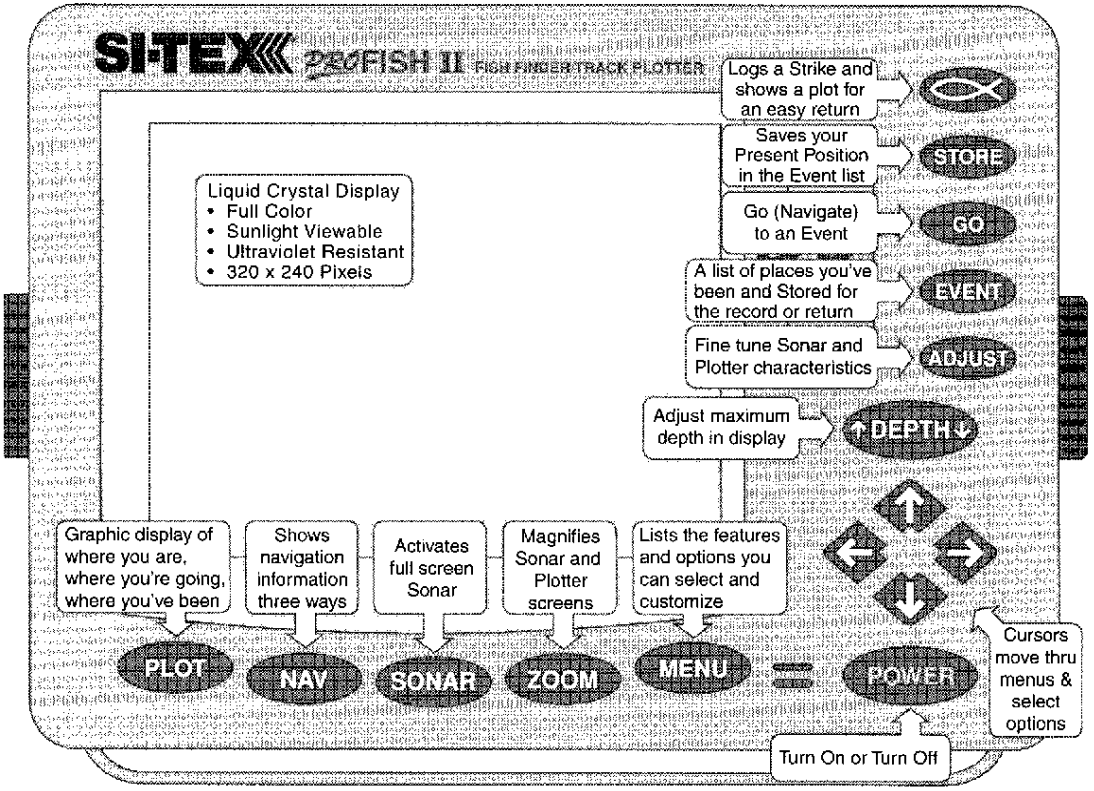
- *PRO*FISH II Display Unit
- Data Cable - 6 pin connector, 1 meter long
- Power Cable - 2 pin connector, 2 meters long
- Manual (SI-TEX warranty certificate is located at the end of this manual)
- Standard Trunnion and Knobs
- Connector Cover Rubber Caps
- Panel Mount Kit (stick-on gasket/template and hardware)
- Dual Beam Transom Mount Transducer with Speed and Temperature, 8 pin connector, 9 meters long cable

Optional Equipment

- Swivel Mounting Kit
- Bronze Through-hull Transducer:
  - 120 kHz, Depth only, Single Beam
  - 120 kHz, Depth, Temp, Single Beam
  - 120 kHz, Depth, Temp, Speed, Single Beam (Double Stem)

connected to a 12 Vdc voltage source. Refer to Power Connection in the Installation Section.

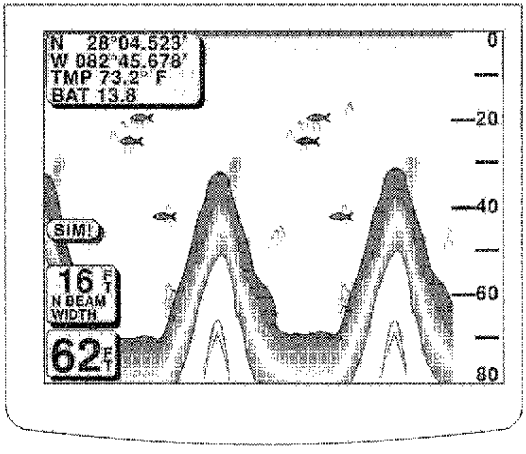
Please review the following illustration for the locations and uses of function keys. The keys below the display are used to select one of *PRO*FISH II's basic functions. The keys along the right hand side of the display are used to make adjustments to customize the displayed function.



***PRO*FISH II FRONT PANEL FEATURES**

POWER ON. Press the POWER key.

After a brief Self Test screen, the main Sonar screen appears in the display. Any time the *PRO*FISH II is turned On, the main Sonar screen is the wake up screen.



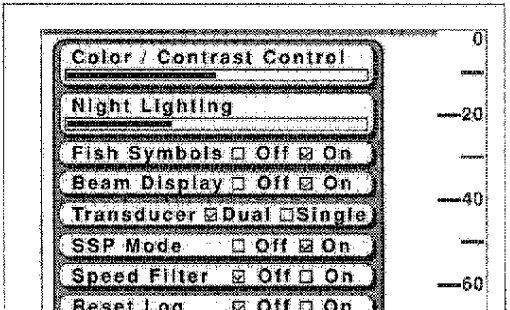
***PRO*FISH II MAIN SONAR SCREEN**

If you do not want to continue at this time, you may turn Off your *PRO*FISH II. If you are ready to move on, note the power Off sequence for future use and go to Simulator.

POWER OFF. Press and hold the POWER key for about 3 seconds. The POWER OFF Icon appears in the display with a countdown timer and a fish swimming from right to left. When the fish symbol reaches the left side of the Icon, the unit turns OFF.

Simulator

The built in simulator allows you to become familiar with all operational features of your *PRO*FISH II without having your boat under way or having to connect a navigation receiver. The Simulator is preprogrammed with sea bottom and fish echoes for Sonar simulation and an Event library with seven Events for Plotter and Navigation functions. Events are also known as waypoints.



***PRO*FISH II MENU 1 SCREEN**

To turn the Simulator On, press the MENU key.

A menu list appears in the display in front of the Sonar screen.

Cursor Keys

Now is a good time to explain some things about using the cursor keys. These four keys, with an arrow on each one, are used to select items in menus and to change or adjust values for an active function. The keys have an easy to use wrap-around scrolling feature. When repeated presses or holding down of one key scrolls beyond the last item available in a list, the highlighted selection starts over again at the opposite end of the list. For example, the shortest way from the top of a list to the bottom is to press the ⇧ cursor key once.

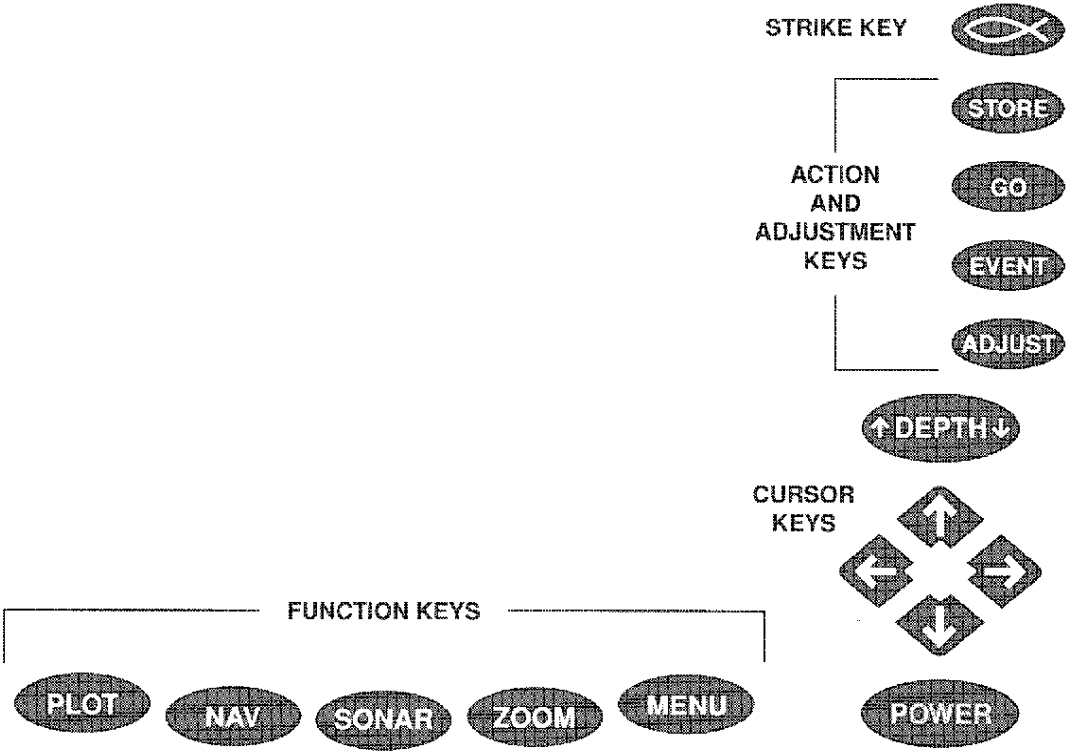
To continue with the task of turning the Simulator On:

Press the ⇧ cursor key or hold the ⇧ cursor key to highlight Simulator

Press and hold the ⇧ key to move the depth marker line onto the screen from the upper edge of the display. The marker line may be positioned deeper or shallower using the ⇩ or ⇧ cursor keys. Pressing a key momentarily moves the marker in small steps and holding it down moves it in larger steps. The marker line may be used to show the depth of a prominent feature or a school of fish. The depth setting for the marker line is shown at the right hand end of the line.

Function Keys

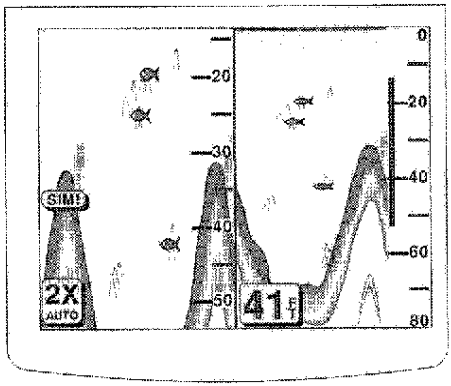
The keys across the bottom of the unit are Function keys. Function keys have a single purpose; to select the *PRO*FISH II operation you want to see in the display. Each key activates a specific function with just one key press. There are no hidden function keys. Some functions have more than one page which may be viewed by repeated presses of the same key. These keys scroll from page to page and then start over again at the beginning. Just follow the pop-up screen Icons to guide you through proper operation. Operation of the *PRO*FISH II is similar to your personal computer with windows and Icons presenting easy to read selections.



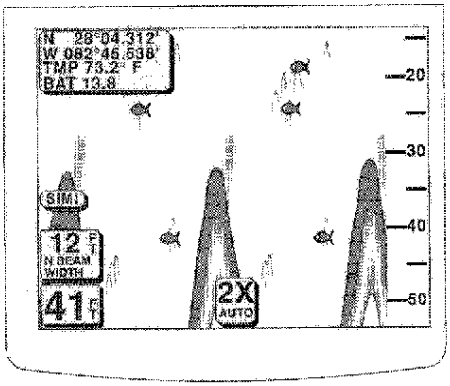
***PRO*FISH II KEYPAD**

ZOOM

The Zoom function magnifies the main Sonar screen in 4 wrap-around steps to show more detail. The resolution limit on any Sonar Zoom screen is 5 feet.

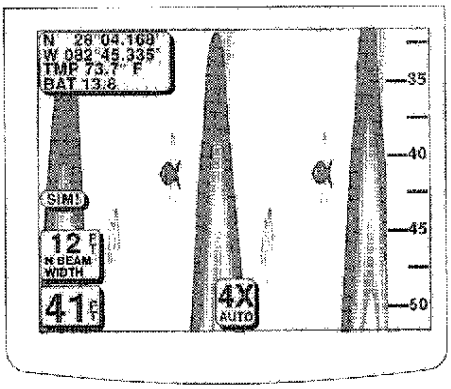


2X Split

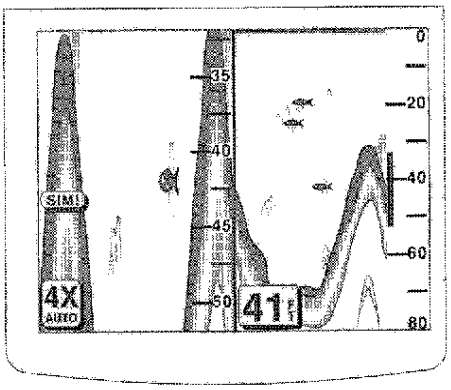


2X Full

***PRO*FISH II SONAR ZOOM SCREENS**



4X Full



4X Split

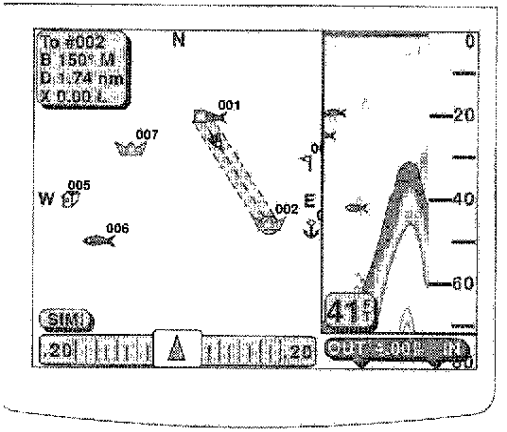
***PRO*FISH II SONAR ZOOM SCREENS**

Press the ZOOM key. Each time the key is pressed, the next screen appears in the display. When the last screen is reached, the next press of the key brings back the first screen in the sequence.

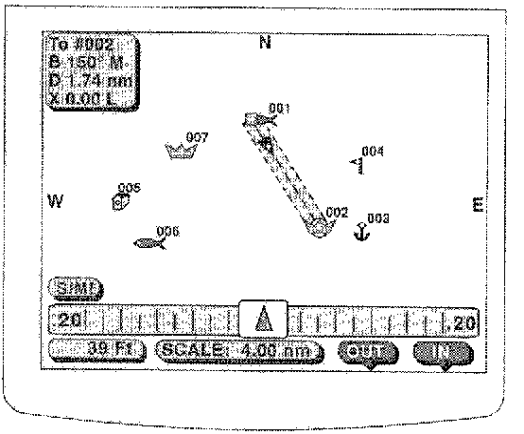
The Zoom function works with the Sonar, Plotter, Nav and Strike functions. However the behavior is slightly different with each function.

To return to the main Sonar screen, press the SONAR key.

Press the PLOT key. There are two plotter screens so each time the key is pressed the alternate screen appears.



Plotter 1



Plotter 2

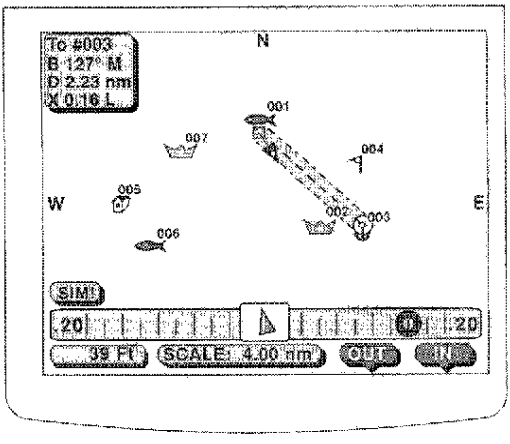
*PRO*FISH II PLOTTER SCREENS

The Plotter Simulator has seven Events stored in the Event library and shown on he Plotter screens. The vessel continuously travels a simulated path to each Event n sequence by event number. The first leg of travel is shown with a fairway and vith an arrival alarm circle around Event 002, the destination for the first leg. As he vessel approaches Event 002, an alarm sounds and an alarm Icon appears in the lisplay. ARRIVING AT EVENT #002 Any key to clear Press any key to silence the alarm. The vessel continues to 'vent 002 and will proceed toward the next Event. For practice, a different Event nay be selected or other Events may be edited. You may also press the STORE key to dd additional Events while traveling along the course. Changes made to the Event ibrary during a Simulator session are not retained when the Simulator or Power is urned Off.

To change the scale of the display, press the ZOOM key to zoom out and the MENU key to zoom in. The scale may be zoomed out to 256 nautical miles or oomed in to 1/8 nm. The scale is measured from the center of the display to either he top or bottom edge.

To change the destination Event, press the EVENT key. Use the ↓ or ↑ ursor keys to select a different Event and press the GO key. An arrival circle ppears around the new destination and a fairway appears from the vessel's 'resent Position to the destination. Although the vessel does not change directions, ne indications on the screen for bearing, distance, speed, cross-track error and eading accurately represent the navigation situation.

The following Plotter screen shows how the Steering Arrow and cross-track erro are displayed.



***PRO*FISH II PLOT FULL SCREEN**

To duplicate this display, turn th Simulator On and press the PLOT key Then press the EVENT key and selec Event 003. Press the GO key. Th Fairway is drawn from the vessel' Present Position to Event 003. Observ how the Steering Arrow and Cross-trac Deviation Indicator (CDI) Bowling Ba respond as the vessel proceeds along it programmed course. As the vesse travels from Event 001 to Events 002 003, 004 and on toward Event 005 a navigation indicators accurately repor the changing situation. Adjust the Scal In or Out to see more or less detail.

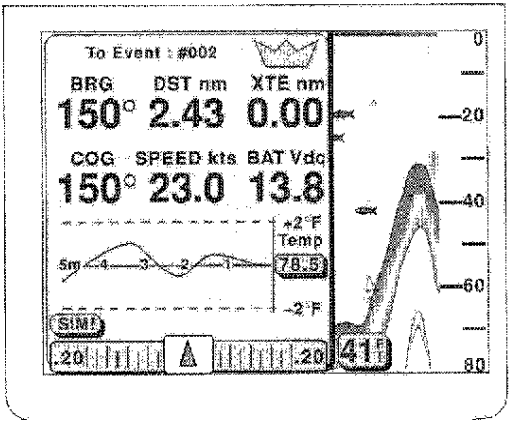
Special Note: On the sea, your job as Master of your vessel, is to keep the Steering Arrow pointing straight up and the Bowling Ball hidden under the Steering Arrow Icon.

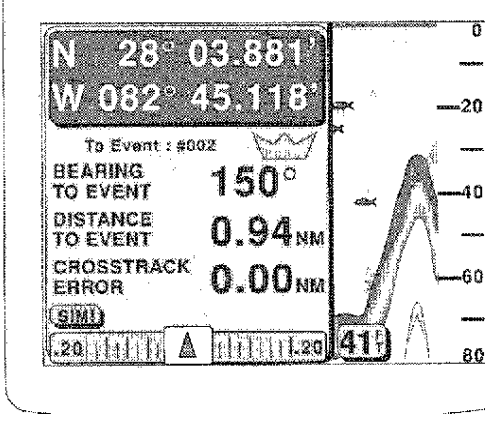
The Operation Section has more detailed instructions on Plotter operation.

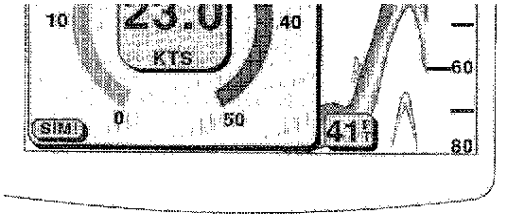
NAV

The Nav function presents navigation information in text format rather than th graphic form as seen in the Plotter screens. The Steering Arrow and Bowling Ball ar still present to easily guide you to your destination. The Nav screens share th display with Sonar. All of the normal Sonar features are supported.

Press the NAV key. There are three Nav screens so each time the key pressed the next screen appears in sequence.







distance traveled. The Log may be reset to zero on the Menu 1 screen.

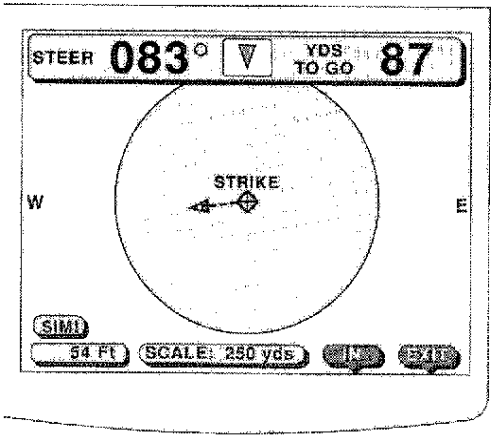
The Simulator produces changing speed and temperature for realism and your enjoyment.

The Operation Section has more detailed instructions on Nav operation.

***PRO*FISH II NAV 3 SCREEN**

TRIKE

The Strike function allows you to instantly mark a Strike. The Plotter is ıtomatically activated using the Strike coordinates as the destination and displays ɔur vessel's position relative to the Strike.



***PRO*FISH II STRIKE SCREEN**

To mark a Strike, press the key.

The Plotter draws a Fish Probability Zone 200 yards in diameter around the Strike. Initially, the Plotter Scale is 250 yards from the center to the top or bottom of the screen and changes to 500 yards as your vessel approaches any edge of the display.

Press the ZOOM key to manually switch between 250 yards or 500 yards scale.

Displayed at the top of the screen is the Steering Arrow and digital readouts indicating bearing and distance back to ıe important Strike location. The bottom of the screen displays the depth, map ıale, and Icons pointing to keys for Zoom and Exit. Steer your vessel to stay in the sh Probability Zone for the likelihood of more action.

When you press the MENU key to Exit, an Icon pops up to verify your Exit decision. Until you Exit the Strike function, all other functions are disabled.

This completes the Getting Started session for your *PRO*FISH II. Use the mulator to experiment and practice. You can't hurt anything by just pressing ıttons. More detailed information on all functions may be found in the Operation ·ction.

If not already completed, please proceed to the Installation Section.

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INSTALLATION

Transducer Installation

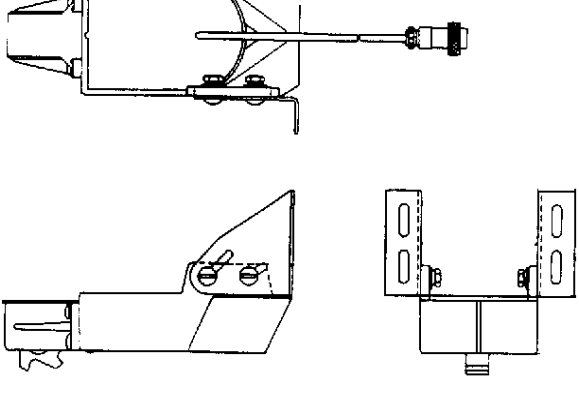
The installation of your *PRO*FISH II, though not difficult, does require som planning and skill to achieve the best results. It is strongly advised that you read th installation instructions completely before starting. Many different types c transducers may be used with the *PRO*FISH II. Refer to the Optional Equipment lis for the variations available. The *PRO*FISH II can accommodate dual bear transducers without the need for an external switch box.

CAUTION

Mounting the transducer for your *PRO*FISH II requires drilling holes into the hu of your boat which could affect its water integrity. Therefore, installation should b attempted only by qualified individuals. If you have any doubt about your ability t complete the process successfully, we recommend you obtain the services of a deale or marine service center with knowledge and experience in transducer installation.

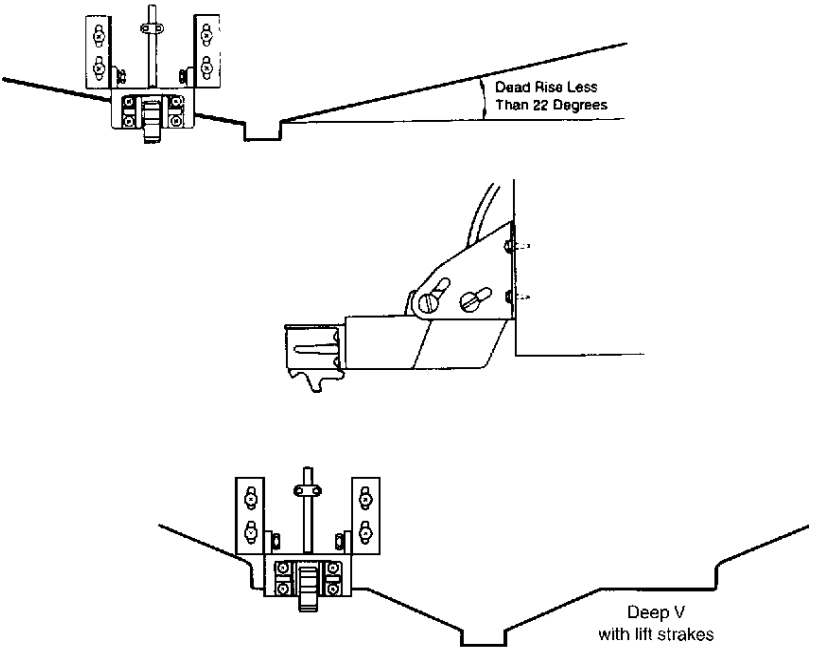
Since your *PRO*FISH II's Sonar performance depends upon how well th transducer is installed, please carefully observe the following mounting procedures.

For proper performance, the transducer's mounting location must be chose carefully. The transducer must be mounted in a location that is free from turbulenc and air bubbles created by movement of the boat through water. Air bubbles greatl reduce the efficiency of the transducer. It is also strongly recommended that th transducer be mounted in an area with the least amount of disturbed water passin under the transom. To determine the best mounting location, operate the boat a several different speeds and observe the water as it passes under the transom. Loo for turbulence caused by the trim tabs, motor mounting, the keel, and lifting strakes.



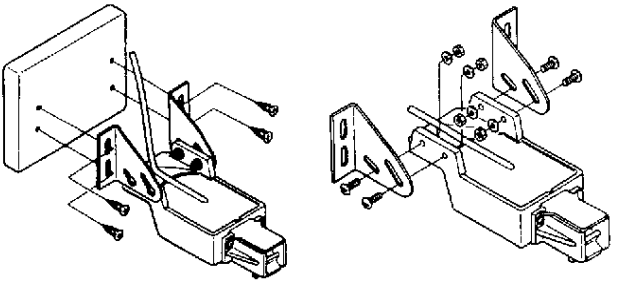
Transom Mount Transducer

ngine controls and other electrical cables. Do not route transducer cables near your HF radio power or antenna cables.



Transom Installations

Assemble the transducer, as shown below, using the brackets and hardware upplied. Actual fastening to the hull of your boat depends upon the hull onstruction and hull material. If additional items must be used, be sure to obtain arine stainless steel hardware. Also, be sure to use marine waterproof sealant on ll through hull fastenings. Do not use silicone RTV, since it does not have long life nderwater.



Transom Mount Transducer Assembly

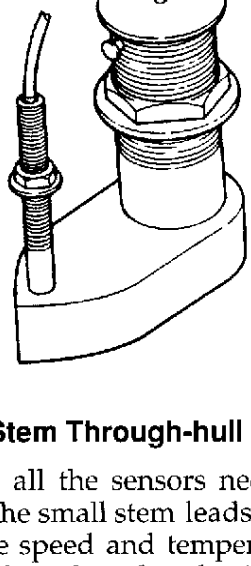
Transom Transducer Maintenance

If your boat is kept in the water, sea growth can quickly accumulate on the face of the transducer. In just two weeks in some locations, your *PRO*FISH II's performance could be affected. It is recommended that at least the face of the transducer be coated with special transducer anti-fouling paint. Alternatively, the entire transducer can be painted and is easier to keep clean. **Do not use regular anti-fouling paint.** All copper base anti-fouling paints are unsatisfactory and will prevent normal operation. If fouling does occur, use a stiff brush or putty knife to remove growth. Be careful not to gouge the face of the transducer. Occasional wet sanding of the transducer face is permissible with #220 grit or finer wet or dry paper. Use extra care when painting or cleaning transducers with speed sensor paddle-wheels.

Do not use solvents to clean your transducer. The high impact polycarbonate housing is very durable but solvents will destroy it. Keep acetone, MEK, lacquer thinner, and most other thinners/solvents away from your transducer.

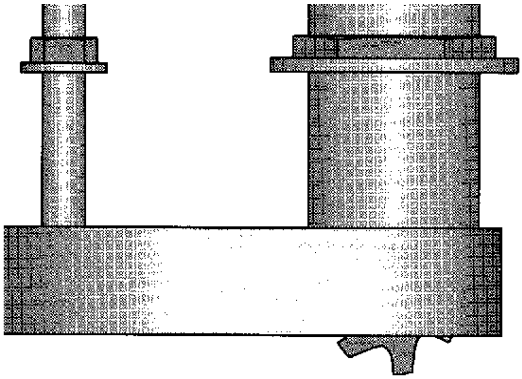
Through-hull Transducers

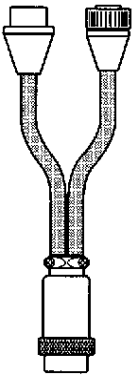
Through-hull transducers are recommended for in-boards and other vessels with disturbed water flow under the transom. SI-TEX offers several models of bronze through-hull transducers. To enjoy the full capability of your *PRO*FISH II, select a dual beam model with both temperature and speed sensors.



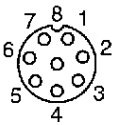
Double Stem Through-hull Transducer

The transducer shown has all the sensors necessary to support the advanced features of your *PRO*FISH II. The small stem leads to the dual beam sonar element and the large stem encloses the speed and temperature sensors. The speed sensor element may be easily removed, and replaced with a plug to prevent leakage, fo





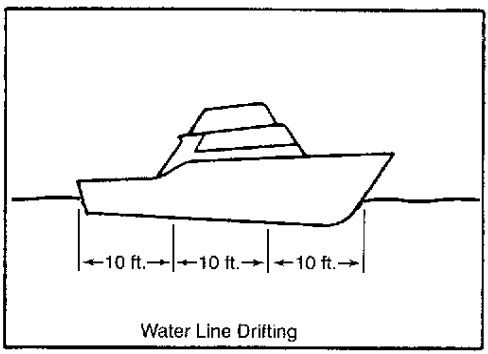
Brown	1	SPEED SIG.
Red	2	SPEED Vcc
Blue	3	TD1
Bare	4	SHIELD
Black	5	TD2
Green	6	TEMP Vcc
White	7	TEMP SIG.
Bare	8	SPEED GND



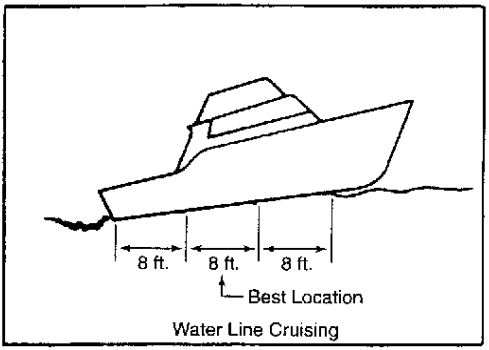
Transducer with Temperature and Speed

The transducer should be installed in a location free of bubbles and away from disturbed water flow. Smooth water flow around the transducer and along its surface are very important for consistent operation.

Areas in the center third of water line length at cruising speed are usually satisfactory.



Water Line Drifting



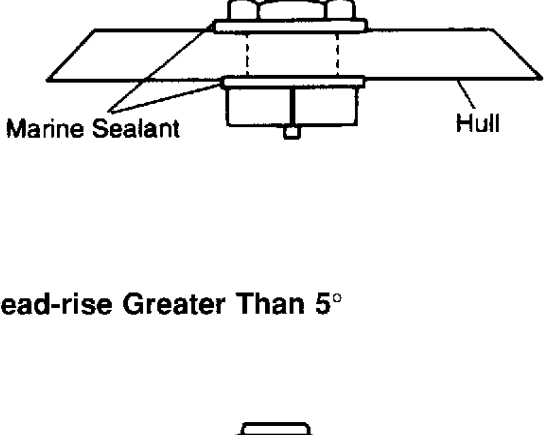
Water Line Cruising

Locations forward of the engine and in a flat area near the center line of the boat are preferred. Do not install the transducer behind water intakes, other through-hull fittings or irregularities in the hull.

Dead-rise

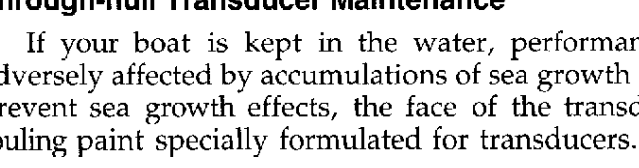
On hulls with dead-rise of 5° or less, the transducer may be mounted directl through the hull. Where dead-rise is greater than 5°, fairing blocks must be used t orient the face of the transducer parallel with the water surface.

Dead-rise Less Than 5°



In this case, no fairing bloc is necessary. To preven leakage, any gaps between th stem threads and holes drilled i the hull should be completel filled with waterproof marin sealant. Tighten the stem nut securely but do not over tighten.

Dead-rise Greater Than 5°



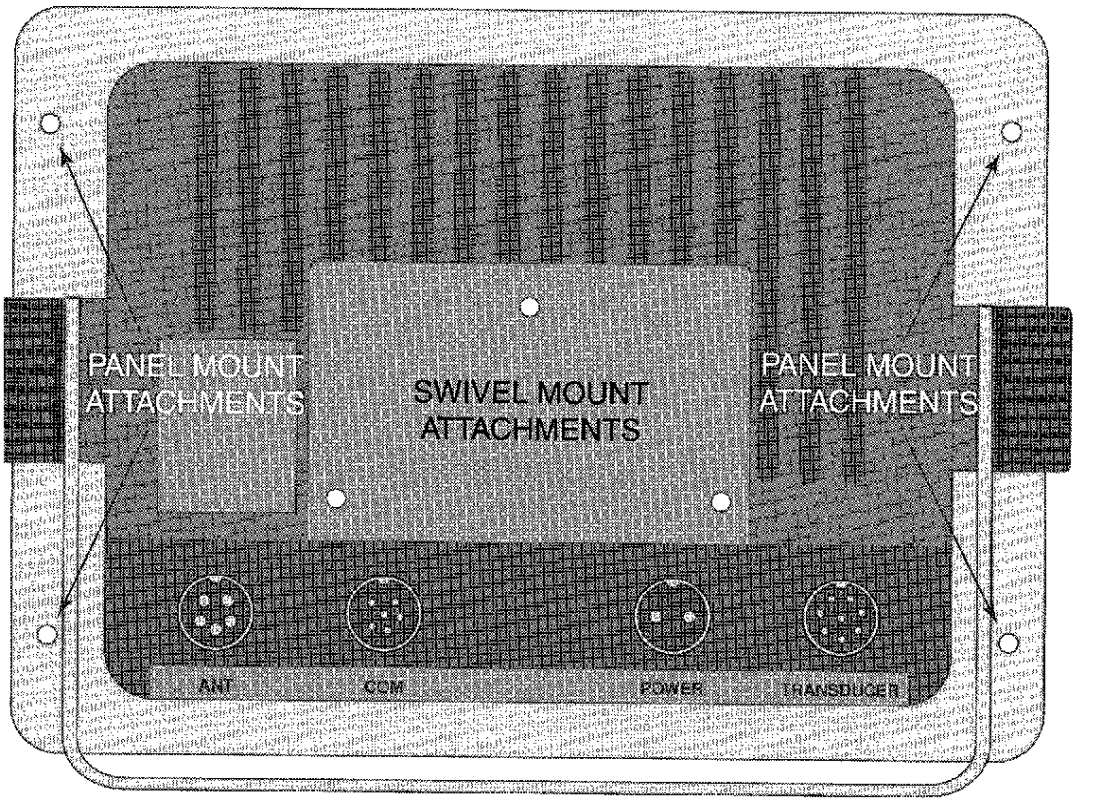
In this situation, insta fairing blocks both insid and outside the hul Install the transducer wit the face aiming straigh down. To prevent leakag any gaps between the ste threads and holes drille in the hull should b completely filled wit waterproof marine sealan Tighten the stem nut securely but do not ove tighten.

Through-hull Transducer Maintenance

If your boat is kept in the water, performance of your *PRO*FISH II will b adversely affected by accumulations of sea growth on the face of the transducer. T prevent sea growth effects, the face of the transducer may be coated with ant fouling paint specially formulated for transducers. Do not use regular anti-foulin

creen and within easy reach of the operator. The best viewing position is traight on. The viewing cone is 30 degrees to either side and 27 degrees up or lown. The full color LCD display is sunlight readable and does not need to be haded for viewing.

Your *PRO*FISH II may be mounted in one of three different ways. A trunnion racket with knobs and a panel mount gasket are supplied as standard equipment. ın optional swivel mount is available from SI-TEX. Any mounting surface selected ıust be solid and flat and capable of retaining fasteners.



***PRO*FISH II DISPLAY UNIT REAR PANEL**

Trunnion Mounting

The aluminum trunnion bracket supplied with your *PROFISH* II may be used fou either overhead or console mounting. It allows only tilt adjustments for the display unit. Position the trunnion to face the display in the desired direction. Once in position, mark the mounting hole locations. The trunnion has an access hole which may be used if desired to pass cables from under a console to connectors on the rear panel of the display unit. The cable access is a double keyhole shape which allows multiple cables to pass through. If the cable access hole is to be used, trace the shape onto the console surface.

Drill holes as required to mount the trunnion. Through bolt mount the trunnion using stainless steel machine screws, washers and nuts. Do not use self tapping screws because they may loosen or pull out with time and vibration. Apply marine sealant in mounting holes, install fasteners and tighten securely.

Panel Mounting

The panel mount gasket supplied with your *PROFISH* II is intended to sea around the mounting surface of the display unit. It may also be used as a template for marking hole locations and tracing the cutout required to mount the display unit The gasket has adhesive applied to one side. The adhesive is protected by a removable liner. Do not remove the protective liner until ready install the gasket permanently.

The panel area for mounting the display unit must be flat over the full size of the gasket. Also, make sure the mounting location is oriented such that the face of the display unit is perpendicular to the line of sight from the viewing position of the operator.

When a suitable location is chosen, use masking tape to hold the gasket in plac and mark the locations of mounting holes. Use care not to distort the shape of th gasket and do not remove the protective liner from the adhesive side of the gasket Trace around the inside of the gasket to mark the outline of the cutout.

Remove the gasket. Drill four 3/16 in. or 5 mm diameter mounting holes and carefully cut inside the lines for the cutout. Cut the dashboard carefully with a sabresaw and a fiberglass cutting blade. Temporarily install the display unit without the gasket. Install all four M4 threaded rods. Check that all four rods are installed without binding and that the display unit seats evenly against the panel all the way around the perimeter of the unit. If there is any obstruction or binding, fix it before proceeding. When the fit is correct, mark lightly around the outer edge of the display unit. This will aid in placing the gasket later on.

To complete installation of the display unit, wipe away dust and chips and clean the area where the gasket will be placed. Remove the protective liner from the adhesive on the gasket. Carefully align the holes in the gasket with the holes in the panel and align the outer edges of the gasket with the lines previously traced around the display unit. Lightly place the adhesive against the panel. When the gasket is in the correct and final position, press the gasket in place.

Display Unit Connector	Pin	Function	Mating Cable Wire Color	
ANT	1	Ground		Refer to your GPS manual for proper wiring and interface information
	2	Switched Battery (+) Out		
	3	Serial Data In		
	4	RTCM Data Out		
	5	Serial Data Out		
COM	1	RTCM Rx (–) In	Black	**WARNING** **Do not plug the COM cable into Display Unit until individual wires are either terminated or insulated to prevent shorts. Damage to PROFISH II will result.**
	2	NMEA Tx (+) Out	White	
	3	NMEA Tx (–) GND	Red & Shield	
	4	NMEA Rx (+) In	Blue	
	5	NMEA Rx (–) In	Yellow	
	6	RTCM Rx (+) In	Green	
POWER	1	Battery Positive (+)	Red	**Install a 2 Amp fuse in the Red Power Lead**
	2	Battery Negative (–)	Black	
'RANSDUCER	1	Speed Signal		PROFISH II internal switching accommodates single element transducers without requiring a junction box.
	2	Speed Vcc		
	3	Ducer #1 (Outer)		
	4	Ducer #2 (Inner)		
	5	Ducer Common		
	6	Temperature Vcc		
	7	Temperature Signal		
	8	Ground		

Rear Panel Connectors

Cables should be routed to prevent accidental abuse in normal operation or ıaintenance activities. Protect cables from sharp edges or crushing by heavy bjects. Also, fuel, oil and hydraulic fluid can attack cable jackets which leave them ıore susceptible to water damage.

The transducer cable carries high energy pulses which can affect the operation of ther electronic equipment such as VHF radios. Route the transducer cable ɜparately from all other cables and avoid passing it through tight holes that have ther cables passing through them. Transducer cables often have in-line connectors elow decks. In these cases it is important to tie the cables up out of the bilge to revent the connectors from getting wet. It is always good to have connectors at the igh point in a cable run. That way, if a cable gets wet, moisture runs away from the ɔnnector instead of into it.

Power Connection

The *PRO*FISH II operates with power input voltages from 11 to 18 Vdc. The unit automatically shuts down if the voltage exceeds 18 Vdc. Also, for protection against running your battery down, a low battery warning alert sounds and a message is displayed when the vessel's battery voltage decreases to 11.2 Vdc.

When connecting the 2 meter power cable, use a fuse block with 2 Amp fuse in the positive power lead (red). If a fused power block is not available, an in-line fuse holder must be installed. Connect the negative power lead (black) directly to the battery negative power buss. Connect the power cable to the POWER connector on the display unit. Make sure the connector ring is tightened securely.

Transducer Connection

Transom mount transducers have their cable permanently attached to the transducer. The connector is factory installed. To avoid cutting the cable and having to reinstall the connector, coil the unneeded cable and secure it out of the way and away from other cables. If the cable must be cut, have the connector reinstalled only by a qualified technician. Route the cable and connect it to the TRANSDUCER connector on the display unit.

Through-hull transducers have short cables with connectors factory installed. An extension cable is used between the transducer and the display unit. Join the connectors near the transducer and install the rubber boot to protect the connectors from moisture. Route the extension cable to the display unit and connect it to the TRANSDUCER connector.

Data Connection

The COM connector on the display unit provides data interface to GPS or Loran navigation devices. The navigation devices send geographic position, speed, course and other information to the *PRO*FISH II for use with the Plotter function and the position information displayed on Sonar screens. The 1 meter data cable supplied with your *PRO*FISH II has a connector factory installed on one end. Refer to the connector diagrams above. The other end has leads which may be connected as required to connectors provided with, or available for, a navigation device.

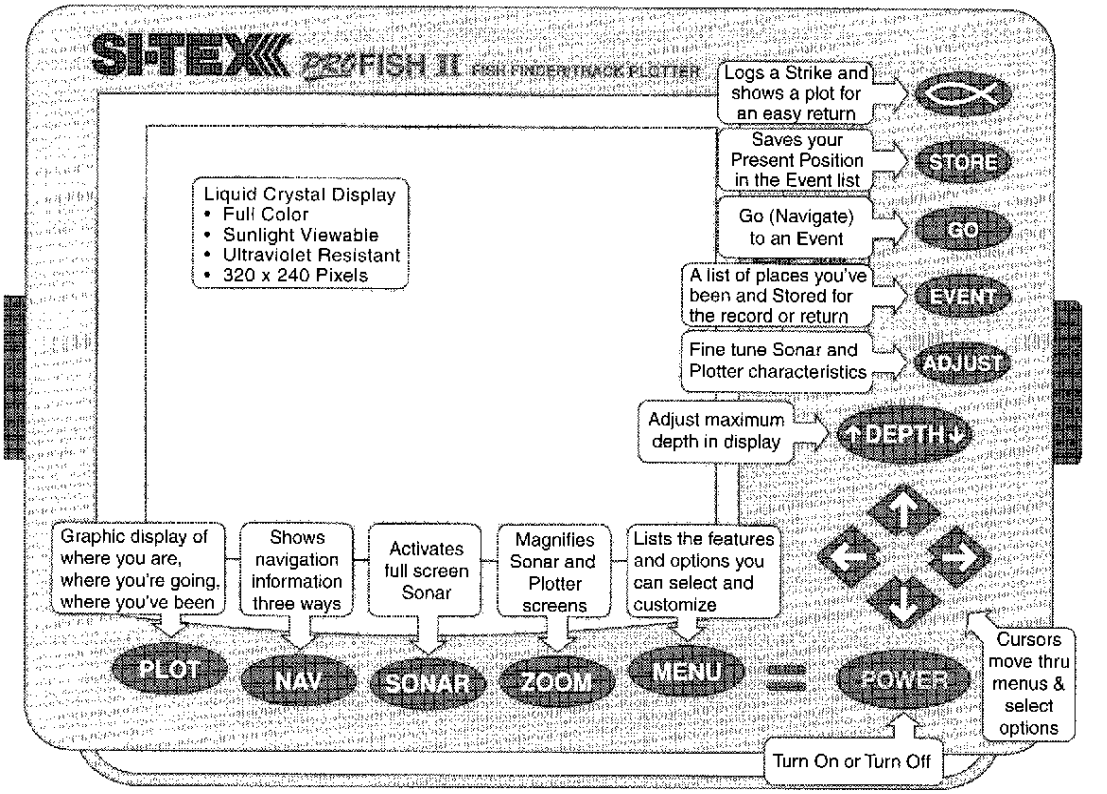
When making connections, make sure wire ends do not touch each other or short to other wires or objects.

Refer to your navigation device manual for the appropriate connections. More information about data interfacing is presented in the Reference Section of this manual. The data interface is not necessary for Sonar operation.

Ant Connection

The ANT connector interfaces to a dedicated GPS sensor which sends geographic position, speed, course and other information to the *PRO*FISH II. The information is used by the Plotter function and the geographic position information is displayed on

Please review the following illustration for the locations and uses of function keys. The keys below the display are used to select one of *PRO*FISH II's basic functions. The keys along the right hand side of the display are used to make adjustments to customize the displayed function. Boxes appearing in the display are called Icons.



***PRO*FISH II FRONT PANEL FEATURES**

Function Keys

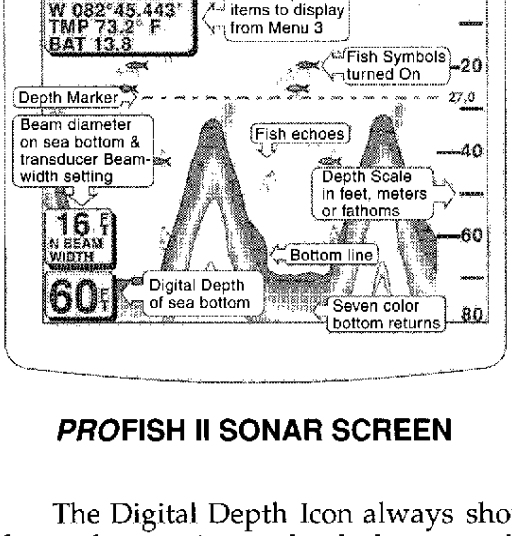
The keys across the bottom of the unit are Function keys. Function keys have a single purpose; to select the *PRO*FISH II operation you want to see in the display. Each key activates a specific function with just one key press. There are no hidden function keys. Some functions have more than one page which may be viewed by repeated presses of the same key. These keys scroll from page to page and then start over again at the beginning. Just follow the pop-up screen Icons to guide you through proper operation. Operation of the *PRO*FISH II is similar to your personal computer with windows and Icons presenting easy to read selections.

Cursor Keys

The four cursor keys are used to select items in menus and to change o adjust values for an active function. The keys have an easy to use wrap-aroun scrolling feature. When repeated presses or holding down of one key scrolls beyon the last item available in a list, the highlighted selection starts over again at th opposite end of the list. For example, the shortest way from the top of a list to th bottom is to press the cursor key once.

SONAR

The main Sonar screen is the primary display for the *PRO*FISH II. A Sonar scree also appears in the background of most other displays so you can keep an eye o fish or the sea bottom as you use other functions.



***PRO*FISH II SONAR SCREEN**

The arrow boxes show the man features of the main Sonar screen. Th Status Icon may be expanded to show more information by selecting the desire options from the Sonar list in Menu 3. I all options are turned off, the Icon doe not appear.

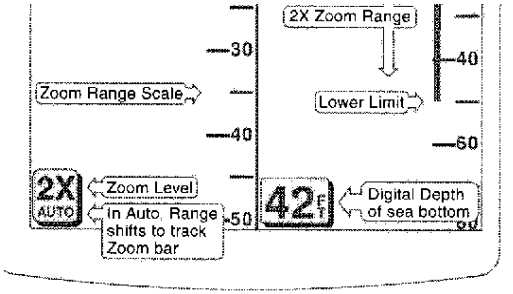
The Beam Icon and Fish Symbol may be turned On or Off from Menu 1.

To change the Depth setting, pres the down DEPTH key. Press the ke off-center near an arrow for either dee or shallow. The Depth Scale changes i 5 depth unit steps. Depth units may b set to feet, meters, or fathoms fro Menu 2.

The Digital Depth Icon always shows the depth of the sea bottom even if it i beyond to maximum depth shown on the Depth Scale.

Sonar Gain control is very important to detecting fish and sea bottom feature To adjust Sonar Gain, press the key to increase gain and the key to decreas gain. When either key is pressed, an Icon GAIN 59% appears in the display showing th gain as a percentage from 0 to 99%. After several seconds the Icon disappear Adjust the Sonar Gain for good contrast between the bottom line and the colore areas of the sea bottom. The gain adjustment is very fine. It takes two key presse to change the gain setting by 1%. Press and hold a key to step settings faster.

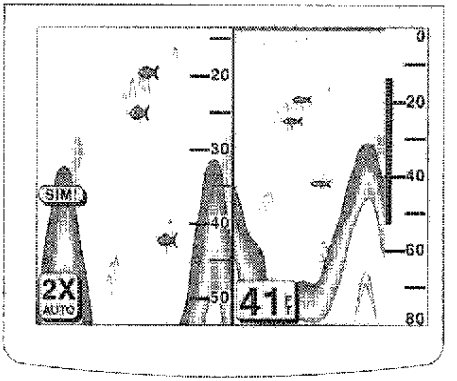
The Depth Marker may be used to mark the depth of a prominent feature eve after it has moved off the screen. The Depth Marker is visible only on the mai



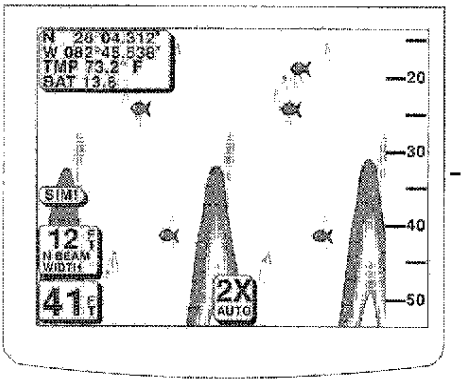
***PRO*FISH II 2X SPLIT ZOOM**

the split screen is the main Sonar screen and the left side is 2X magnified. The arrow boxes show the important features of the Sonar Zoom screens.

The Zoom Range bar indicates the exact portion of the main Sonar Depth Range that is magnified in the 2X side of the screen. If AUTO is indicated in the Zoom Level Icon, the Zoom Range bar tracks the sea bottom and the magnified sea bottom is always in view on the 2X ide of the screen. The other Zoom screens are 2X full screen, 4X split screen and 4X ull screen.

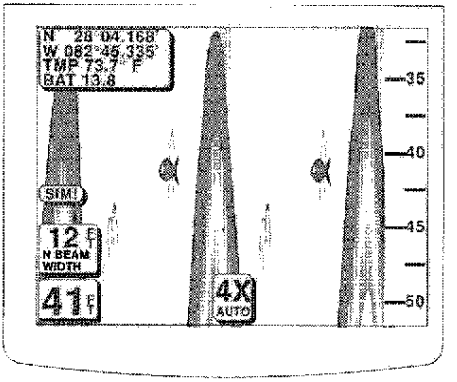


2X Split

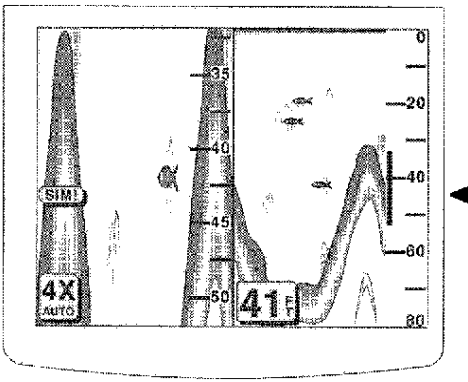


2X Full

***PRO*FISH II SONAR ZOOM SCREENS**



4X Full



4X Split

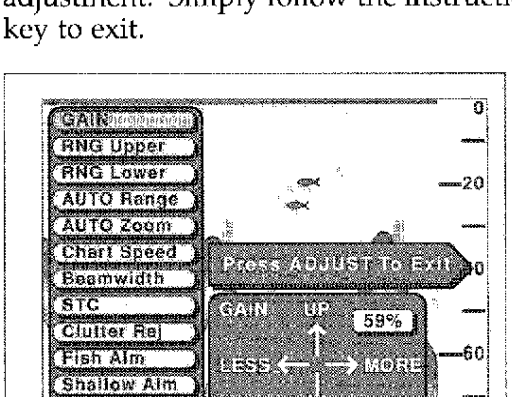
Zoom cannot magnify to less than 5 depth units full screen, therefore the main Sonar Depth Range must be set to 10 depth units or greater for 2X Zoom and 20 units or greater for 4X Zoom.

The Zoom function works with the Sonar, Plotter, Nav and Strike functions. However the behavior is slightly different with each function.

To return to the main Sonar screen, press the SONAR key.

ADJUST Sonar Menu

More options for fine tuning the Sonar function are found on the Sonar Adjust menu. To view the Sonar Adjust menu, press the ADJUST key. Use the ↑ or ↓ cursor key to scroll to and highlight a menu item. Use the ← or → key to adjust the item. When some items are selected, Icons appear in the screen that show specific information about the highlighted item or point to keys used for additional adjustment. Simply follow the instructions appearing on the screen. Press the ADJUST key to exit.



***PRO*FISH II SONAR ADJUST**

GAIN: Controls the Sonar receiver gain setting from this menu. You can also use the ← or → keys to set Gain when the main Sonar screen, Zoom Sonar or Nav screens are displayed.

RNG Upper: Adjusts the upper depth setting in the display in 5 depth unit steps. Reset to 0 (zero) by pressing the EVENT key.

RNG Lower: Adjusts the lower depth setting in the display in 5 depth unit steps.

AUTO Range: When set to AUTO depth range changes automatically to keep the sea bottom displayed in the center third of the screen. A vertical line appears in the display at each change of the depth range. When set to MANUAL mode, the upper and lower depth range must be set by the operator and only those objects and sea bottom falling within the set depth range are displayed.

AUTO Zoom: When set to AUTO, the magnified portion of the Sonar display tracks the sea bottom. In MANUAL mode, the zoom range is fixed and only those objects falling within the length of the zoom bar are magnified.

Chart Speed: Adjusts the rate of movement of the Sonar display from right to left. The speed settings are: 2X, 1X, 1/2X, 1/4X, 1/8X and STOP.

Beamwidth: For dual beam transducers, select narrow (15°) or wide (40°). The narrow beam is for deep water and the wide beam is for shallow water. If using a

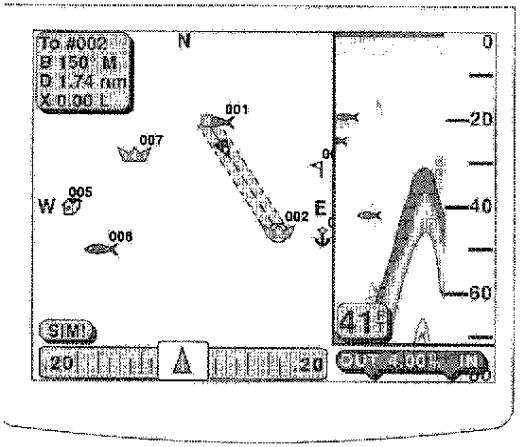
Fish Alm: Sounds an audible alarm and displays the FISH! Icon when fish are detected. Use the cursor keys to select the size of fish, small, medium or large, that will sound the alarm. Use the Event key to turn the alarm On or Off as indicated in the Icon.

Shallow Alm: Set to sound and display an alert if the bottom becomes shallower than the setting. When the alarm is set, a vertical bar appears in the Depth Scale extending from the top of the screen down to the alarm depth. Use the cursor keys to set the depth and the Event key to turn the alarm On or Off.

Deep Alm: Set to sound and display an alert if the bottom becomes deeper than the setting. When the alarm is set, a vertical bar appears in the Depth Scale extending from the bottom of the screen up to the alarm depth. Use the cursor keys to set the depth and the Event key to turn the alarm On or Off.

PLOT

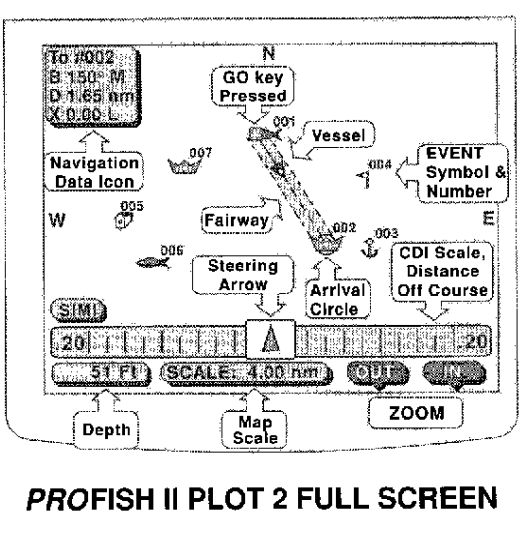
The Plotter presents a graphic view of locations, relative to your vessel's Present Position, that you have stored in the Event library. Events stored in the Event library may be any Latitude/Longitude coordinates of interest. Fish havens, channel markers, obstructions, national boundaries are examples. The Event library holds 250 Events that include depth and temperature in addition to Latitude/Longitude coordinates. A NMEA compatible GPS or Loran C receiver must be connected to your *PRO*FISH II. Present Position, Speed, and Course are the minimum data required to operate the Plotter. GPS satellite data is displayed on Menu 4. The built in Simulator may be used for practice without a navigation receiver.



***PRO*FISH II PLOT 1 SPLIT SCREEN**

Press the PLOT key, to see the first of two Plotter Screens. Split screen Plot 1 displays Sonar returns in the right one third of the screen and Plotter in the left two thirds of the screen. Plot 2 is full screen Plotter. The Plotter display is always North up, regardless of direction of travel. The Sonar display is either the main Sonar screen or Zoom 2X or 4X depending upon the Sonar display mode when the PLOT key is pressed. Sonar Depth Range may be changed while the Plot 1 screen is displayed.

To select the full Plotter screen, press the PLOT key again.



***PRO*FISH II PLOT 2 FULL SCREEN**

Arrow boxes point out the variety of information displayed on the Plotter screens.

To use the Plotter, Press the EVENT key. The Event library screen is displayed. Use the ⇔ or ⇕ cursor keys to highlight and select an Event in the library as a destination. For more explanation about the Event library see the Event Section.

Press the GO key. The Plotter screen is displayed. A small square and boat symbol appear on the screen at the Present Position of your vessel. Also, a fairway to the destination Event appears with an arrival circle around the Event.

The Icon in the upper left corner of the screen, presents numerically the navigation data that is graphically displayed.

'To #002' indicates your destination is Event Number 002.

'B' is the bearing to Event #002. 'M' means magnetic.

'D' is distance to Event #002.

'X' is cross-track error or distance off course. 'L' is the direction to steer to return to course.

As your vessel moves, the data from the navigation receiver tracks your vessel and the Plotter screen is continually updated. One thousand points of position data are stored in *PRO*FISH II's track memory. The position of the vessel symbol in the fairway shows your progress toward your chosen destination Event.

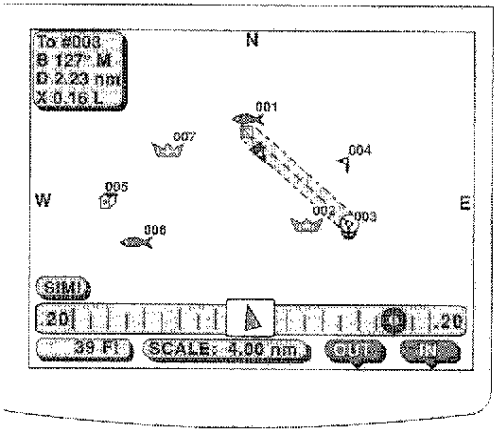
Near the lower edge of the display is the Course Deviation Indicator (CDI) scale with the Steering Arrow Icon in the center. The CDI scale and Steering Arrow present information to aid in steering your vessel.

The Steering Arrow Icon indicates where the destination Event is positioned in relation to the direction of travel. When the Steering Arrow is pointing upward, the destination Event is directly ahead of your vessel regardless of compass direction. As mentioned earlier, the graphic Plotter display is always oriented North up. But the Steering Arrow Icon is Event up. If the Steering Arrow is pointing downward, the destination Event is dead astern, or behind your vessel.

The CDI scale represents the width of the fairway on each side of the course line plotted between the starting Present Position a

The basic object, when navigating to an Event, is to keep the Steering Arrow pointing straight up and the black Bowling Ball hidden behind it.

The following screen shows how the Steering Arrow and cross-track error are displayed.



***PRO*FISH II PLOTTER SCREEN**

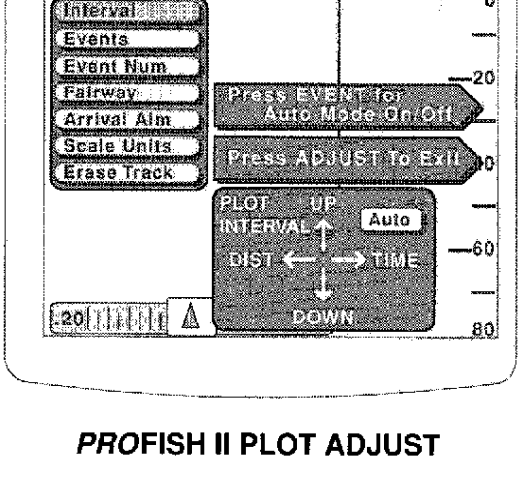
To duplicate this display, turn the Simulator On and press the PLOT key. Then press the EVENT key and select Event 003. Press the GO key. The Fairway is drawn from the vessel's Present Position to Event 003. Observe how the Steering Arrow and Cross-track Deviation Indicator (CDI) Bowling Ball respond as the vessel proceeds along its programmed course. As the vessel travels from Event 001 to Events 002, 003, 004 and on toward Event 005 all navigation indicators will accurately report the changing situation. Adjust the scale In or Out to see more or less detail.

On the sea, your job as Master of your vessel, is to keep the Steering Arrow pointing straight up and the Bowling Ball hidden under the Steering Arrow Icon.

ADJUST Plotter Menu

The options for fine tuning the Plotter function are found in the Plot Adjust menu. To view them, press the ADJUST key when either Plot 1 or Plot 2 screens are displayed. Using the ↑ or ↓ cursor keys, scroll to highlight and select a menu item. Use the ← or → key to adjust the item. When some items are selected, icons appear in the screen that show specific information about the highlighted item or point to keys used for additional adjustment. Simply follow the instructions appearing on the screen.

Press the ADJUST key to exit.



***PRO*FISH II PLOT ADJUST**

Interval: Allows selection o plotting interval for Plotter screens Plotting interval is based on either tim or distance. The interval being th space in time or distance betwee points plotted on the screen. Tim intervals may be set from 1 second to 6 minutes. Distance intervals may be se from 0.01 to 16 nautical or statute mile and 0.02 to 32 kilometers. If set t AUTO, the plotting interval is 0.0 nm/sm (0.1 km) or 20 seconds whichever comes first. Press the key to set distance intervals or the key to set time intervals. Press th EVENT key to turn AUTO On or Off.

Reminder: If you set a 1 second time interval, the 1,000 points of track memory will be used up in 1,000 seconds – or 16 minutes. We recommend using Auto fo best results.

Events: Turns Event symbols and numbers On or Off in the Plotter screens. Th Destination Event, Fairway and Start Position marker is not turned Off.

Event Num: Turns Event numbers On or Off in Plotter screens. The Destinatio Event number is not turned Off. The Event symbols remain displayed for all Events.

Fairway: Turns the Fairway On or Off. The Fairway is plotted from you Present Position, when you press the GO key, to the Destination Event. Th width of the Fairway is determined by the diameter of the arrival alarm circle.

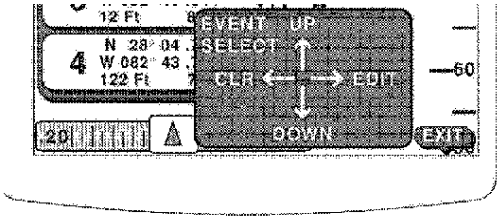
Arrival Alm: Sets the diameter of the Arrival Alarm and the width of th Fairway. Three settings are available, 0.10, 0.20 and 0.50 distance units. When you vessel crosses the alarm boundary, a tone alarm sounds and the alarm Icon appear in the Plotter screen. Press any key to silence the alarm and remove the Icon.

Scale Units: Sets the distance unit of measure. Nautical miles (NM), statut miles (SM) or kilometers (KM) may be selected. Depth units are not affected.

Erase Track: Clears the entire track memory of your vessel from the Plotte screens. This is a two step process. Press the key to select YES, then pres EVENT to verity the decision. Press ADJUST to Exit.

EVENTs

Events are locations stored in the Event library as Latitude/Longitude (L/L coordinates. Any location of interest, fish havens, navaids, obstructions, anchorage etc., may be stored as Events. The Event library holds 250 Events, plus one specia Event location reserved for Strikes. You may select any Event, including the Strik



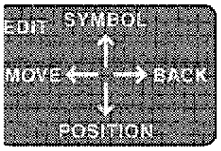
***PRO*FISH II EVENT LIBRARY**

To select a different Event, use the or key to scroll the desired Event into the highlight area. When an Event is highlighted, it may be used as a destination, it may be cleared from the Event library, or it may be edited. The choices are displayed in the Cursor Icon appearing on the screen.

If an Event is selected to become a destination for navigation, simply press the GO key. The Plotter function is now activated with your vessel's Present Position plotted as the starting point and the highlighted Event plotted as the destination.

If the highlighted Event is to be cleared, press the key. EVENT EMPTY appears in the display. The coordinates are permanently erased. You cannot erase the special Strike Event or the currently active destination Event.

If the highlighted Event is to be edited, Press the key. The EDIT Cursor Icon appears in the display with additional options. The new options are BACK, SYMBOL, MOVE and POSITION.



EDIT ICON

BACK: Use the key, if needed, to go back to the previous EVENT SELECT Cursor Icon to select a different Event.

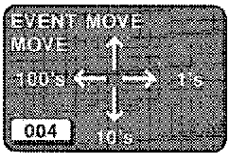
SYMBOL: To change the symbol for the highlighted Event, Press the key. Each time the key is pressed, a different symbol appears in the Event. There are five different symbols to choose from. Choose one that has good meaning for the location stored in the Event.

MOVE: Allows you to rearrange Events in the library. You may prefer to have navaids arranged sequentially along a route that you use frequently. Maybe fishing holes would be in one or two groups, say shallow and deep water locations. Any Event, except Strike, can be moved to any other empty Event. If you attempt to move an Event to another Event number that is not empty,

Event #XXX is not empty
Press STORE to overwrite
Press EVENT to select another event number

appears on the screen. You may choose to overwrite the occupied Event or select another.

To move the highlighted Event, press the key. The EVENT MOVE Cursor Icon appears in the display.

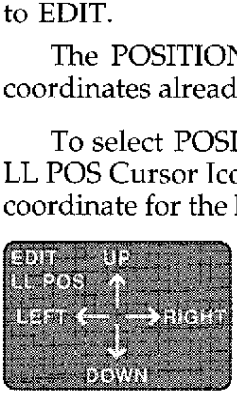


EVENT MOVE

The 'Move To' window shows the number of the highlighted Event. The Cursor keys are used to set the desired Event number in the 'Move To' window. Press the key to set the units digit to the desired value. Then press the key to set the tens digit to the desired value. Press the key to set the hundreds digit to the desired value. When all three digits are correct, press the key to complete the move. The Event data from the original highlighted Event is transferred to the new Event number. The original Event number is labeled EVENT EMPTY. The new Event is highlighted and the Cursor Icon reverts to EDIT.

The POSITION option in the EDIT Cursor Icon is used to correct or modify coordinates already stored in the highlighted Event or to manually enter coordinates.

To select POSITION from the EDIT Cursor Icon, press the key. The EDIT LL POS Cursor Icon appears. Also, a reverse video cursor appears in the Latitude coordinate for the highlighted Event.



EDIT LL POS

Press the or key to move the reverse video cursor to select a digit to edit. Repeated presses or holding a key down steps the cursor through all digits and the hemisphere designators in both Latitude and Longitude.

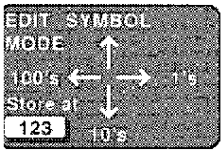
Press the or key to change the value of a selected digit. Repeat the process until all digits are correct. The hemisphere designators are changed in the same manner. Depth and temperature cannot be edited and are deleted from the Event data when the new values are stored.

When the edited Event coordinates are correct, press the STORE key. The new values are stored in the highlighted Event. Temperature and depth data, if any, are deleted.

Manually entering coordinates into an Empty Event is done in the same way. When POSITION is selected from the EDIT Cursor Icon, either the Present Position or the last known position for the vessel is automatically set into the highlighted Empty Event. The coordinates may then be edited as above to the desired values and stored.

When Sonar, Plot, Nav or Menu functions are active, but not when the Event screen is displayed. When the Store function is initiated, a vertical line marker appears in the Sonar display and a small Icon appears at the top of the screen displaying the L/L coordinates of the exact location.

To record a location as an Event in the Event library, press the STORE key. The Event screen appears in the display with the EDIT MODE Cursor Icon.



EDIT MODE

The Present Position coordinates for your location appear highlighted in the lowest numbered empty Event in the Event library. You may store the coordinates in the current Event number or you may choose a different Event number. You may also change the symbol for the Event. The default symbol is the fish, of course.

To change the Event symbol, press the ⇧ key repeatedly until the desired symbol appears.

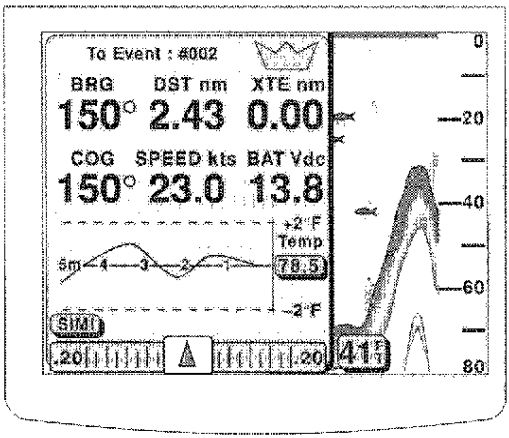
To store the coordinates in the current Event number, press the MENU key to Exit and return to the previously active function, or press any function key.

To store the Coordinates in a different Event number, use the cursor keys to enter the desired number in the 'Store at' window in the Cursor Icon. Press the ⇨ key to set the units digit to the desired value. Then press the ⇩ key to set the tens digit to the desired value. Press the ⇦ key to set the hundreds digit to the desired value. When all three digits are correct, press the STORE key to complete the Store and save operation. *PRO*FISH II returns to the previously active function. If you select an Event number that is not empty, Event #XXX is not empty / Press STORE to overwrite / Press EVENT to select another event number appears on the screen. Choose the appropriate action.

NAV

The Nav function presents navigation information in text format with some data presented graphically. There are three Nav screens and all three share the display with Sonar. The Nav function provides a split screen view of both navigation and Sonar. Press the NAV key repeatedly to scroll to all three screens.

Press the NAV key. The Nav 1 screen appears in the display. A large Icon encloses the navigation data while Sonar is displayed on the right hand side of the screen. The ZOOM and ⇧⇦⇨⇩ keys are used to control the Sonar portion of the display.



***PRO*FISH II NAV 1 SCREEN**

The Navigation Data Icon presents the following information.

To Event: Displays your destination Event number and symbol.

BRG: Shows your bearing to the selected destination Event from your vessel's Present Position.

DST nm: Displays the distance from your Present Position to the selected destination Event in nautical miles. Other distance units may be selected from the Plotter Adjust menu.

XTE nm: Displays your Cross Track Error (distance off course) in distance units.

COG: Displays your Course Over the Ground.

SPEED kts: Displays your Speed Over the Ground (SOG) if speed data is obtained from a navigation receiver or Speed Through the Water (STW) if speed data is obtained from the paddle-wheel. Select speed data source from Menu 3.

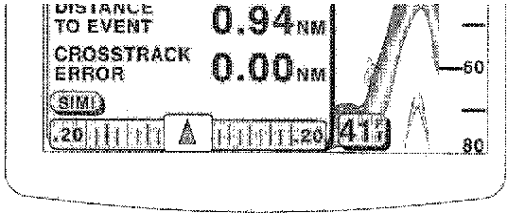
BAT Vdc: Your vessel's battery voltage is always displayed. A visual and audible alert sound if battery voltage declines below 11.2 Vdc. *PRO*FISH II shuts down if your battery voltage exceeds 18 Vdc.

Temp: Water temperature is displayed in degrees Fahrenheit or Centigrade depending upon unit of measure selected from Menu 2. An automatically centered plot of water temperature history over the last 5 minutes is presented. If the temperature changes more than 2 °F or °C, the entire graph auto-shifts to the center.

CDI: Course Deviation Indicator. Indicates the distance and direction off course. The full scale value is determined by the Arrival Alarm setting and may be 0.1, 0.2 or 0.5 distance units.

Steering Arrow Icon: Indicates the direction of the destination Event, relative to your vessel's location and direction of travel.

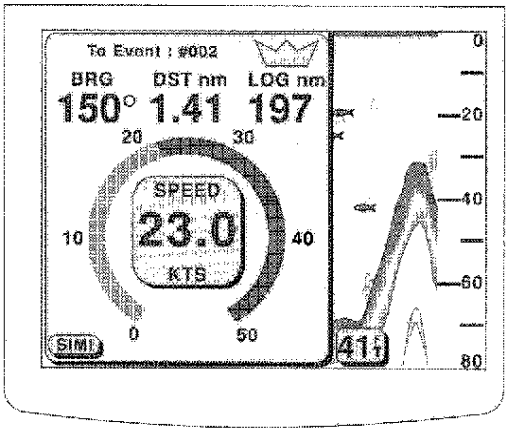
Press the NAV key again. The Nav 2 screen now appears in the display.



***PRO*FISH II NAV 2 SCREEN**

following the Latitude hemisphere designator. Example: ND 28° 03.881′.

Press the NAV key again. The Nav 3 screen now appears in the display with navigation data displayed in large number format, plus an analog speedometer with digital speed display.



***PRO*FISH II NAV 3 SCREEN**

To Event: Displays your destination Event Number and symbol.

BRG: Shows your bearing to the selected destination Event from your vessel's Present Position.

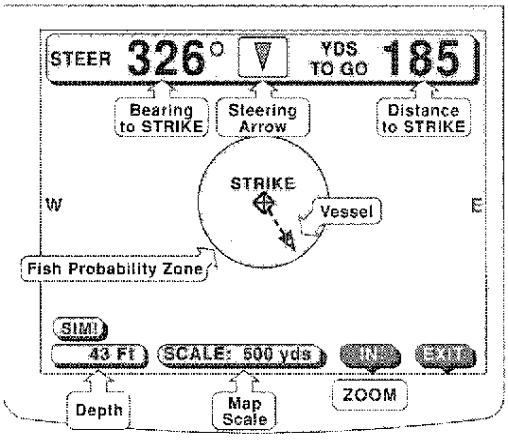
DST nm: Displays the distance from your Present Position to the selected destination Event in nautical miles. Other distance units may be selected from the Plotter Adjust menu.

LOG: Your accumulative total distance traveled since the last time the Log was reset. Log data is not lost when *PRO*FISH II is turned Off. The Log may be reset to 0 (zero) from Menu 1.

SPEED KTS: Displays Speed Over the Ground, if speed data is obtained from a navigation receiver or Speed Through the Water, if speed data is obtained from the paddle-wheel speed sensor. Select the speed data source from Menu 3.

STRIKE

The Strike function allows you to instantly mark a Strike. The Plotter is automatically activated using the Strike coordinates as the destination and displays your vessel's position relative to the Strike. The Strike coordinates are recorded in the Event library in the Strike Event. The Strike Event is reserved just for Strikes and cannot be edited or deleted. However, there is only one Event reserved for Strikes so the next Strike overwrites the previous one. The Strike Event is retained in the Event library and may be selected as a destination Event for normal navigation.



***PRO*FISH II STRIKE SCREEN**

To mark a Strike, press the key.

The Plotter draws a Fish Probability Zone 200 yards in diameter around the Strike. Initially, the Plotter Scale is 250 yards from the center to the top or bottom of the screen and changes to 500 yards as your vessel approaches any edge of the display. The Scale is in meters if metric distance units are selected.

Press the ZOOM key to manually switch between 250 yards or 500 yards scale.

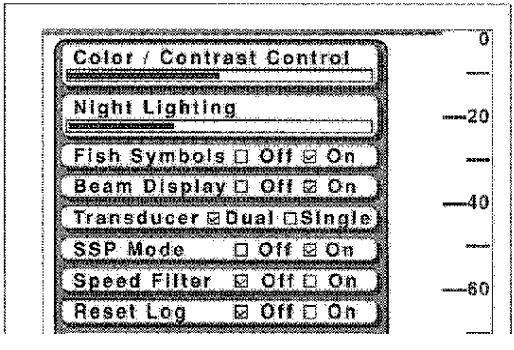
Displayed at the top of the screen is the Steering Arrow and digital readouts indicating bearing and distance back to the Strike. At the bottom of the screen are displayed, the depth, map scale and Icons pointing to keys for Zoom and Exit. Steer your vessel to stay in the Fish Probability Zone for the likelihood of more action.

When you press the MENU key to Exit, an Icon pops up to verify the Exit decision. Until you Exit the Strike function, all other functions are disabled.

MENU Screens

Menu Screens are used to customize the functions of your *PRO*FISH II by selecting options from the menu items displayed on the screens. To view the Menu screens, press the MENU key. Each time the key is pressed, the next Menu screen appears. Use the or cursor key to scroll to and highlight a menu item. Use the or key to adjust the item. When some items are selected, Icons appear in the screen that show specific information about the highlighted item or point to keys used for additional adjustment.

Menu 1



Color/Contrast Control: The moving bar graph has a 32 step adjustment range. Moving the bar to the left deepens the contrast (more green) while moving it to the right lessens contrast. The control allows optimum viewing under all lighting conditions, both with and without night lighting.

Night Lighting: The moving bar graph has 8 settings to adjust backlight

Beam Display: Turns the Beam Icon On or Off. When turned On, the Beam Icon appears in the main Sonar screen and displays the diameter of the beam cone on the sea bottom and the beamwidth, narrow or wide, for a dual beam transducer. If a single beam transducer is selected, narrow beamwidth is preselected and cannot be changed.

Transducer: Selects the type of transducer, dual or single, installed on your vessel. Your *PRO*FISH II can accommodate many transducers, but the type must be correctly entered for proper operation.

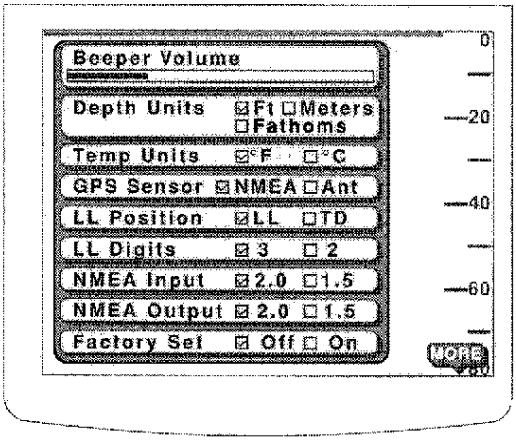
SSP Mode: Turns Surface Signal Processing On or Off. SSP suppresses the surface noise caused by the transmitted main sonar pulse.

Speed Filter: Selects a filter to smooth variations in speed. This is especially useful when trolling at low speed (under 4 knots) and using the paddle-wheel speed sensor. The Speed Filter has a 3 second smoothing response.

Reset Log: Used to reset the log of distance traveled. When you select Yes, the log data is reset to 0 (zero) immediately, the selection reverts to No, and the log now begins to accumulate.

Simulator: Turns the Simulator On or Off. The simulator may be used to become familiar with *PRO*FISH II features and operation without connecting a transducer or navigation receiver. Sonar, Plotter and Nav functions are simulated. Any changes made to the Event library during a Simulator session are not retained when the Simulator or Power is turned Off.

Menu 2



***PRO*FISH II MENU 2 SCREEN**

Beeper Volume: The 5 step bar graph sets the Beeper Volume from Off to full volume. When turned Off, beeper does not sound for key presses or alarms.

Depth Units: Selects the Depth Unit of measure to Feet, Meters or Fathoms.

Temp Units: Selects the Temperature Unit of measure to either degrees Fahrenheit or Centigrade.

GPS Sensor: Selects the source for navigation input data. NMEA is for a GPS or Loran C navigation receivers connected to the 6 pin COM connector. Ant is for a GPS sensor unit that connects to the 5 pin ANT connector.

LL Position: Selects the type of NMEA data displayed in the Navigation Data Icon appearing in the main Sonar screen and Nav screens. LL position data is available form both GPS and Loran C receivers. TD position data is available only from Loran C receivers. If Td is selected and no Td data is available from your navigation receiver, dashes appear in all position displays. There is no TD to L/L conversion in the *PRO*FISH II.

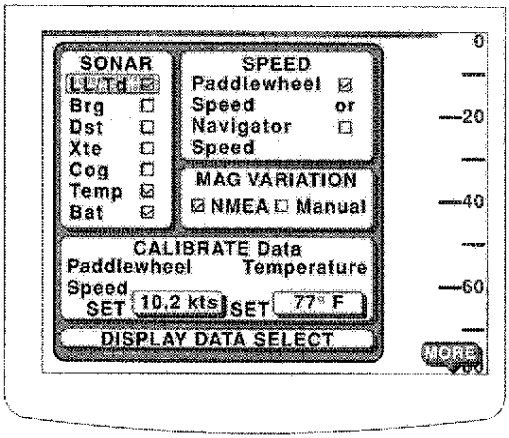
LL Digits: Selects 2 or 3 decimal places to be displayed after the decimal point in L/L Present Position displays.

NMEA Input: Selects the version of NMEA 0183 interface specification, either 2.0 or 1.5, used for data input from a navigation receiver. The two versions support different data sentences. Choose the version that matches the data output from your navigation receiver. See the Reference Section on page 37.

NMEA Output: Selects the version of the NMEA interface specification for data output from the *PRO*FISH II. Choose either version depending upon requirements of the device receiving data.

Factory Set: Never use this menu selection. It is for factory use only, for receiver alignment.

Menu 3



***PRO*FISH II MENU 3 SCREEN**

SONAR

The Sonar Icon lists items which, when selected, appear in the navigation data Icon displayed in the upper left corner of the main Sonar screen. If none are selected, the Icon does not appear. A NMEA compatible navigation receiver must be connected and operating.

LL/Td: Your vessel's Present Position is displayed. If Td is selected from Menu 2 and no Td data is available from your navigation receiver, dashes appear in all position displays.

Brg: Your bearing to the destination Event is displayed.

Dst: The distance from your Present Position to the destination Event is displayed.

Xte: Your Cross Track Error is displayed.

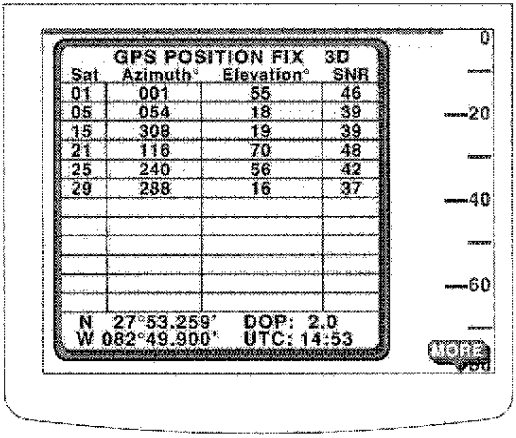
Cog: Your Course Over Ground is displayed.

Sog: Your Speed Over Ground is displayed.

Temp: The water temperature is displayed.

Bat: Your vessel's battery voltage is displayed.

This menu presents specific satellite information from a GPS navigation receiver connected to your *PRO*FISH II.



***PRO*FISH II MENU 4 SCREEN**

GPS POSITION FIX: Displays the type of position fix. Fix may be either 2D or 3D or 2D Diff or 3D Diff. At least three satellites must be received and tracking to provide a 2D, Latitude and Longitude, fix. Four satellites are required for a 3D fix; Latitude, Longitude and Altitude. To add differential precision to either type of fix requires a differential beacon receiver connected to the GPS receiver.

Sat: Displays the satellite identification number.

Azimuth°: Displays the position of a satellite in degrees from North.

Elevation°: Displays the position of a satellite in degrees above the horizon.

SNR: Signal to Noise Ratio. Displays the relative quality of signals received from a satellite. Actual values differ between GPS manufacturers. Higher values are better than low values.

N / S: Indicates the North or South hemisphere designation followed by the Latitude coordinate.

E / W: Indicates the East or West hemisphere designation followed by the Longitude coordinate.

DOP: Dilution of Precision. Displays the quality of a fix as affected by the geometry of satellite positions. A DOP value of 2.0 or less is excellent.

UTC: Indicates Universal Coordinated Time, also known as Greenwich Mean Time or the time at 0 (zero) degrees Longitude.

REFERENCE

Care and Cleaning

Your *PRO*FISH II is made to withstand marine elements but a little care ensures a trouble free life. Accumulations of salt and sand, if not removed, will eventually mar the finish. No solvents or harsh cleaners should be used. The display unit may be wiped down with a damp cloth while avoiding the display screen. Be careful not to scratch the display surface. Gently remove any sand or other grit particles before cleaning the display screen. The display screen should be cleaned only with eyeglass lens cleaner and a clean soft cloth using very light pressure.

NMEA

A standard developed by the National Marine Electronics Association and used by most marine equipment manufacturers for data communication is known as NMEA 0183 version 1.5 and version 2.0. NMEA 0183 specifications offer many recognized sentences for exchanging data between many types of marine equipment. The following technical information is provided for reference and is accurate to the best of our knowledge at the time of printing. Please refer to the appropriate NMEA specifications for full details and the latest information.

The data sentences used by the *PRO*FISH II are as follows.

Output Sentences:

Version 1.5

LCGLL, LCRMA, LCRMB, LCVTG, LCXTE, LCBWC, LCWPL, SDDPT
GPGLL, GPRMC, GPRMB, GPVTG, GPXTE, GPBWC, GPWPL, SDDPT

Version 2.0

LCRMA, LCRMB, LCGLL, LCWPL, SDDPT
GPRMC, GPRMB, GPGLL, GPGGA, GPGSV, GPWPL, SDDPT

Input Sentences, Version 1.5 and 2.0:

xxGGA, xxGLL, xxGSV, xxRMA, xxRMC, LCGTD

NMEA data interface characteristics:

Baud rate	4800
Data bits	8
Parity	None
Stop bits	2
Character Code	ASCII
Voltage Level	0-5V

Sentence recurrence rate: 2 seconds.

NMEA output data is present at the COM interface connector any time your *PRO*FISH II is operating, even when the Simulator is turned On.

Do not operate the PROFISH II Simulator for [illegible] while [illegible] if NMEA

Weight	Less than 4.5 lb.
Mounting Options	Standard Trunnion (Deck Mount or Overhead Mount). Flush Mount. Mechanically accommodates Optional Swivel Mount Bracket.
Flush Mounting Kit	Included in the Case Design. Set Screw Mounts included.
Connectors	2 Pin Power. 8 Pin Transducer (no external switch box is required for Dual Beam Operation). 6 Pin COM Port. 5 Pin External ANT Sensor (with switched DC Power provided).
Temperature	0° to 55 °C ambient - operating in direct sunlight 100% OK.
Display Technology	240 x 320 Pixel QVGA Transflective Bi-refringent 8 Color LCD.
LCD Temperature	0° to 70 °C.
LCD Viewing Angle	UP/DOWN 55° total (typical). LEFT RIGHT 60° total (typical).
Pixel Size	0.36 mm (W) by 0.36 mm (H).
Display Size (active)	(5.7" diagonal) - 115.2 mm W x 86.4 mm H (4.6"W x 3.46"H).
Colors	8 total (7 + background).
Power Requirements	11-18 Vdc @ 6 W maximum. Reverse Diode Protection with Input Line Filtering. Battery Warning Window for Input Bus Voltages less than 11.2 Vdc. Automatic shutdown if Buss Voltage is greater than 18 Vdc.
Tri-ducer Frequency	Transom Mount 120 kHz Dual element with Speed & Temperature is standard. Bronze Thru-Hull and many other optional style transducers are available.
Tx Beamwidth	15° or 40° - selectable by user
Tx Output Power	300 W RMS (2400 W P-P) typical.
Depth PW/PRF Schedule	Depth to 1500'. Pulse Width varies from 104 µs to 1040 µs with PRF rates from 12 Hz to 1.25 Hz. Interleaved Automatic Bottom Tracking Pulse varies with Depth Range.

Display Modes	SONAR	Standard FF Screen (home screen).
	ZOOM	2X & 4X Zoom capability with both Split and Full Zoom Screens. Auto or Manual Zoom with depth indicator ZOOM bar.
	PLOTTER	Split Screen combination FF/Plotter & Full Screen Plotter. 8 way Cursor control of the Panning of the screen with high speed Turbo re-draw. Scaling from .125 nm to 256 nm.
	Nav	Nav Data with Auto-centering Temp Graph Screen & Battery Voltage. Big Numbers Screen with LL/TD position. Circular Speedometer/Log Screen.
	MENU	3 Pages of adjust screen for customizing the settings. 1 GPS Status Screen.
	ADJUST	FF Adjust Screen with Cursor editing. Plotter Adjust Screen with Cursor editing.
	EVENT	250 + STRIKE are stored in a List with symbols. Select any event & press the GO key to Navigate. Complete editing of any event information is possible.
	STRIKE	Direct Course Line Tracking to STRIKE position with 250 yard Strike Zone area displayed. Automatically Zooms out to 500 yards.
Depth Ranges	DEPTH key selects anywhere to 1500' depth in 5' steps, 1 Fathom steps, or 2 Meter steps. RANGE Upper & RANGE Lower can be set to any depth interval of at least a 10' increment.	
Digital Depth Display	Auto Digital Depth Box is displayed - even if actual depth is off the screen.	
Depth Line Indicator	UP/DOWN Cursor control in Sonar Mode to display a depth line anywhere on the screen with high resolution Digital readout.	
Depth Cone Display	Displays actual diameter of Tx Beam on the bottom for Wide & Narrow Transducer Beamwidth selections.	
Zoom Ranges	2X or 4X to any 5' maximum Zoom interval (no zoom on 5' scale or only 2x zoom on 10' scale).	
Auto Zoom	ON/OFF. Scale does not shift, complete FF picture	

Nav data Window	Programmable with selectable speed data.
SONAR data Window	Programmable with selectable data.
Battery Level Warning	Warning window if Ship's voltage goes less than 11.2 Vdc. 5 minute warning reset.
Paddle wheel Speed	MPH, KM, or KTS in increments of 0.1 units. User calibration in NV memory
Speedometer Graph	0-50 MPH/KTS or 0-100 KM (select Paddle-wheel or SOG).
Input Format	NMEA 0183 V1.5 or V2.0+. Both LL & TD Compatible (shows TDs only - no converter)
Output Format	NMEA 0183 V1.5 or V2.0+.
Gain Control	0-99%. Manual only Variable using either the LEFT/RIGHT Cursor key in FF Mode or use the FF Adjust Page Mode.
STC Control	0-159 steps.
Color Rejection (Anti-clutter)	Up to 6 levels.
Backlight/keypad Control	8 steps.
Color Contrast Control	32 steps.
Power Down Timer	3 seconds delay holding the POWER key.
Plotter Track Points	1,000 points of track history.
Events & Types	250 total - stored with Depth & Temperature indications. Can place events anywhere in the Event List. 5 symbols {Fish, Flag, King Crown, Anchor, and Home}. Stored Event position, symbols, and Event Number can be edited in the Event List.
Plotter Scales	.125, .25, .50, 1.0, 2.0, 4.0, 8.0, 16, 32, 64, 128, 256 NM/SM. .25, .50, 1.0, 2.0, 4.0, 8.0, 16, 32, 64, 128, 256, 512 KM. Boat symbol automatically centers when edge of window is reached. Scale expansion with full window presentation. Panning operation with Cursor control in 8 directions.
Plot Method	Time: 1, 2, 5, 10, 20, 30 sec.; 1, 2, 5, 10, 30, 60 minutes. Distance: 0.01, 0.02, 0.05, 0.1, 0.2, 0.5, 1, 2, 4, 8, 16 NM/SM. 0.02, 0.05, 0.1, 0.2, 0.5, 1, 2, 4, 8, 16, 32 KM. Auto: 0.05 NM/SM (or .10 KM) or 20 seconds - whichever comes first.
Navigation	LL input (no TD to LL converter included).

Event Arrival Alarm	Adjustable in 3 steps - .10 & .20 & .50 units. Warning tone. Any key will silence.
XTE Scale	Adjustable in 3 steps - .10 & .20 & .50 units.
Plotter Modes	North-up with graphic Highway and Arrival Alarm presentations. Split Window with FF. Full scale Plotter.
Highway Control	Automatically centers with single press of the GO key.
Simulator	Yes. FF & Plotter.

and corrosion on connector pins.

With all of *PROFISH* II's flexibility, it is possible that an abnormal combination of settings could possibly affect performance. Restore the unit to factory settings and then turn On the Simulator to verify Display Unit performance.

To restore factory default settings, press the POWER key and then press the key while the Self Test screen is displayed. The unit resets and after Self Test, the Sonar screen is displayed.

To view full screen color bars, press the POWER key and then press the PLOT key while Self Test is displayed. Eight color bars are displayed. Press the GO key to see the colors move across the screen.

To proceed, press PLOT again.

The table below lists some possible problems and remedies.

If problems persist, contact your authorized SI TEX customer service station.

SYMPTOM	INSPECT/TEST	POSSIBLE CAUSE
Unit does not turn On	Check voltage at power connector.	Blown fuse, dead battery
No Sonar	Check transducer connector and cable, transducer setting Menu 1	Wet connector, cut cable, damaged transducer, incorrect transducer selection
Weak Sonar	Check Gain, STC, Clutter Rej setting, transducer	Improper settings, marine growth on transducer
No Position Data	Check COM connector, GPS/Loran power, Menu 2, Menu 3 settings	Navigation receiver inoperative, no NMEA, Improper Menu selections
No Temperature, erratic or incorrect Temperature	Menu 3 setting, transducer connector and cable	Faulty sensor or cable, wet connector
No Speed, erratic Speed	Menu 3 setting, paddle-wheel, GPS/Loran	Stuck paddle-wheel, cables, Navigation receiver setting
Unit does not turn Off	Press and hold power key 10 to 15 seconds, disconnect power connector	If persistent, service is required