THE *PRO*FISH II MAP/SOUNDER PLUS

WELCOME

Welcome to the SI-TEX *PRO*FISH II MAP/SOUNDER PLUS. You have selected the most advanced and easiest to use Sonar and Map Plotter combination ever offered to mariners. Whether you are a novice or a professional, your *PRO*FISH II gives you the tools to find the fish. And when supported by a GPS or Loran, it will show you where they are on a map and 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 Map Plotter employs the latest in proven technology to provide accurate navigation information. The Map 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 sounding and visual sighting to cross check navigation accuracy. For safety, always resolve any uncertainty before continuing navigation.

CAUTION

C-MAP electronic charts (ECs) are derived from geographical data - including official government charts - which we believe to be accurate. They are neither verified nor approved by Hydrographic Authorities. C-MAP ECs are designed only to ease and speed navigation calculations and so must not be relied upon as a primary source of navigation information, but rather a backup to the use of official government charts and prudent navigation habits.

There is no direct relationship between the color of water areas and their depth. The navigator shall always query the area for depth information and use the official paper charts.

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.

CAUTION

High power fish finder transmitters may cause, in some situations, uncorrectable VHF radio interference. When using your VHF radio in an emergency, turn the *PRO*FISH II Map/Sounder Plus Off.

Contents

Introduction

The latest developments in color LCD display technology, microprocessor control and sonar technology have been combined to give you a powerful fish hunting, chart plotting instrument. Your *PRO*FISH II Sonar and Map 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 Map Plotter functions may be used independently or combined with just the press of a button. However, digital depth is also displayed so you know where the bottom is. The Map 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 on world or local maps. 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 most fishfinder charting systems 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
- Internal World Map data base

Optional Equipment

- Swivel Mounting Kit
- Local Chart Cartridge, C-MAP*NT* C-CARD
- 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)
  120 kHz, Depth, Temp, Dual Beam
  120 kHz, Depth, Temp, Speed, Dual beam, (Double Stem)

* Actual depth capabilities may vary due to salinity, bottom hardness and other factors.

Map Cartridges

Your *PRO*FISH II Map/Sounder Plus has a built-in world map. However, more detailed local maps are necessary for navigation. The *PRO*FISH II uses C-MAP *NT* local map cartridges which are available from your SI-TEX dealer.

There are slots for two local map cartridges and either one, or both, may be in use at the same time. Cartridges may be inserted or removed while the map is displayed, but do not insert or remove cartridges while a map is drawing. The cartridge slots are accessible through a port on the front panel which is protected by a snug fitting flexible rubber cover. The cover is hinged at the top and may be removed by lifting up the bottom edge with finger tips and pulling outward from the panel.

WARNING

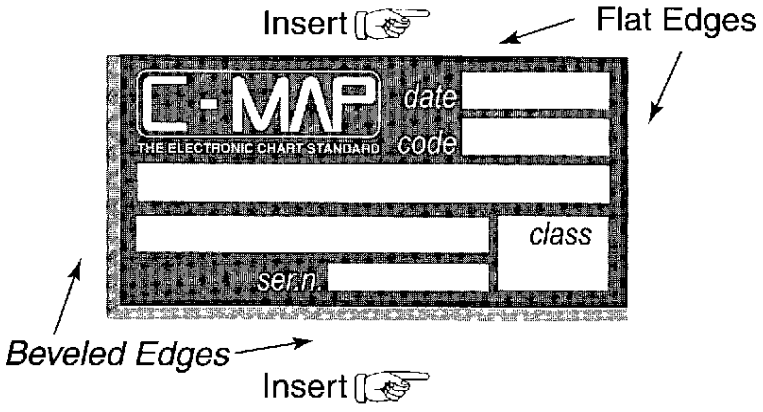
DO NOT attempt to open the cover from the top. Permanent damage will result.

DO NOT insert the MAP CARTRIDGE BACKWARDS.

Cartridges have two flat edges and two beveled edges and an identification label on one side. Hold the cartridge by the narrow beveled end with your right thumb on the label. Insert the cartridge into a slot, narrow flat edge first, as far as it will go. Press inward and to the right to latch the cartridge in the slot. To remove a cartridge, press inward and toward the display (left). A click indicates the cartridge is unlatched and will be partially ejected when pressure is released.

Always replace the rubber cover immediately after inserting or removing cartridges to maintain the watertight integrity of your *PRO*FISH II.

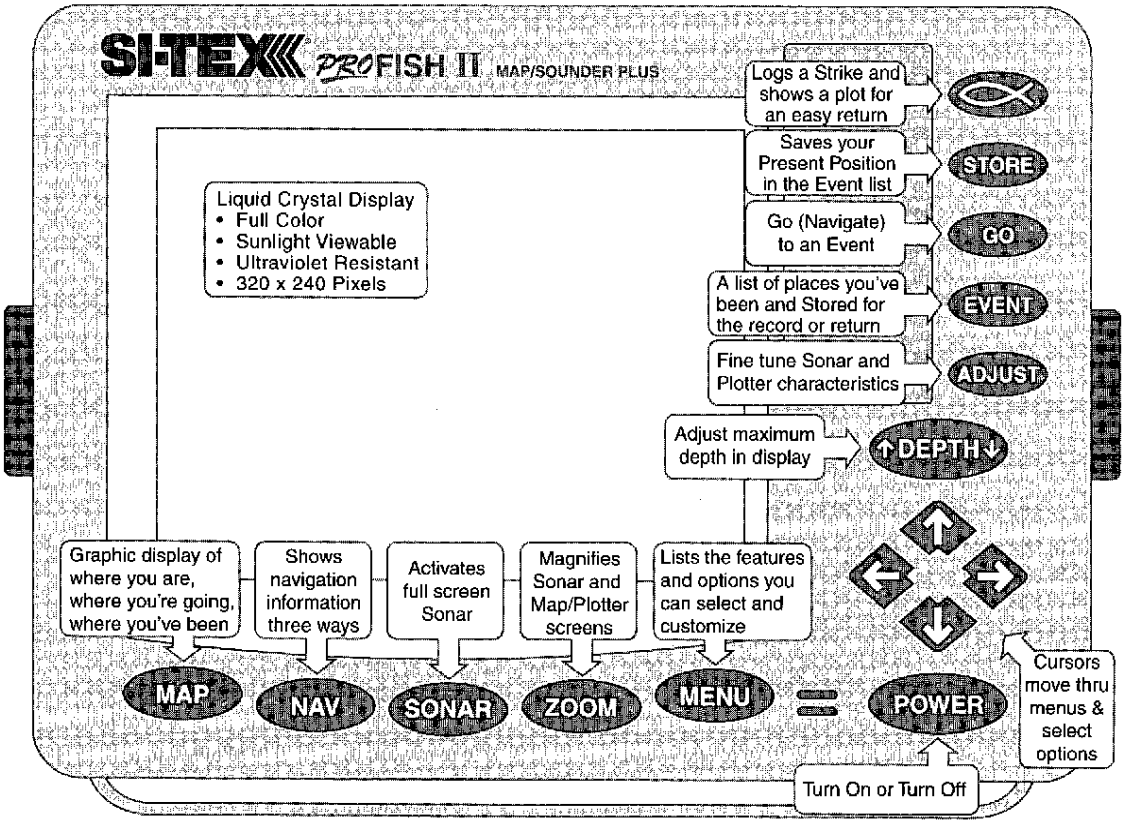
Store cartridges in their original container when not in use. Map cartridges are electronic devices and must be protected from exposure to moisture and chemicals. If the gold electrical contacts on the back of the cartridge appear dirty or very dull, gently clean with a very soft pencil eraser.



GETTING STARTED

This Getting Started section will get you acquainted with the basic functions and displays of your new *PRO*FISH II. Your *PRO*FISH II has a built in simulator which allows the unit to be operated without having your boat in the water or having the transducer connected. It is necessary, however, to have the power cable properly 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.

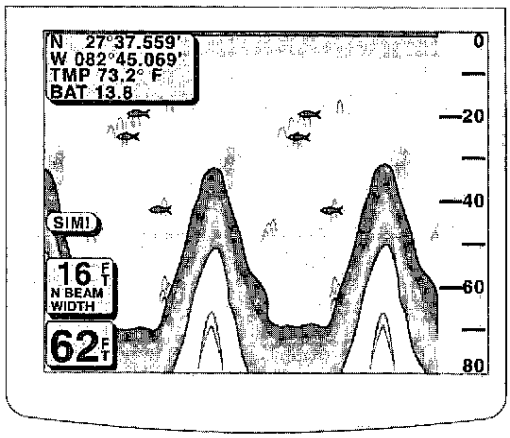


FRONT PANEL FEATURES

POWER ON. Press the POWER key.

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

Read the message and press any key except the Power key. The main Sonar screen appears.



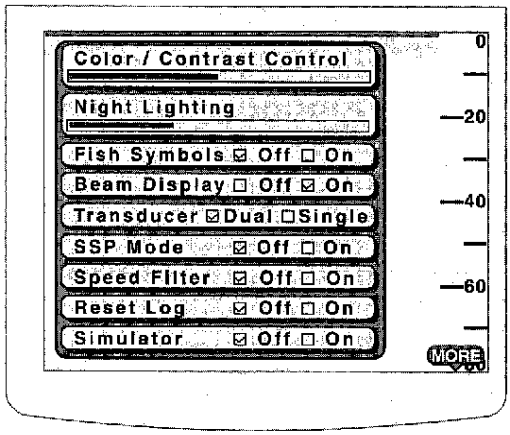
MAIN SONAR SCREEN

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 Map Plotter and Navigation simulation. Events are also known as waypoints. Procedures for basic Sonar operation are presented first, followed by Map and Plotter operation.



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 the selected item. The keys have an easy to use wraparound 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 once or press and hold the ⇩ cursor key to highlight Simulator in the menu list. Notice that the Off check box is checked .

Press the ⇨ key to uncheck Off and check On. Simulator ☐ Off ☑ On

Press the SONAR key. The main Sonar screen appears in the display.

Observe as the Sonar screen starts to move from right to left.

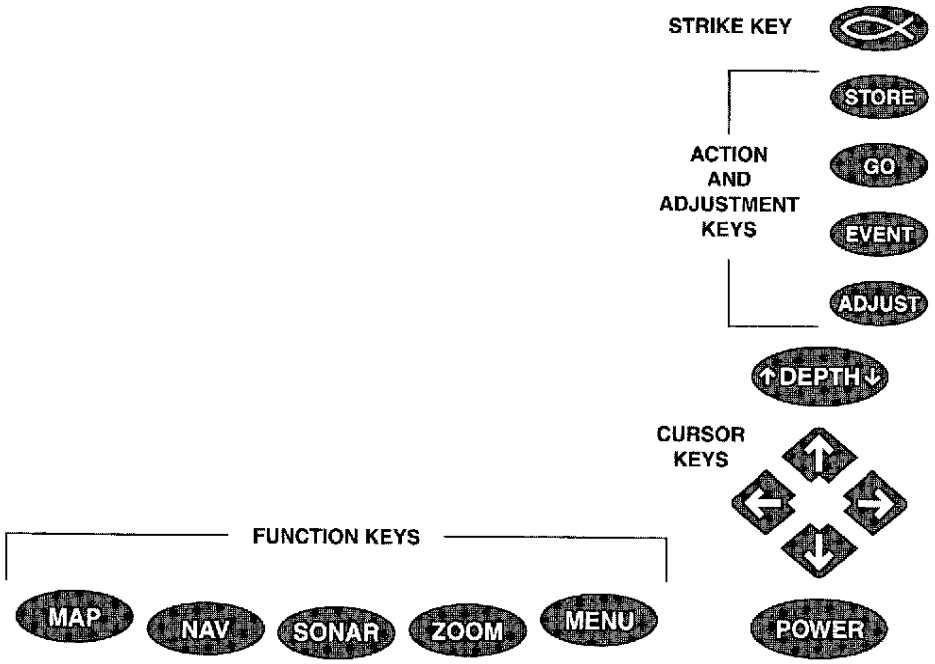
When the main Sonar screen is displayed, the cursor keys may be used to adjust receiver gain and set a depth marker line.

Press the → key to increase gain and the ← key to decrease gain. A pop-up Icon appears when either key is pressed which shows the gain setting from 1 to 20.

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

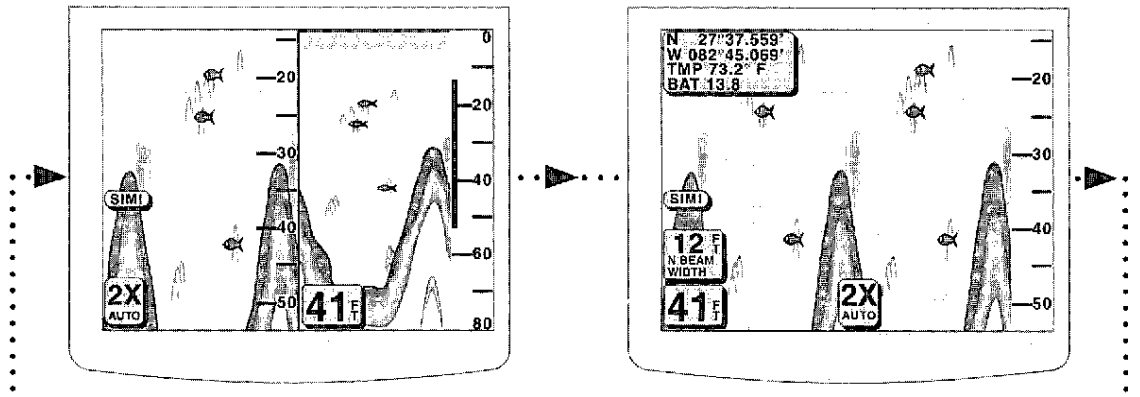
The keys below the display window are Function keys. The Function keys are used to select the *PRO*FISH II operation you want to see in the display. Each key activates a specific function with just one key press. Some functions have more than one page which may be viewed by repeated presses of the same 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.



KEYPAD

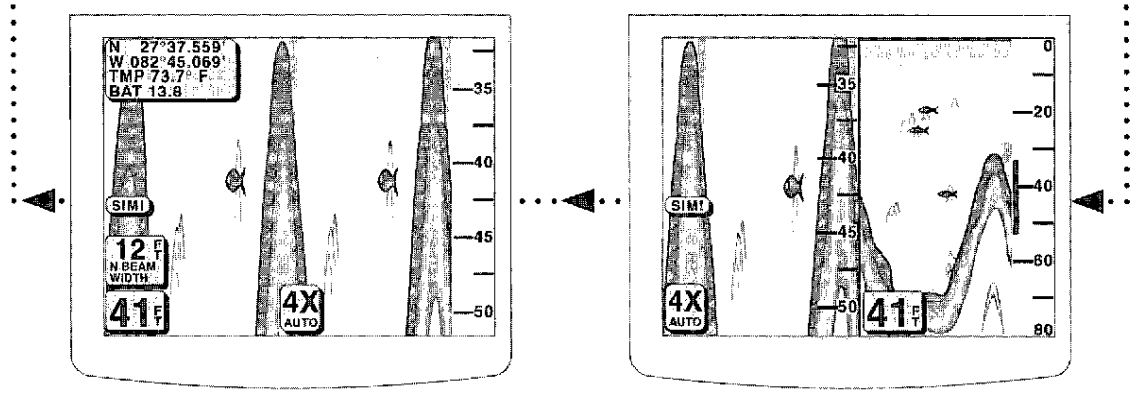
ZOOM

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



2X SPLIT **2X FULL**

SONAR ZOOM SCREENS



4X FULL **4X SPLIT**

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, Map 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.

The Operation section has more detailed instructions on Sonar operation.

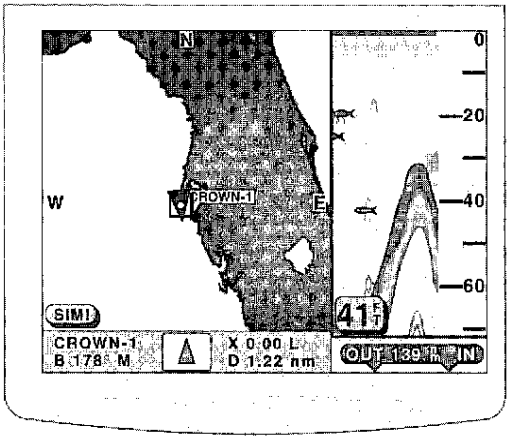
MAP Plotter

The Map Plotter function shows a graphic display of your vessel's position in relation to surrounding Events/waypoints. And with Map function active, it also shows where in the world you are. A world map is built-in your *PRO*FISH II and there is provision for two plug-in local area chart cartridges. The Map Plotter also shows vessel speed and direction of travel. When operating the Simulator function, no external navigation connection is required. In normal operation, a NMEA compatible GPS or Loran navigator must be connected to the COM connector on the rear panel of your *PRO*FISH II.

The Map Plotter may be operated with Maps function turned On or Off whether in normal or Simulator operation (The Simulator default is Maps On). With Maps turned Off, there is no visual indication of your geographic location. However, you can see the locations of Events/waypoints, stored in the Event Library, relative to the location of your vessel. When Maps are turned On, Events and your vessel appear in their geographic locations with a map background. With Maps turned On or Off, you can zoom in to see more detail or zoom out to see a larger area.

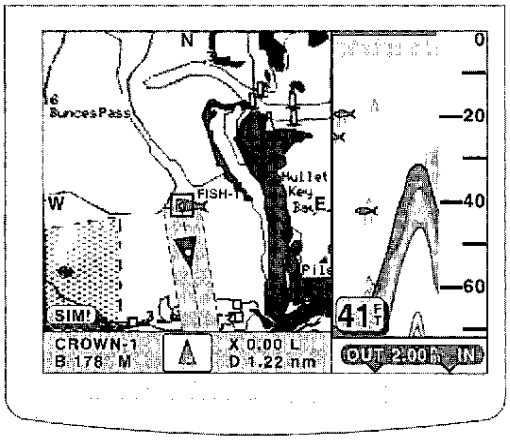
The Map Plotter screens appearing in the display window may not be exactly as shown below depending upon your choice of local chart cartridges. The Events preprogrammed in the Simulator's Event Library are located in the Tampa Bay area of Florida. If this is not your operating area, there are not sufficient levels of detail in the world map to show the scale necessary to see the preprogrammed Events clearly. In normal operation, with an operating navigation receiver connected, and the local chart for your location installed, you can zoom in to see more detail. Local chart cartridges have many more levels of detail than the internal world map.

Press the MAP key. Presuming the Simulator is still turned On and Maps have not been turned Off, a Map 1 screen appears in the display. The Map 1 screen is similar to one of the following displays, depending upon the local chart cartridge installed.



MAP 1 SCREEN

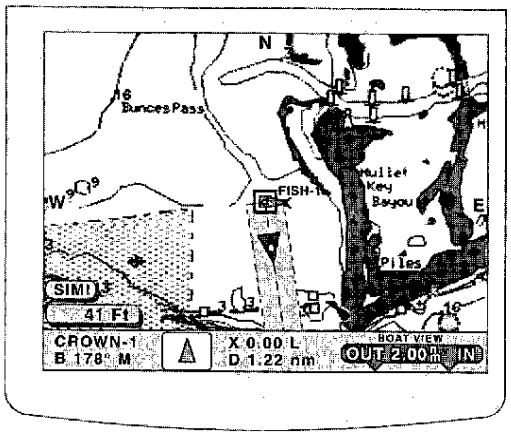
Local Chart area does not include Tampa Bay



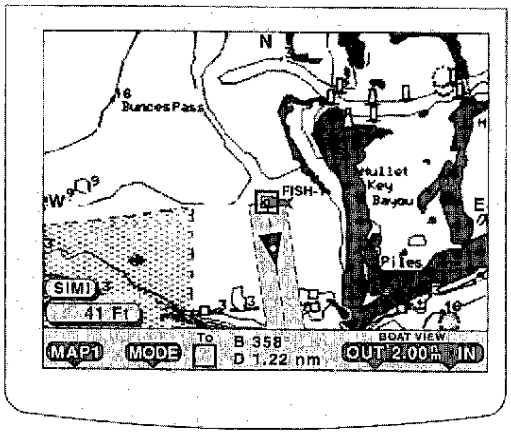
MAP 1 SCREEN

Tampa Bay within Local Chart

There are three Map Plotter screens with Maps function turned On and two Plotter screens with Maps turned Off. Each time the MAP key is pressed the next screen appears. The Map 3 is also a gateway to advanced plotting functions. More detailed information may be found in the Operation section.



MAP 2 SCREEN

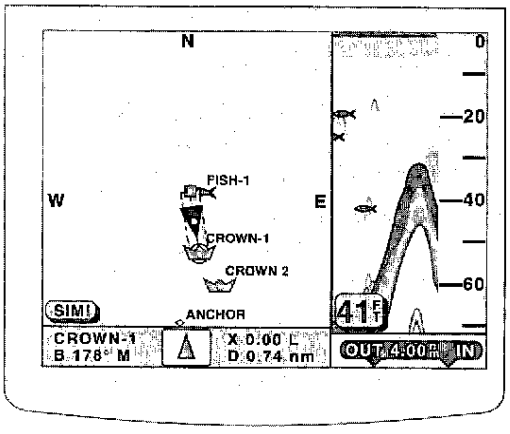


MAP 3 SCREEN

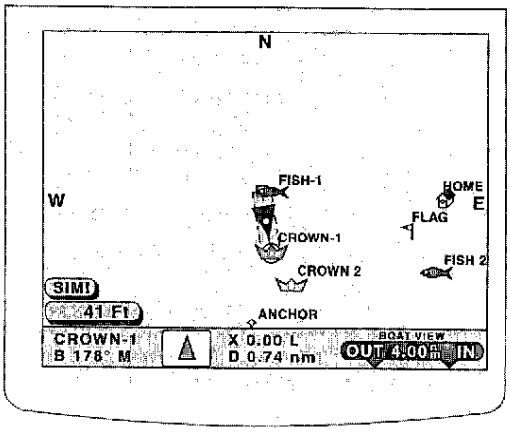
Press the MENU key to zoom In or press the ZOOM key to zoom Out. Observe the change in scale and detail at each level. If your local chart does not include Tampa Bay, or if no local chart is installed, the maximum 'zoom In' level is 47 nm.

If you do not have a local chart cartridge that includes the Tampa Bay area, you can continue this simulator learning session with maps turned Off. All operational functions are the same except there is no map background present.

To turn map features Off, press the ADJUST key. Then use the ◆ or ◆ keys to select the Maps item on the menu. Press the ◆ key to turn Maps Off. Then press the ADJUST key again to return to the Plotter screen.



PLOT 1 SCREEN



PLOT 2 SCREEN

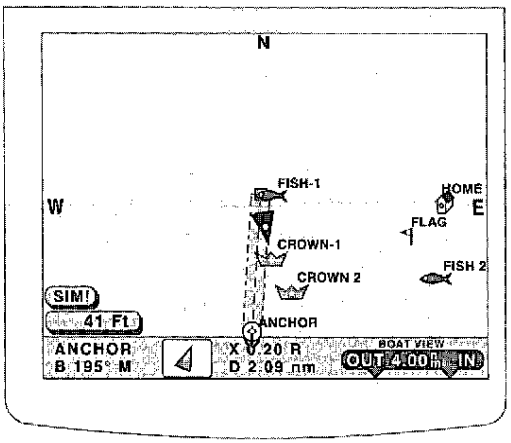
The Simulator has seven Events stored in the Event library which appear on Plotter and Map Plotter screens. The vessel continuously travels a simulated path to each Event in sequence. The first leg of travel is shown with a fairway and with an arrival alarm circle around Event CROWN-1, the destination for the first leg. With the Simulator On, as the vessel approaches CROWN-1, an alarm Icon appears in the display. ARRIVING AT CROWN-1 Any key to clear In normal operation, the alarm Icon appears and an audible alarm sounds. Press any key to silence the alarm. The vessel continues to Event CROWN-1 and then proceeds toward the next Event. For practice, a different destination Event may be selected or other Events may be edited. You may also press the STORE key to add additional Events while traveling along the course. Changes made to the Event library or Route Event list during a Simulator session are not retained when the Simulator or Power is turned Off.

When you enter real world Events into the Event Library or build Route Event lists, do so with the Simulator turned Off.

To change the scale of the display, press the ZOOM key to zoom Out and the MENU key to zoom In. With map features turned Off, the scale may be zoomed out to 256 nautical miles or zoomed in to 1/8 nm. The scale is measured from the center of the display to the upper edge. With map features turned On, the maximum scale can be greater than 1,000 nautical miles. The minimum scale is approximately 50 nm in areas covered only by the world map, and can be much less than one nm in areas covered by a local chart. The actual scale values will vary depending upon the location and the local chart cartridge in use.

To change the destination Event, press the EVENT key. Use the ▼ or ▲ keys to select a different Event and press the GO key. The Plotter screen returns to the display and an arrival circle appears around the new destination with a fairway from the vessel's Present Position to the new destination. Although the vessel does not change directions, the indications on the screen for bearing, distance, speed, cross-track error and heading, accurately represent the navigation situation.

The following Plotter screen shows how the Steering Arrow and cross-track error are displayed. To duplicate this display, turn the Simulator On and press the MAP key. Then press the EVENT key and select Event 3, ANCHOR. Press the GO key. The fairway is drawn from the vessel's Present Position to ANCHOR. Observe how the Steering Arrow responds as the vessel proceeds along its programmed course. As the vessel travels from Event FISH-1 to Events CROWN-1, ANCHOR, FLAG and on toward Event HOME, all navigation indicators accurately report the changing situation.



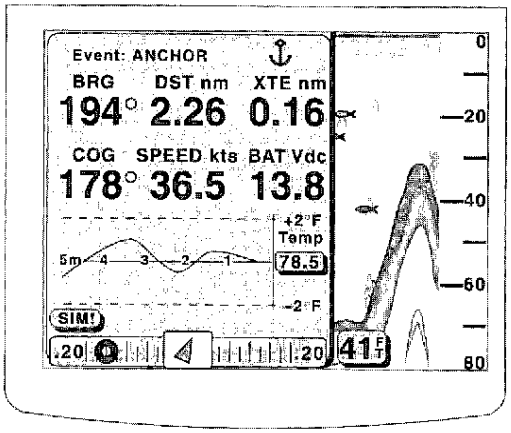
PLOT 2 with Cross Track Error

The Operation section has more detailed instructions on Map Plotter operation.

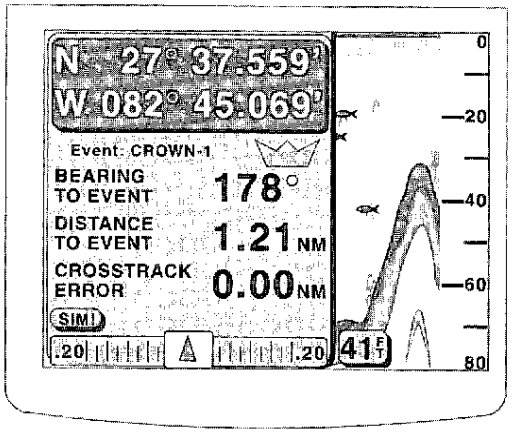
NAV

The Nav function presents navigation information in text format rather than the graphic form seen in the Map Plotter screens. The Steering Arrow and Bowling Ball are present to easily guide you to your destination. The Bowling Ball is an indicator for cross-track error. When cross-track error is zero, the Bowling Ball is hidden behind the Steering Arrow. As cross-track error changes, the Bowling Ball will appear on the scale to indicate the direction and distance off course. The Nav screens share the display with Sonar. All of the normal Sonar features are supported.

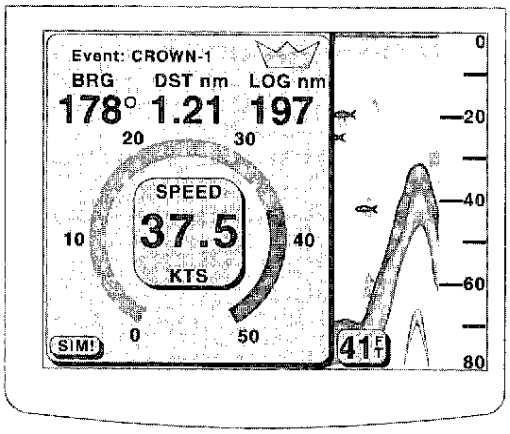
Press the NAV key. There are three Nav screens, so each time the key is pressed the next screen appears in sequence.



NAV 1 SCREEN



NAV 2 SCREEN



NAV 3 SCREEN

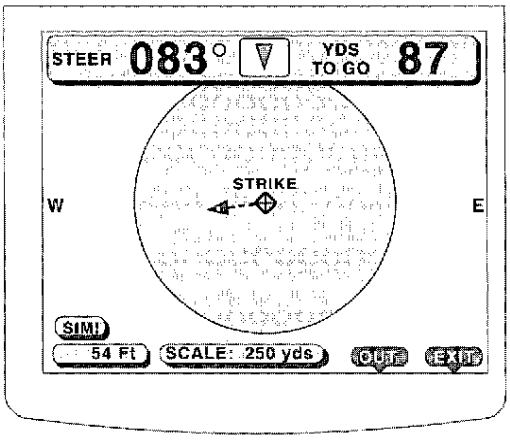
The three Nav screens provide a split screen view of navigation and Sonar simultaneously. The Nav 1 screen has an auto centering temperature history plot showing water temperature history for the last five minutes. Nav 1 also shows Bowling Ball and Steering Arrow indications of cross track error while navigating to Event ANCHOR instead of CROWN-1. Nav 2 presents navigation data in large number format for easy viewing. Nav 3 has a Log display which shows accumulative distance traveled. The Log may be reset to zero using 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.

STRIKE

The Strike function allows you to instantly mark a Strike. The Plotter is automatically activated using the Strike coordinates as your destination and displays your vessel's position relative to the Strike. Maps are not displayed when Strike is active.



STRIKE SCREEN

To mark a Strike, press the FISH 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 automatically changes to 500 yards as your vessel approaches any edge of the display.

Press the ZOOM key to manually change scales back and forth between 250 yards or 500 yards.

Displayed at the top of the screen is the Steering Arrow and digital readouts indicating bearing and distance back to the important Strike location. The bottom of the screen displays the depth, map scale, and soft key Icons pointing to keys used for Zoom and Exit. Steer your vessel to stay in the Fish Probability Zone for the likelihood of more action. If Fish Alarm is active, an audible tone sounds momentarily and the FISH! Icon appears briefly in the upper right corner of the display. The Fish Alarm may be set in the Sonar Adjust screen.

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 Simulator to experiment and practice. You can't hurt anything by just pressing buttons.

For more detailed procedures in using your *PRO*FISH II please see the Operation section.

If you have not already installed your *PRO*FISH II, please proceed to the Installation section for helpful information.

INSTALLATION

Transducer Installation

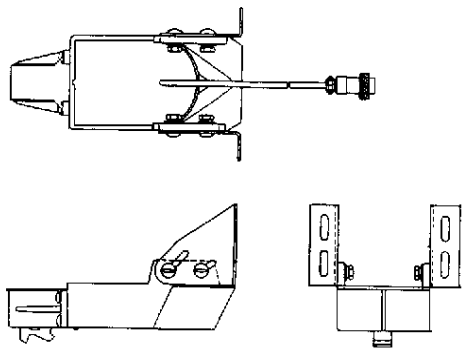
The installation of your *PRO*FISH II, though not difficult, does require some planning and skill to achieve the best results. It is strongly advised that you read the installation instructions completely before starting. Many different types of transducers may be used with the *PRO*FISH II. Refer to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

CAUTION

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

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

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



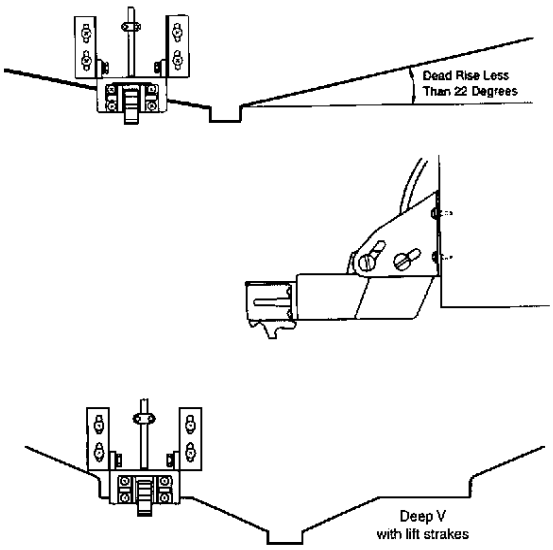
Transom Mount Transducer

This transducer has been designed to give you good performance installed on the transom of most boat types, however, the transom transducer style should not be used on boats with inboard engines.

For boats with poor water flow under the transom or on in-boards, consider selecting a through-hull transducer. SI-TEX offers many styles of transducers.

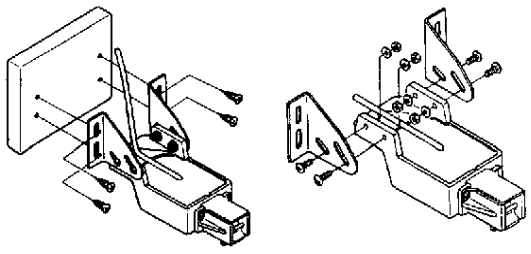
Determine the transducer mounting place by referring to the steps mentioned above. For best results, the transducer face should be level. Also, the transducer face should be mounted from flush to 1/4 inch below the under surface of the hull. The trailing edge of the housing should be about 1/8 inch below the leading edge. The adjustable stainless steel bracket is designed to allow fine tuning of the transducer position once the installation is completed.

Route the transducer cable as far as possible away from the boat's power cables, engine controls and other electrical cables. Do not route transducer cables near your VHF radio power or antenna cables.



Transom Installations

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



Transom Mount Transducer Assembly

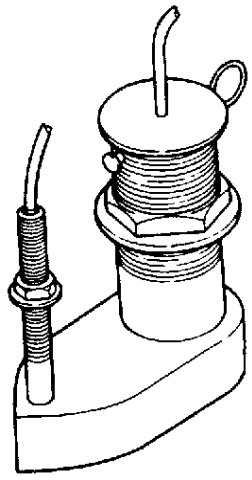
Transom Transducer Maintenance

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 antifouling paint. Alternatively, the entire transducer can be painted and is easier to keep clean. **Do not use regular antifouling paint.** All copper base antifouling 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 thinner/solvents away from your transducer.

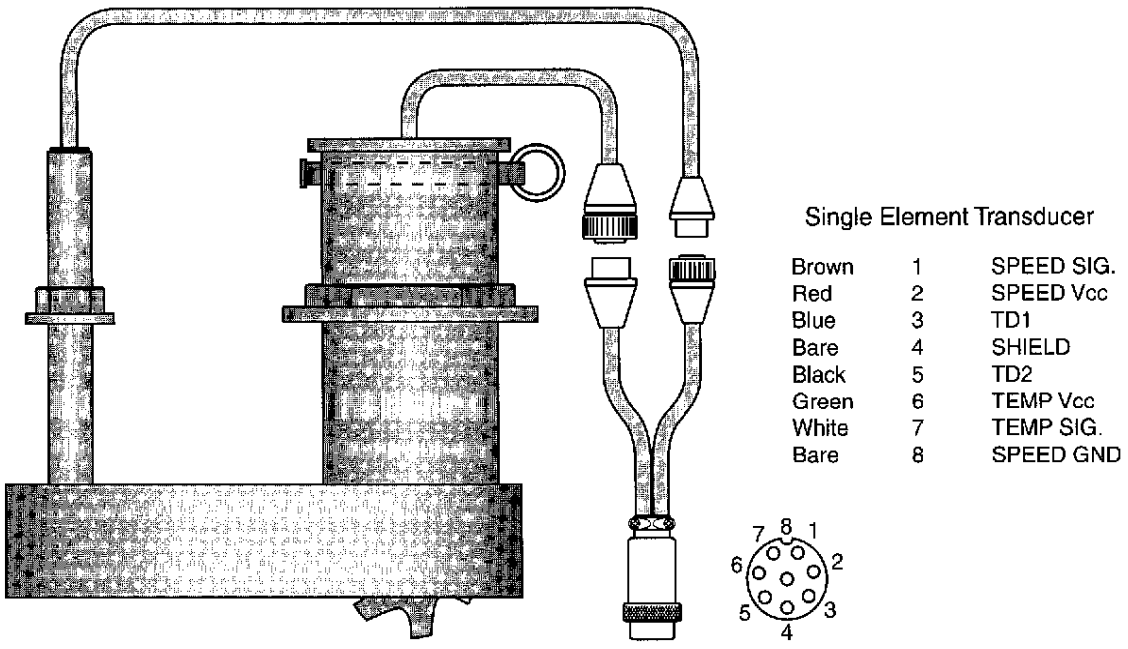
Through-hull Transducers

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

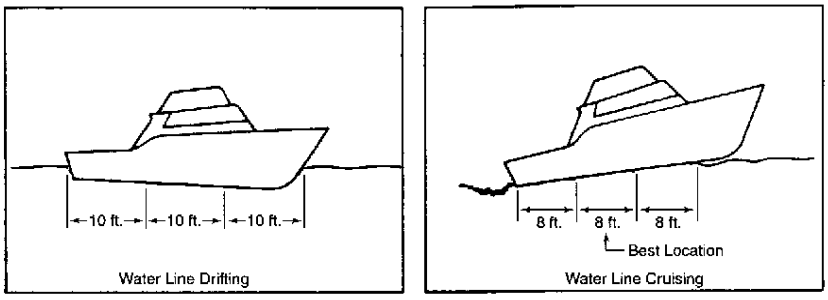
The transducer shown has all the sensors necessary to support the advanced features of your *PRO*FISH II. The small stem leads to the dual beam sonar elements and the large stem encloses the speed and temperature sensors. The speed sensor element may be easily removed, and replaced with a plug to prevent leakage, for cleaning or storage. The sturdy bronze construction assures a secure installation and provides a strong base for fairing blocks if needed to compensate for hull shape.



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.

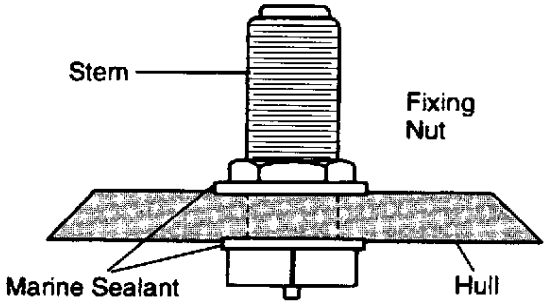
Areas in the center third of water line length at cruising speed are usually satisfactory.



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.

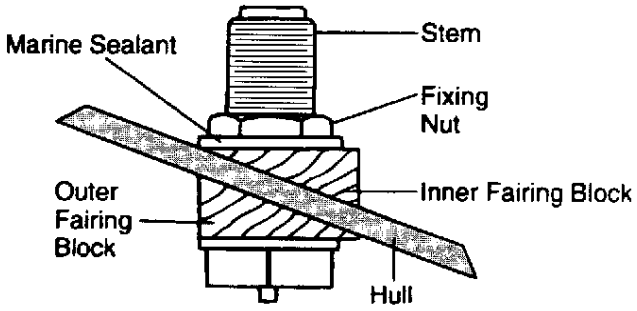
Dead-rise

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



Dead-rise Less Than 5°

In this case, no fairing block is necessary. To prevent leakage, any gaps between the stem threads and holes drilled in the hull should be completely filled with waterproof marine sealant. Tighten the stem nuts securely but do not over tighten.



Dead-rise Greater Than 5°

In this situation, install fairing blocks both inside and outside the hull. Install the transducer with the face aiming straight down. To prevent leakage, any gaps between the stem threads and holes drilled in the hull should be completely filled with waterproof marine sealant. Tighten the stem nuts securely but do not over tighten.

Through-hull Transducer Maintenance

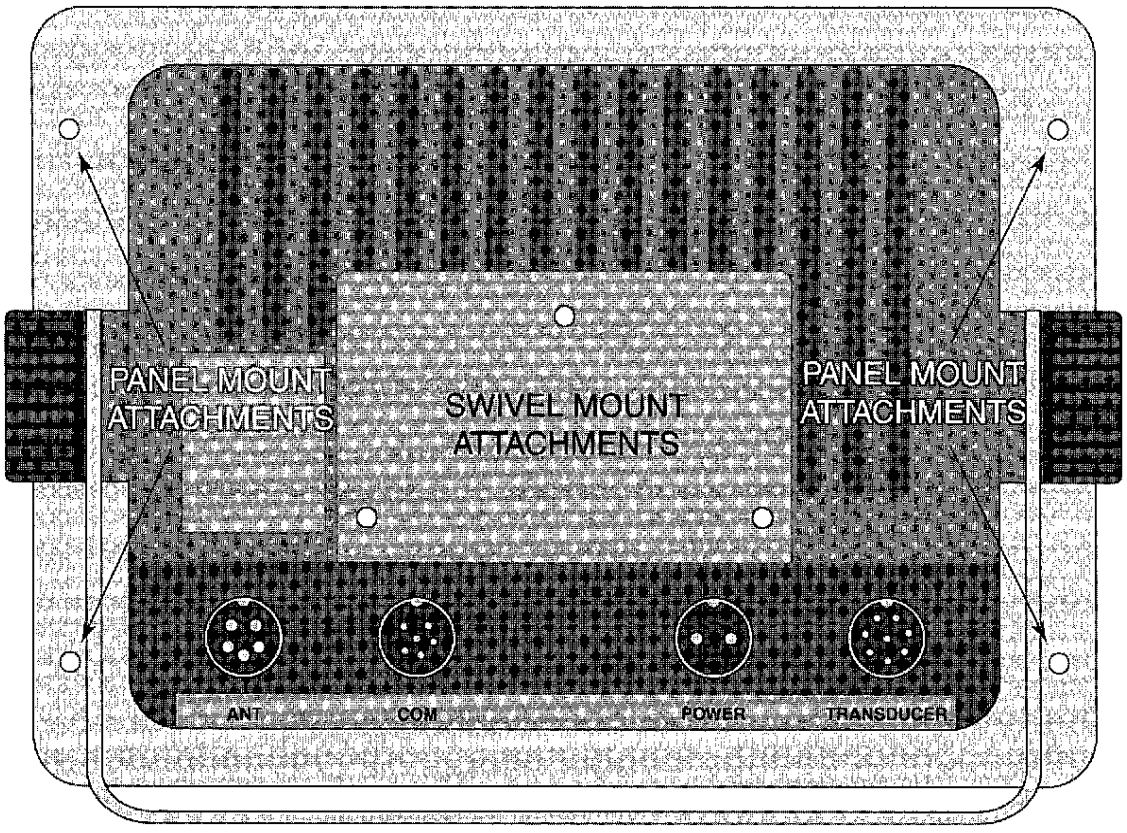
If your boat is kept in the water, performance of your *PROFISH II* will be adversely affected by accumulations of sea growth on the face of the transducer. To prevent sea growth effects, the face of the transducer may be coated with antifouling paint specially formulated for transducers. Do not use regular antifouling paint on the face of the transducer. The bronze housing may be coated with any antifouling paint. If fairing blocks are used, especially if made of wood, complete sealing prior to painting is important. Since the speed sensor is removable, it is recommended that it be removed periodically for cleaning and replaced with the plug supplied. That way, the clean paddle-wheel sensor assures the best performance.

Display Unit Installation

Your *PRO*FISH II is especially designed for use in the marine environment and, if carefully installed, will provide reliable service. Locate the unit with some protection from driven spray and objects that could strike the display. The LCD display window is a UV blocking plastic and will scratch if struck.

Helpful Hint: The *PRO*FISH II must be positioned for direct viewing of the screen and within easy reach of the operator. The best viewing position is straight on. The viewing cone is 30 degrees to either side and 27 degrees up or down. The full color LCD display is sunlight readable and does not need to be shaded for viewing.

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



DISPLAY UNIT REAR PANEL

Trunnion Mounting

The aluminum trunnion bracket supplied with your *PRO*FISH II may be used for 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 *PRO*FISH II is intended to seal 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 place and mark the locations of mounting holes. Use care not to distort the shape of the 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.

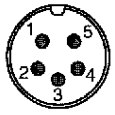
Remove the gasket. Drill four 3/16 in. or 5 mm diameter mounting holes and carefully cut inside the lines for the cutout. Cut the dashboard carefully with a sabresaw and a fiberglass cutting blade. Temporarily install the display unit without the gasket. Install all four M4 threaded rods. Check that 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.

Place the display unit in the panel opening and install four threaded rods. Install washers and nuts on the rods and tighten to compress the gasket.

Cable Installation and Routing

Four connectors are located on the lower rear panel of the *PRO*FISH II display unit. The connectors provide a means of connecting power, transducer and navigation devices to the *PRO*FISH II. Each connector is keyed to prevent accidental crossed connections which may damage the unit. The connector functions and pin arrangements are shown below.

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
	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
	2	Battery Negative (–)	Black
 TRANSDUCER	1	Speed Signal	
	2	Speed Vcc	
	3	Ducer #1 (Outer)	
	4	Ducer #2 (Inner)	
	5	Ducer Common	
	6	Temperature Vcc	
	7	Temperature Signal	
	8	Ground	

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.

WARNING

Install a 2 Amp fuse in the Red Power Lead

PROFISH II internal switching accommodates single element transducers without requiring a junction box.

Rear Panel Connectors

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

The transducer cable carries high energy pulses which can affect the operation of other electronic equipment such as VHF radios. Route the transducer cable separately from all other cables and avoid passing it through tight holes that have other cables passing through them. Transducer cables often have in-line connectors below decks. In these cases it is important to tie the cables up out of the bilge to prevent the connectors from getting wet. It is always good to have connectors at the high point in a cable run. That way, if a cable gets wet, moisture runs away from the connector 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. The warning appears only once in Simulator mode.

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

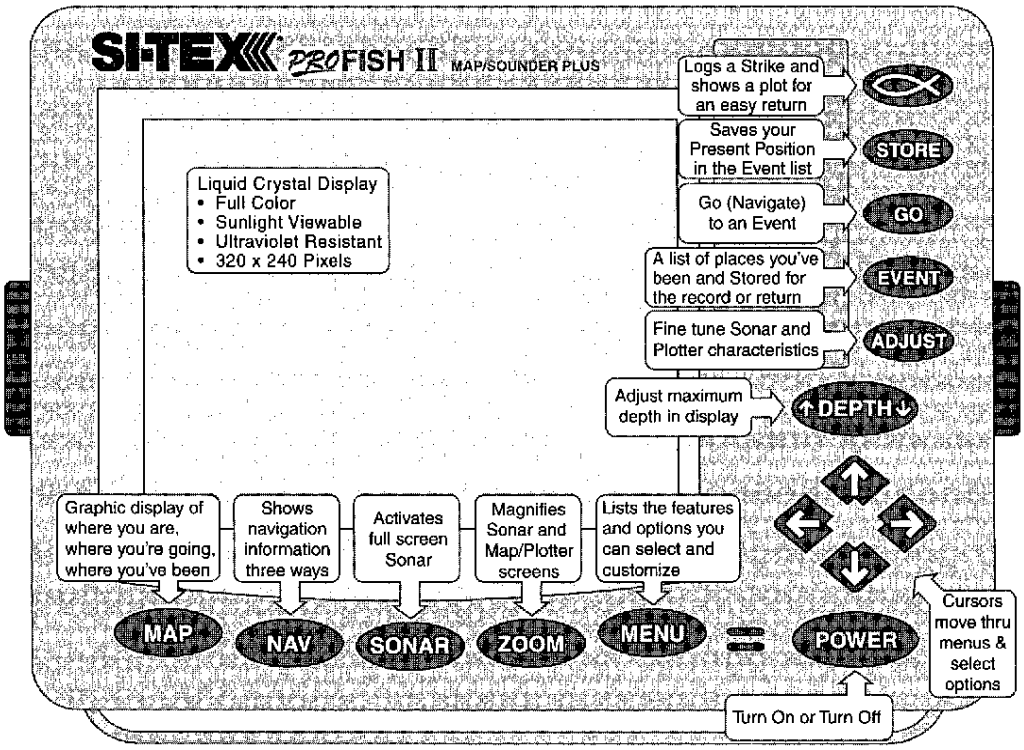
The ANT connector interfaces to a dedicated GPS sensor which sends geographic position, speed, course and other information to the *PRO*FISH II. The information is used by the Plotter function and the geographic position information is displayed on Sonar screens. The ANT interface is not necessary for Sonar operation.

OPERATION

The Operation section describes in detail all the operating features and functions of your *PROFISH* II. Although the *PROFISH* II is very easy to operate, many advanced features are included which require a little more study to provide the most usefulness.

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

Boxes appearing in the display are called Icons. They may contain data, status or present options for advanced features.



FRONT PANEL FEATURES

Function Keys

The keys across the bottom of the unit are Function keys. The Function keys main purpose is to select the *PROFISH* II operation you want to see in the display. Each key activates a specific function with just one key press. 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. On some pages, keys will have a secondary purpose which is indicated by an Icon pointing to a key. These are soft key Icons and contain a name or action for the now active function. Just follow the pop-up screen Icons to guide you through proper operation. Operation of the *PROFISH* II is similar to your personal computer with windows and Icons presenting easy to read selections.

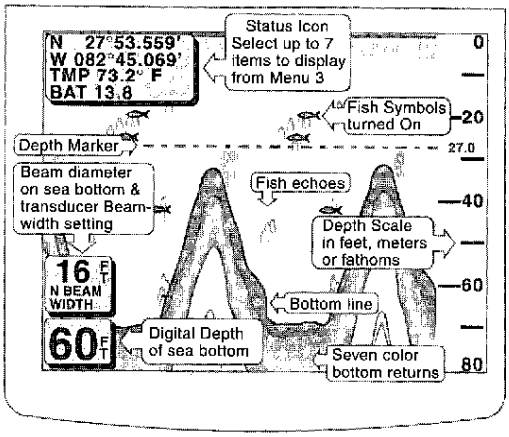
Cursor Keys

The four cursor keys are used to select items in menus and to change or adjust values for an active function. Menus have an easy to use wraparound 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. Settings for numeric values do not wraparound.

When Map Plotter functions are active, the cursor keys are used to maneuver the cursor to Icons of interest appearing in the Map display. More information about cursor operation is described in the Maps topic.

SONAR

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



SONAR SCREEN

The arrow boxes show the many features of the main Sonar screen. The Status Icon may be expanded to show more information by selecting the desired options from the Sonar list in Menu 3. If all options are turned off, the Icon does not appear.

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

To change the Depth setting, press the down DEPTH key. Press the key off-center near an arrow for either deep or shallow.

The Depth Scale changes in 5 depth unit steps. Depth units may be set to feet, meters, or fathoms from Menu 2.

The Digital Depth Icon shows the depth of the sea bottom. **If the sea bottom is deeper than the maximum depth shown on the Depth Scale, the Digital Depth Icon and the Beamwidth Icon will not appear in the display.**

Sonar Gain and STC controls are very important to detecting fish and sea bottom features. To adjust Sonar Gain, press the key to increase gain and the key to decrease gain. When either key is pressed, an Icon GAIN 12 appears in the display showing the gain as a value from 0 to 20. After several seconds the Icon disappears. Adjust the Sonar Gain for good contrast between the bottom line and the colored areas of the sea bottom. The default STC setting is 10 (50% level). If STC is set to higher levels, fish targets will be lost. In calm sea with minimal turbulence, try setting of 5 or 6 for maximum fish detection. See STC item of ADJUST Sonar Menu topic for more information.

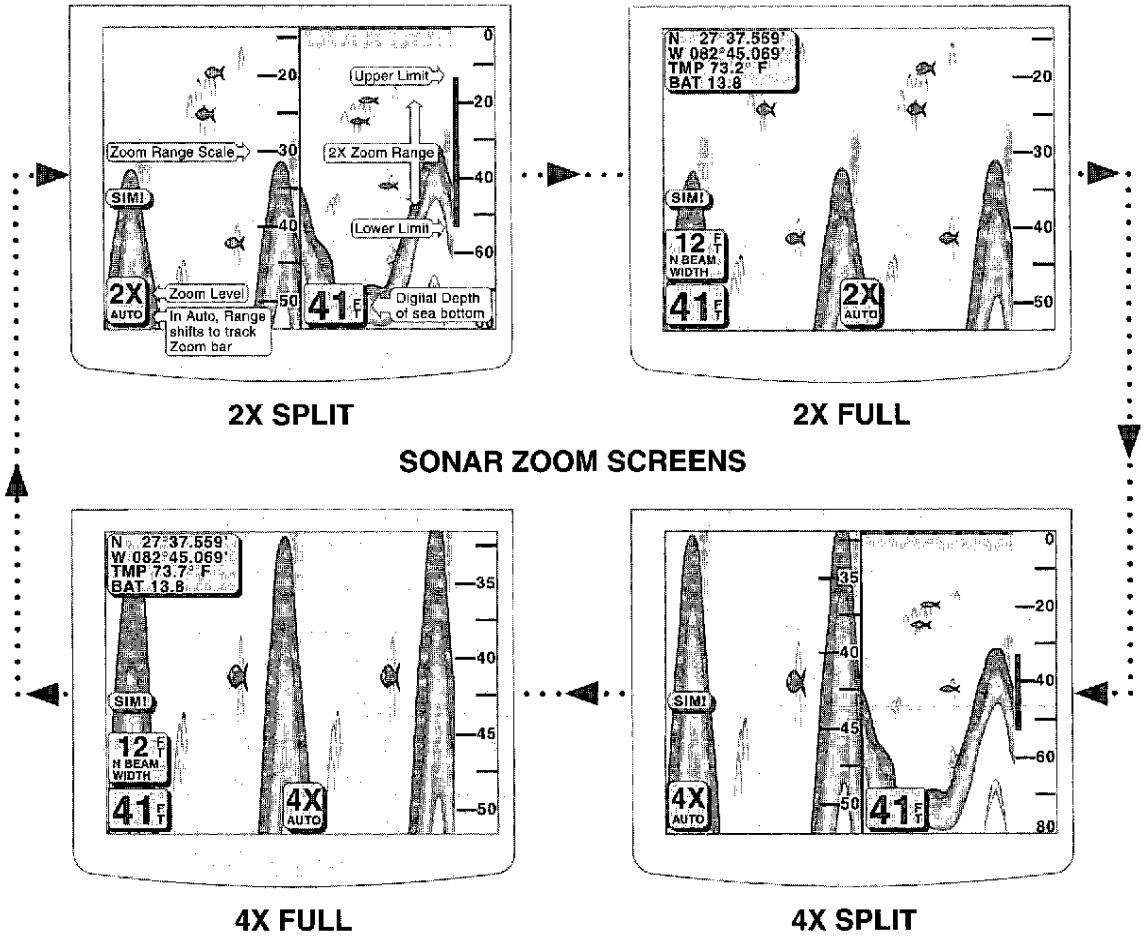
The Depth Marker may be used to indicate the depth of a prominent feature even after it has moved off the screen. The Depth Marker is visible on the main Sonar screen and on either the Nav or Map Plotter split screens, where both sonar and navigation data share the display.

To set the Depth Marker, press and hold the key to move the marker onto the screen. Press the key to set the marker to a shallower depth or to park it at the top of the main Sonar screen. Momentary key presses move the marker in small steps. The Depth Marker may be adjusted when either the main Sonar screen or the Nav screens are active. Although the Depth Marker is visible on Map Plotter split screens, it cannot be adjusted because the cursor keys are used for moving the cursor.

ZOOM

The Zoom function magnifies the main Sonar screen to show more detail.

Press the ZOOM key. The 2X Split Zoom screen is the first of four Sonar Zoom screens. Each time the key is pressed, the next screen is displayed. The right side of 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.



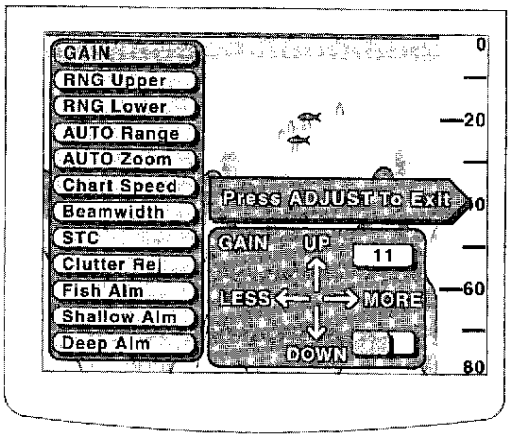
The Zoom Range bar indicates the exact portion of the main Sonar Depth Range that is magnified in the 2X side of the screen. If AUTO is indicated in the Zoom Level Icon, the Zoom Range bar tracks the sea bottom and the magnified sea bottom is always in view on the 2X side of the screen. The other Zoom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

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.

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.



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 dashed 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 though-hull transducer, a dual beam model is recommended. Single beam transducers may be used, but this beamwidth control feature is not functional.

STC: Means Sensitivity Time Control. STC controls receiver gain during the time interval starting immediately after each sonar pulse is transmitted. Proper setting of STC is very important for good fish detection. Set STC to reduce or eliminate excessive sonar returns near the surface. STC may be set from 0 to 20, with 10 as a nominal setting. At nominal setting, STC is effective from the surface to approximately 30 ft. At maximum setting, STC is effective to 80 ft. Avoid too high a setting which causes loss of fish echoes. In calm sea with minimal turbulence, try setting of 5 or 6 for maximum fish detection.

Clutter Rej: Allows reduction in the number of color levels displayed on Sonar screens. It is used in highly turbulent water conditions such as found in passes and inlets. There are 7 levels possible and 6 of them can be turned off if desired. The strongest echoes are displayed as level seven (green) and the weakest as level 1 (dark blue).

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.

MAP

The Map Plotter presents a graphic view of your vessel's Present Position and locations for Events that you have stored in the *PRO*FISH II's Event library. The Map Plotter function may be used with Maps either turned On or Off whether in normal or Simulator operation (the Simulator default is Maps On). With Maps turned On, your Present Position and Events are shown in their geographic locations on a map. With Maps turned Off, Events are shown at their locations relative to your vessel's Present Position with no map background.

A world background map is stored internally in the *PRO*FISH II and there are provisions for two local map cartridges. The local map cartridges are installed through a slot in the front panel and they contain many more levels of detail than the world map. To control the amount detail displayed on a map, there are two menus, Menu 4 and Menu 5, which are used to enable or disable individual map features.

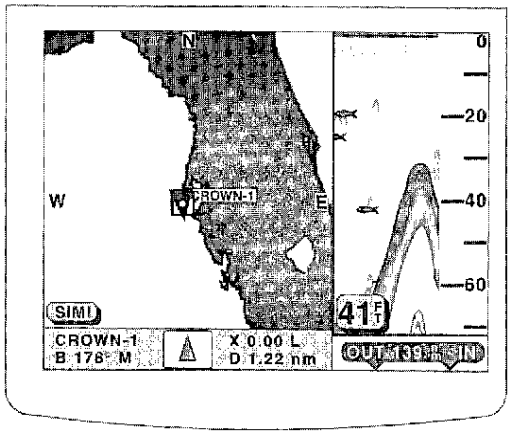
Events stored in the Event library may be any Latitude/Longitude coordinates of interest. Fish havens, channel markers, obstructions, national boundaries are examples. The Event library holds 250 Events that include depth and temperature in addition to Latitude/Longitude coordinates.

For normal navigation, 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 Map Plotter. GPS satellite data is displayed on Menu 6.

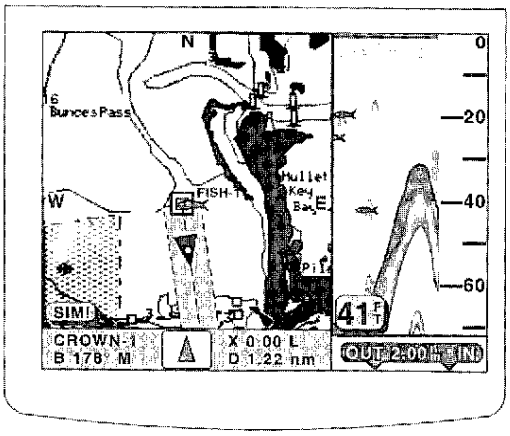
The built in Simulator may be used for practice without a navigation receiver. The following illustrations are based upon Simulator operation with map functions turned On. However, when using the Simulator with Maps turned On, maps may not appear exactly as shown depending upon your choice of local chart cartridges.

The Events preprogrammed in the Simulator's Event Library are located in the Tampa Bay area of Florida. If this is not your operating area, there are not sufficient levels of detail in the world map to show the preprogrammed Events in the same scale as illustrated. If the Simulator is used with Maps turned Off, all operational functions and zoom levels are available, but without a map geographic reference.

Press the MAP key. A Map 1 screen appears in the display. Presuming the Simulator and Maps are turned On, the Map 1 screen appears similar to one of the following two displays. If a local chart cartridge is installed that covers the Tampa Bay area, the map appears on the 2.00 nm scale. If the local chart cartridge does not include Tampa Bay, or if no cartridge is installed, the map appears on the 47 nm scale.



MAP 1 SCREEN
Local Chart area does not include Tampa Bay

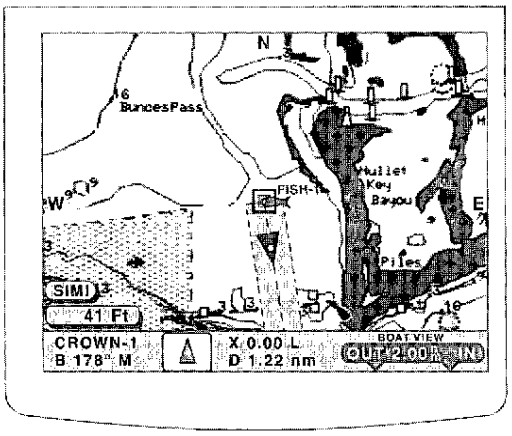


MAP 1 SCREEN
Tampa Bay within Local Chart

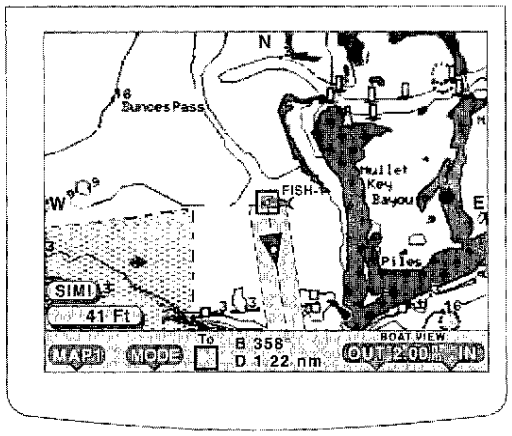
The vessel symbol and cursor symbol are drawn in the center of the map area of the screen. Preprogrammed Events are easily observed on 2.00 nm scale but are not as visible on the 47 nm scale. All navigation functions and data displays are the same regardless of scale. Map 1 displays Sonar returns in the right one third of the screen and Map Plotter in the left two thirds of the screen. The Map Plotter display is always North up, regardless of direction of travel. The Sonar display is either the main Sonar screen or Sonar 2X or 4X depending upon the active Sonar display when the MAP key was pressed. Sonar Depth Range may be changed while the Map 1 screen is displayed.

There are three Map Plotter screens with Maps turned On and two Plotter screens with Maps turned Off. Each time the MAP key is pressed the next screen appears. Map 3 is also a gateway to advanced plotting functions which are described later in this section.

Press the MAP key repeatedly to select the desired Map Plotter or Plotter screen.



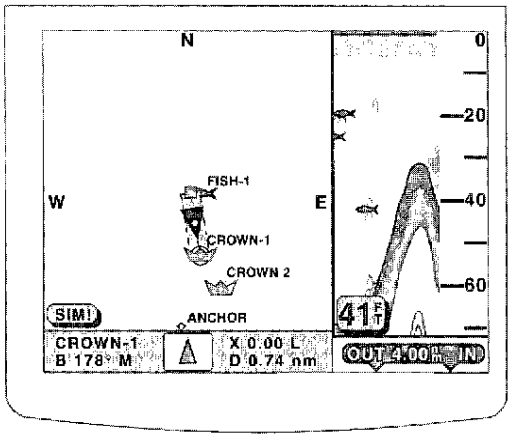
MAP 2 SCREEN



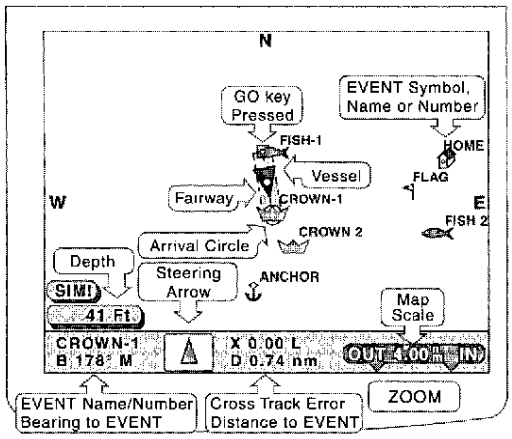
MAP 3 SCREEN

If you choose to turn Maps Off, press the ADJUST key. The Plot Adjust screen appears in the display. Use the ◆ or ◆ key to highlight the Maps item on the menu. Then press the ◆ key to turn Maps Off. Press the ADJUST key again to return to the previous Plotter mode, but now the map background is not displayed.

The Plot 1 and Plot 2 screens are shown below. All navigation information remains the same as when Maps are displayed. The vessel symbol and cursor symbol are placed in the center of the Plot area and all Events are shown in their correct locations.



PLOT 1 SCREEN



PLOT 2 SCREEN

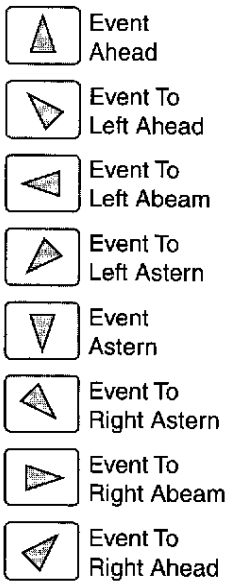
To change the scale of the display, press the ZOOM key to zoom Out or the MENU key to zoom In. With Map functions turned Off, the scale may be zoomed out to 256 nautical miles or zoomed in to 1/8 nm. The scale is measured from the center of the display to the upper edge. With Map functions turned On, the maximum scale can be greater than 1,000 nautical miles. The minimum scale is approximately 50 nm in areas covered only by the world map, and can be much less than one nm in areas covered by a local chart. Actual scales will vary depending upon location and the local chart cartridge in use.

To navigate to a destination, 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 Map Plotter screen is displayed. A small square and vessel symbol and cursor 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 destination Event.

Navigation data is shown along the lower edge of Map Plotter displays with the Steering Arrow Icon in the center.



STEERING ARROW

'CROWN-1' indicates your destination is (Simulator) Event 2 named CROWN-1.

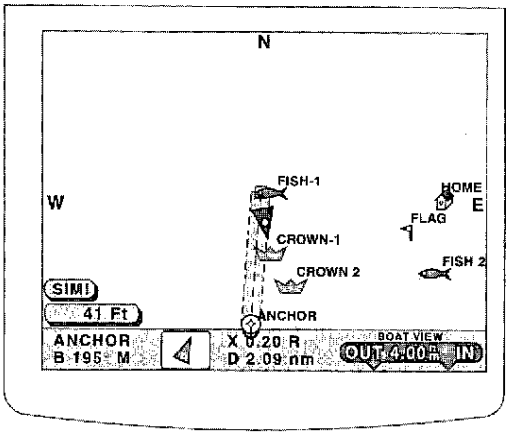
'B' is the bearing to Event CROWN-1. 'M' means magnetic.

'D' is distance to Event CROWN-1.

'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 Present Position and the Map Plotter is continually updated. One thousand points of position data are stored in *PRO*FISH II's track memory. Track memory display is On by default but may be turned Off from the Plot Adjust screen. The position of the vessel symbol in the fairway shows your progress toward your chosen destination Event.

The Steering Arrow Icon indicates where the destination Event is located in relation to your 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 Map 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.



PLOT 2 SCREEN

When navigating to an Event, keep the Steering Arrow pointing straight up and the cross-track error near zero.

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

To duplicate this display, with the Simulator On, press the EVENT key. Then press the ↓ key and select Event 3 ANCHOR.

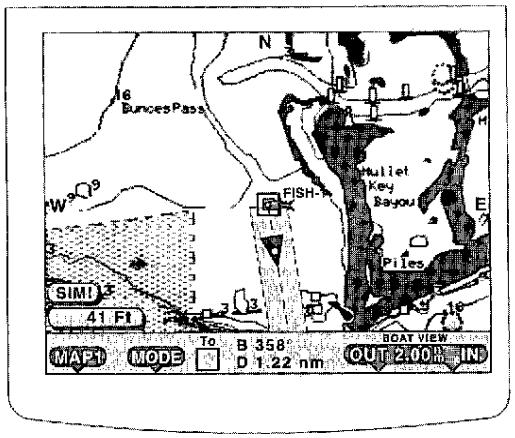
Press the GO key. The Fairway is drawn from the vessel's Present Position to Event ANCHOR.

Observe how the Steering Arrow and navigation data respond as the vessel proceeds along its programmed course.

As the vessel travels from Event FISH-1 to Events CROWN-1, ANCHOR, FLAG and on toward Event HOME, all navigation indicators will accurately report the changing situation. The vessel will proceed along the preprogrammed path back to the first Event and start over again. Zoom the scale In or Out to see more or less detail. The Plot Adjust function is disabled when Map 3 is displayed.

Press the MAP key repeatedly until the Map 3 screen is displayed. Map 3 appears only when map functions are turned On. Map 3 is similar to Map 2. However, the area across the lower edge of the display presents different information.

In place of the Steering Arrow, the active cursor symbol is shown. The navigation data presented shows bearing and distance from your vessel to the cursor instead of from your vessel to a destination Event. Also, there are two soft keys present. Pressing the MAP key, which is pointed to by the MAP1 soft key, will return the display to the first Map Plotter screen.



MAP 3 FULL SCREEN

Map 3 is also the gateway to advanced navigation and planning functions. The NAV key, pointed to by the MODE soft key, opens the gateway to View Mode selection and the A to B Map Plotter function.

Cursor Symbols and Display Views

When the Map function is active, a cursor is present on the Map Plotter screen. The cursor appears as either a square box, ☐ or an arrow, ↖ which may be moved about the screen with the cursor keys. Each cursor causes a different reaction when it reaches the edge of the display, but otherwise they both behave the same. The common purpose for the cursor is pointing to map objects appearing on the screen in order to obtain information about the object. When the cursor is positioned over an object, such as a buoy or other navaid or prominent feature, the Info Icon appears in the upper left hand corner of the display.

To get Info on an object, use the  keys to position the cursor over an object of interest. The Info Icon will appear on the screen and specific information about the object is displayed. The hot spot for the arrow cursor is the point of the arrow and the hot spot for the box cursor is the center of the box . In cases where two or more objects are close together, multiple Info Icons may appear.

The cursor symbol appearing on the screen indicates the view mode of the display. There are two view modes; one is Boat View, which has the square box cursor, ☐ and the other mode is Chart View, which has the arrow cursor. ↖

In Boat View mode, the screen is updated as necessary to keep the vessel symbol in view on the screen. The square cursor cannot be moved off the screen.

In Chart View mode, the screen is updated as necessary to keep the arrow cursor symbol in view on the screen.

Pressing the GO key automatically activates Boat View mode.

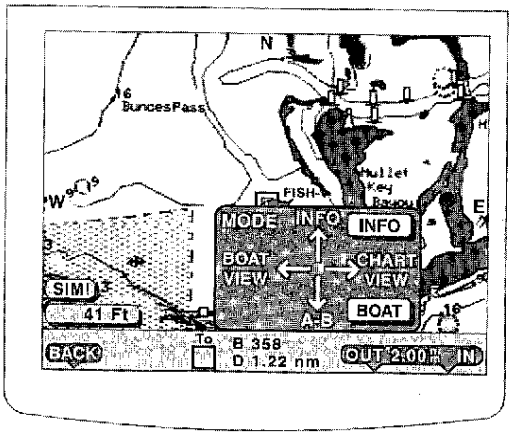
Either View may be selected by the user depending upon which is most useful for the navigation task at hand. View mode is changed from the Map 3 screen.

When Boat View is active, your boat, represented by the vessel symbol on the screen, has priority over display functions when the screen is updated. As your vessel reaches the edge of the screen, or if the zoom level is changed, or any of several events occur that cause the screen to be updated, the vessel symbol is re-centered and the box cursor is also re-centered. The map is repositioned to place the correct geographic coordinates under the vessel symbol. The cursor may be moved any place on the screen or around the edge but it will not cause the screen to be updated.

When Chart View is active, your Present Position is still represented by the vessel symbol, but the cursor has priority over display functions. Now, if your vessel reaches the edge of the screen, the screen will not update and the vessel symbol will continue off the screen. The arrow cursor may be moved any place on the screen or near the edge, but if the arrow cursor is moved off the screen, or if the zoom level is changed, or any of several events occur that cause the screen to be updated, the cursor is re-centered. The map is repositioned to place the correct geographic coordinates under the cursor. If your Present Position is within the screen boundaries, the vessel symbol appears at the correct geographic coordinates.

Hint: If you would like to center the screen on a particular object, move the arrow cursor to the object and momentarily press the POWER key.

The default view for navigation is Boat View. Boat View is automatically selected when the Simulator is turned On or when the GO key is used to initiate navigation toward a destination Event. Chart View is used for planning or anytime it is necessary to view beyond the Boat View screen boundaries. Chart View allows you to scroll to any part of the world map using the cursor keys. Pressing the GO key immediately returns your Present Position to the center of the display.



MAP CURSOR SCREEN

To change the View mode, press the MODE NAV key. The Map Cursor screen with the Cursor Icon appears in the display.

Press the ◀ or ▶ key to change the View mode. The active mode is indicated by the cursor symbol appearing a the lower edge of the display and the View name appearing in the lower right hand window of the Cursor Icon.

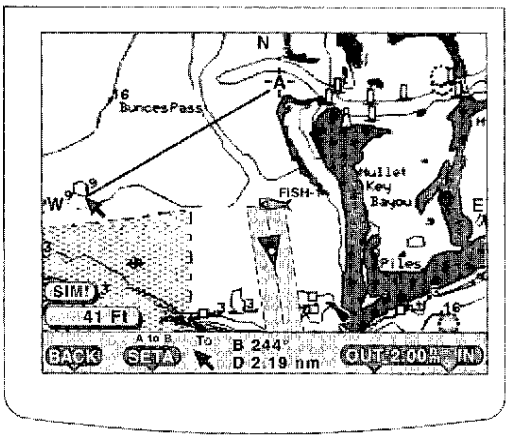
Cursor Modes

The Cursor has two operating modes, one is the Info mode and the other is the A to B mode. The normal mode for the cursor is the Info mode.

When Info mode is active, as the cursor points to an object that has information available, that information is displayed in the Info Icon.

Info mode is used on all Map Plotter screens and with either Boat View or Chart View. When the A to B mode is active, the cursor is used to measure bearing and distance from point A to the tip of the arrow cursor (point B). The A to B mode is used on only the Map 3 screen and automatically selects Chart View.

If the Map 3 is not displayed, press the MAP key repeatedly until the Map 3 screen is displayed. To change the Cursor mode, press the MODE NAV key. The Map Cursor Mode screen with the Cursor Icon appears in the display.



MAP A to B MODE

To select A to B mode, press the ↕ key. The mode is indicated by the name appearing in the upper right hand corner of the Cursor Icon. Also, when A to B mode is selected NEXT appears in the lower area of the display.

Press the NEXT NAV key. The point A marker -A- appears in the center of the screen attached to the tip of the arrow cursor and SET A appears in the lower area of the display.

Use the cursor keys to position the point A marker to the desired origin for bearing and distance measurement.

Press the SET A NAV key to set point A.

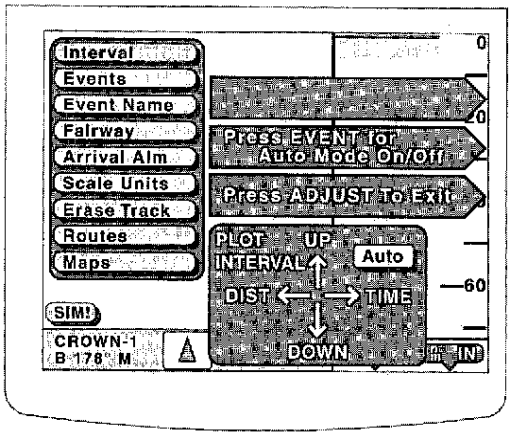
Use the cursor keys to move the arrow cursor to point B of the measurement. As the arrow cursor moves, a bold line is drawn from point A to the cursor's tip. The bearing and distance from point A to the cursor appear in the lower area of the display. If the cursor is moved beyond the edge of the current screen, the bearing line is continued and the bearing and distance values are still from point A to the cursor's tip.

The A to B mode measures one leg at a time. To plot a second leg, simply press the SET A NAV key again. The point A marker moves to the current cursor location. Using the cursor keys again, move the cursor to a desired location for instant bearing and distance readings.

ADJUST Plotter Menu

Options for fine tuning the Plotter function are found in the Plot Adjust menu. To view the options, press the ADJUST key when any Plotter or Map 1 or Map 2 Plotter screens are displayed. Plot Adjust is not allowed on Map 3 or A-B screens Using the ↕ or ↕ cursor keys, scroll to highlight and select a menu item. Use the ↔ or ↔ key to adjust the item. As 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 when settings are complete.



PLOTTER ADJUST

Interval: Allows selection of plotting interval and display of track memory for Plotter and Map Plotter screens. Plotting interval is based on either time or distance. The interval being the space in time or distance between points plotted on the screen. Time intervals may be set from 1 second to 60 minutes. Distance intervals may be set from 0.01 to 16 nautical or statute miles and 0.02 to 32 kilometers. If set to AUTO, the plotting interval is 0.05 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 the EVENT key to select AUTO interval or track display 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. Auto is recommend for best results.

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

Event Name: Turns Event names and numbers On or Off in Plotter and Map Plotter screens. The Destination Event name or 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 your Present Position to the Destination Event when you press the GO key. The 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 the Fairway. Three settings are available, 0.10, 0.20 and 0.50 distance units. When your vessel crosses the alarm boundary, a tone alarm sounds continuously and the alarm Icon appears in the Plotter or Map Plotter screen. Press any key to silence the alarm and remove the Icon.

Scale Units: Sets the Map and navigation unit of measure. Nautical miles (nm), statute 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 Plotter and Map Plotter screens. This is a two step process. Press the ◆ key to select YES, then press EVENT to verity the decision. Press ADJUST to Exit.

Routes: Provides access to Route navigation, Route build and Route editing functions. See ROUTES section for operating procedures.

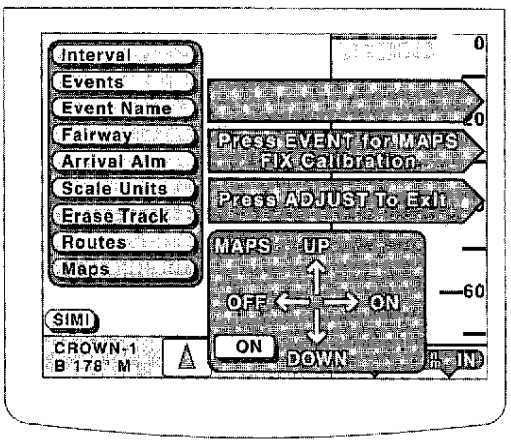
Maps: Turns Map displays On or Off and provides access to Map FIX Calibration adjustment. See MAP FIX CALIBRATION section for operating procedures.

Map Fix Calibration

Map Fix Calibration allows you to correct for differences in coordinates indicated on your navigation receiver and the corresponding location shown on a Map. Inaccuracies occur when maps are produced based on a reference method that differs from the method used by a navigation receiver. The C-MAP world map and cartridges for your *PRO*FISH II are based on WGS-84 Datum. If your navigation receiver is also set for WGS-84 Datum, there is no need to use this feature of your *PRO*FISH II. Map Fix Calibration will not correct for inaccuracies caused by Selective Availability (SA) characteristics of the GPS System. Most GPS navigation receivers have capabilities for the user to select from several reference methods and it is recommended to use this capability first. GPS sensors that have no build-in keyboard or display are most likely to benefit from Map Fix Calibration, and only then, if the sensor does not use WGS-84 Datum.

To determine if Maps Fix Calibration is necessary, position your vessel at a known location, and with a navigation receiver operating, activate the Map Plotter. Zoom in to maximum detail and observe whether or not the vessel symbol is displayed at the correct location on the Map. If not, estimate the distance North or South, and the distance West or East, to place the vessel symbol at the correct location. The maximum correction in each direction is 0.99 minutes (0.99 minutes is approximately 1 nautical mile in Latitude or 6000 feet, so each 0.1 is 600 ft. and each 0.01 is 60 ft.). When correction is applied, your vessel's position is offset in direction and distance by values appearing in the windows.

When Map Fix Calibration corrections are turned On, and if set to values other than zero, your GPS readout will not match coordinates displayed on your *PRO*FISH II display screens. The coordinates will disagree by the amount of correction applied.

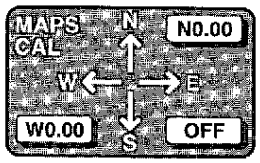


PLOTTER ADJUST SCREEN

Use the following procedure to enter correction values into the appropriate windows.

If Plotter or Map Plotter screens are not already displayed, press the MAP key. Press the ADJUST key. The Plotter Adjust screen appears in the display. Use the ▲▼ or ◆ key to select the Maps menu item. The MAPS Cursor Icon appears in the display with a window indicating Map On/Off status. If Maps are Off, press the ◆ key to turn Maps On.

Press the EVENT key to enter Fix Calibration. The MAPS CAL Cursor Icon appears in the display with compass direction symbols on each arrow and three data windows. The upper right window indicates North or South corrections and the lower left window indicates West or East corrections. When the lower right window indicates On, the values shown in the other two windows are applied. If the window indicates Off, no corrections are applied.



MAPS CAL

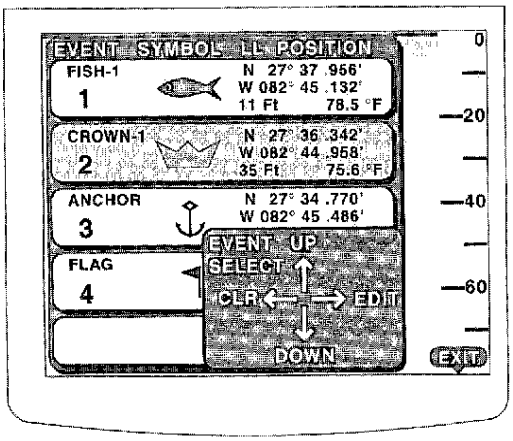
Correction values are adjusted by using the cursor keys. To move the plotted vessel symbol to the North or South, use the ◀▶ or ▲▼ keys. To move the plotted vessel symbol to the West or East, use the ◀ or ▶ keys. Values may be adjusted from 0.00 to 0.99 minutes in each direction. Compass direction for opposing arrows change when zero is reached. When both values are correct, press the EVENT key to turn Map Fix Calibration On to apply the corrections. Observe the On/Off status in the lower right window of the MAPS CAL Icon.

Press the ADJUST key to return to the previously active Map Plotter screen. If necessary, zoom in for maximum detail and observe the vessel symbol on the Map. Repeat the above procedure if further adjustment is necessary.

When Map Fix Calibration corrections are turned On, and if set to values other than zero, your GPS readout will not match coordinates displayed on your *PROFISH II* display screens. The coordinates will disagree by the amount of correction applied.

EVENT Library

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 special Event location reserved for Strikes. You may select any Event, including the Strike Event, as a destination for navigation. Events stored in the library may be edited for correctness or moved as needed for convenience. Events are entered into the Event library two ways. One is by using the Store key to automatically record your Present Position. The second is to enter coordinates manually using the cursor keys. When Events are entered using the Store key, depth and water temperature accompany the Latitude/Longitude coordinates.



EVENT LIBRARY

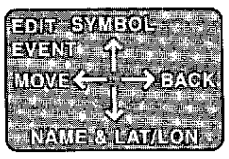
To view the Event screen, press the EVENT key. Four Events appear in the display along with the EVENT SELECT Cursor Icon. The Cursor Icon shows an option associated with each arrow key. The second Event from the top is highlighted. The highlighted Event is the selected Event.

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 or Map Plotter function is activated with your vessel's Present Position plotted as the starting point and the highlighted Event plotted as the destination. If Route navigation is active, the route function is cancelled in favor of single Event navigation.

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 EVENT Cursor Icon appears in the display with additional options. The new options are BACK, SYMBOL, MOVE and NAME & LAT/LON.



EDIT ICON

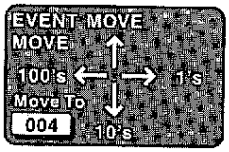
BACK: Use the ⇔ key, if needed, to go back to the previous EVENT SELECT Cursor Icon to select a different Event.

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 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, 

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.



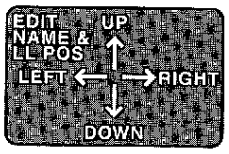
MOVE ICON

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 EVENT.

The NAME & LAT/LON option in the EDIT EVENT Cursor Icon is used to add or change the name for an Event, to correct or modify coordinates already stored in the highlighted Event, or to manually enter coordinates.

To select NAME & LAT/LON from the EDIT EVENT Cursor Icon, press the ⇕ key. The EDIT NAME & LL POS Cursor Icon appears. Also, a reverse video cursor appears above the Event number for the highlighted Event. This is the first character position for an Event name.

Event name is optional. If no name is entered for an Event in the library, the Event number is displayed on Plotter and Nav screens to identify an Event. Event names may be up to eight characters in length. All the letters in the English alphabet may be used plus digits 0 through 9 and - ' # and space. To remove a name, enter all spaces. The blank cursor is the space character.



EDIT NAME & LL POS

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

Press the ⇕ or ⇕ key to change the value of a selected digit or character. Repeat the process until all digits and characters 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 name and coordinates are correct, press the STORE key. The new values are stored in the highlighted Event. Temperature and depth data, if any, are deleted.

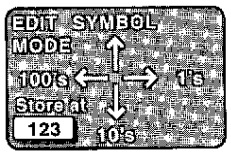
Manually entering coordinates into an Empty Event is done in the same way. When NAME & LAT/LON is selected from the EDIT EVENT Cursor Icon, either the Present Position or the last known position for the vessel is automatically set into the highlighted Empty Event. The coordinates may then be edited as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

STORE

The Store function is an easy and useful way to record Events into the Event library. When the Store key is pressed, an Event is created using the Present Position L/L coordinates, depth and temperature. Present Position data from a compatible GPS or Loran C must be connected to your *PROFISH* II or the Simulator must be turned On in order to use the Store function. The Store function may be initiated when Sonar, Plotter, 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. The NAME soft key appears in the lower area of the display.

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. You may add a name to identify the Event on Plotter and Map Plotter screens instead of the Event number.



EDIT MODE

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

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

To add a name to the Event, press the NAME NAV key. The EDIT NAME & LL POS Cursor Icon appears. Also, a reverse video cursor appears above the Event number for the highlighted Event. This is the first character position for entering an Event name.

Press the ◁▷ or ◁▷ key to select character. Press the ◁ or ▷ key to move the reverse video cursor to the next character position. When the reverse video cursor is advanced to the next position, the starting character is the same as the previous one. This is done to speed name entry. Repeat the process until all characters are correct. When the Event name is correct, press the STORE 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. *PROFISH 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.

ROUTES

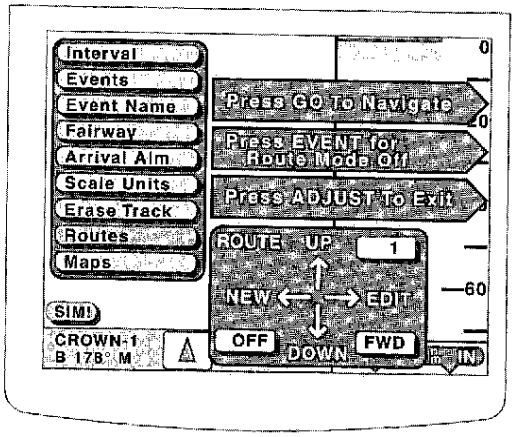
The Route function makes it easy to navigate along a series of Events in sequence. Your *PROFISH II* has ten Routes and each Route may have up to ten Events. A Route may be navigated either forward or reverse and may be started from any Event in the Route. Route Events must be Events already stored in the Event Library.

Route navigation is much the same as single Event navigation except, as you approach a destination Event, the next Event in the Route is automatically selected and the Fairway and Arrival Alarm are redrawn. Also, a solid line on the map connects each Event in the Route. To distinguish Route from Event navigation, an Icon displaying the Route number appears in the lower right-hand corner of Plotter screens. RTE 01

The Route function is entered from the Plotter or Map Plotter Adjust screen.

To activate a Plotter function, press the MAP key.

To enter the Route function, press the ADJUST key to display the Plotter Adjust screen.

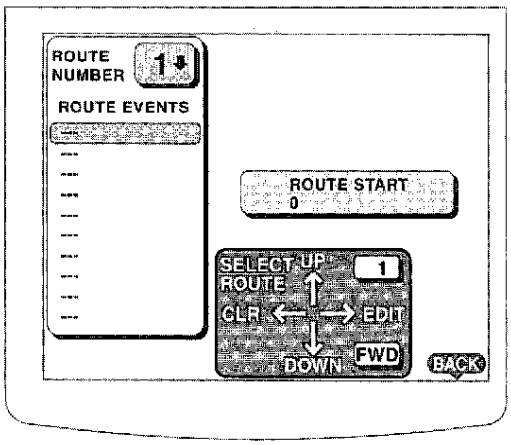


PLOTTER ADJUST

Then use the ↑↓ or ↑↓ key to select the Routes item on the menu list. The ROUTE Cursor Icon appears in the display. The Cursor Icon shows an option associated with each arrow key and the windows in the Cursor Icon show the current status of a Route. The upper right window shows the current selected Route. The lower right window shows the direction of travel along the Route. The lower left window shows whether Route navigation is active.

If, you know from prior knowledge, the Route and the status shown are satisfactory, you may immediately initiate navigation by pressing the GO key. Route navigation is activated and the previous Plotter or Map Plotter screen appears in the display.

To select a different Route press the ◇ key. The Route screen with SELECT ROUTE Cursor Icon appears in the display.



ROUTE SCREEN

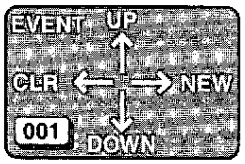
Press the ↑ or ↓ key to select a different Route. Observe the Route Number Icon appearing in upper left area of the screen and also in the upper window of the Cursor Icon. The Events assigned to each Route are listed below the Route Number Icon. The FWD or REV direction for each Route appears in the lower left window of the Cursor Icon. The Route Events list shows Event numbers from the Event Library and Event names, if a name is stored in the library. Dashes - - - appear in the list where no Events are assigned.

CLR: Remove all Route Events from the selected Route.

EDIT: Change or select starting Event and to add or remove Events in the Route Event list. See the following topic, Build or Edit a Route, to add or remove Events in the Route Event list.

The starting Event for a Route is indicated by reverse video highlight appearing in the Route Event list. If all Route information is satisfactory and you want to initiate navigation of the Route, press the BACK MENU key to return to the Plotter Adjust screen, then press the GO key. The previous Plotter or Map Plotter screen appears in the display. The starting Event and vessel symbol are drawn in the center of the screen with the Fairway and Arrival Circle drawn to the next Route Event.

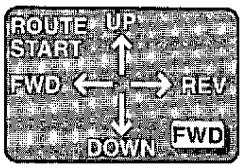
If you want to change the starting Event or direction of travel, press the → key to select EDIT. The EVENT Cursor icon replaces the ROUTE SELECT Cursor Icon and an Icon pointing to the Adjust key appears.



EVENT

Use the ↑ or ↓ key to select a starting Event in the Route Events list. Disregard CLR and NEW options for this procedure.

Press the ADJUST key. The ROUTE START Cursor Icon replaces the EVENT Cursor Icon. The Event selected above becomes the starting Event for the active Route.



ROUTE START

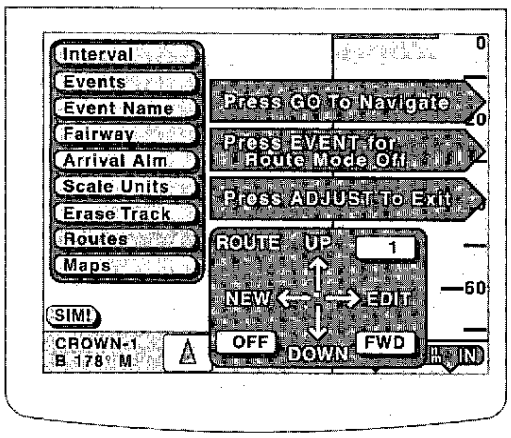
Use the FWD ← or REV → keys to set direction of travel. Forward direction is from the starting Event toward the bottom of the Route Events list. If you use the ↑ or ↓ key to select a different starting Event in the Route Events list, you must repeat your FWD or REV selection by pressing the appropriate key.

Press the BACK MENU key to return to the Plotter Adjust screen, then press the GO key. The previous Plotter or Map Plotter screen appears in the display. The starting Event and vessel symbol are drawn in the center of the screen with the Fairway and Arrival Circle drawn to the next Route Event.

Build or Edit a Route

The Route function is entered from the Plotter or Map Plotter Adjust screen.

To activate a Plotter function, press the MAP key.



PLOTTER ADJUST

To enter the Route function, press the ADJUST key to display the Plotter Adjust screen.

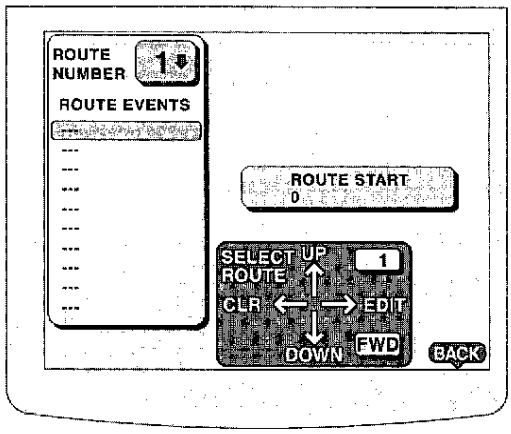
Then use the ↑ or ↓ key to select the Routes item on the menu list. The ROUTE Cursor Icon appears in the display.

The Cursor Icon shows an option associated with each arrow key and the windows in the Cursor Icon show the current status of a Route. The upper right window shows the current selected Route. The lower right window shows the direction of travel along the Route. The lower left window shows whether Route navigation is active.

At this point you may choose to edit or build the current Route or select a another Route. The procedures are the same. If you make a mistake at any time through this procedure, press the BACK MENU key to start over.

EDIT: To build or edit the current Route, press the → key, skip to the next EDIT paragraph.

NEW: To select a different Route to build or edit, press the ← key. The Route screen with the SELECT ROUTE Cursor Icon appear in the display. The SELECT ROUTE Icon presents two options, CLeaR and EDIT.



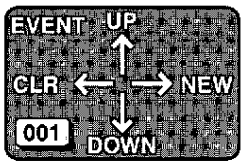
ROUTE SCREEN

Use the ↑ or ↓ key to select a Route. Observe the Route Number Icon appearing in upper left area of the screen and also in the upper window of the Cursor Icon. Any Events already assigned to each Route are listed below the Route Number Icon. Dashes - - - appear in the list where no Events are assigned.

CLR: To remove all Route Events from the selected Route, press the ← key. The CLEAR ROUTE? Icon appears to confirm or cancel the action.

EDIT: To build or edit the current or selected Route, press the → key.

The EVENT Icon appears in the Route screen with two options for Route Events.

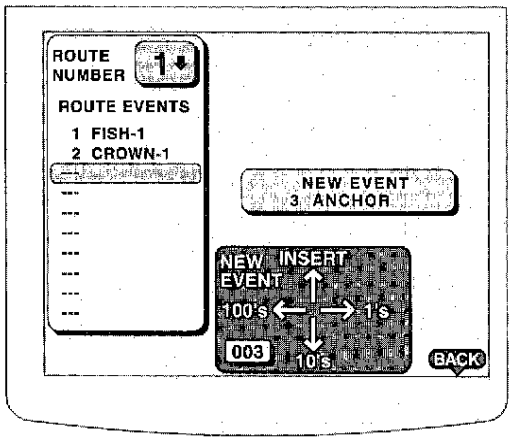


EVENT

Use the ↑ or ↓ keys to highlight an Event in the Route Events list. The window, in the lower left corner, shows the Library Event number for the highlighted Route Event. If the list is empty, highlight the top item in the list. If adding an Event to an existing list, highlight the Event in the list where a new Event is to be added. The new Event will be inserted in the highlighted location. The highlighted Event and any following Events will be bumped down.

CLR: Press the ← key to remove a highlighted Event from the list. The CLEAR EVENT? Icon appears to confirm or cancel the action.

NEW: Press the → key to assign a new Event to the list. The NEW EVENT Icon appears in the Route screen.



ROUTE NEW EVENT

Use the cursor keys to set the new Event number in the lower left window of the Icon.

Press the → key to set the units digit to the desired value. Then press the ↓ key to set the tens digit. Press the ← key to set the hundreds to the desired value. As the digits are being set, the corresponding Library Event number and name are displayed in the New Event Info Icon.

When all three digits are correct, Press the ↑ key to insert the Event into the Route Events list. The new Event is inserted at the previously highlighted place in the list and any prior Events are pushed down.

While building a Route, keep in mind that the navigation sequence in the forward direction is from top down so you can arrange your Route Events accordingly.

If you want to add another Event at a different place in the Route Event list, press the BACK MENU key to return to the EVENT Icon. Then highlight the desired insertion point, choose NEW and repeat the set and insert sequence.

When your Route Events list is complete for a Route, press the ADJUST key to select a starting Event and set the direction of travel. To continue building or editing other Routes, press the BACK MENU key. Select your choice of options from Icons shown on the screen.

Cancelling Route Navigation

The GO key may be used at any time during Route navigation to re-center the Fairway and update your Plotter display to current conditions. When the GO key is pressed, the Fairway is redrawn from your Present Position to the currently active Route Event. Normal Route navigation continues.

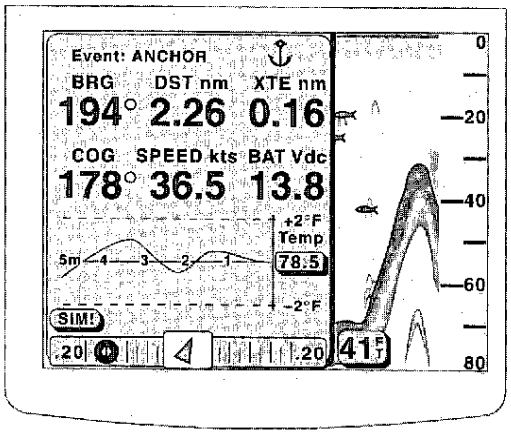
Route navigation is cancelled by any of the following actions.

1. Start single Event navigation. Press the EVENT key. Select an Event in the Event Library and press the GO key.
2. Navigate to your Present Position. Press the STORE key and then press the GO key.
3. Turn Routes Off. Press the ADJUST key. The Plotter Adjust screen appears in the display. Select the Routes item from the menu list and press the EVENT key.
4. Press the key.

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. You may 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.



NAV 1 SCREEN

The ZOOM and keys are used to control the Sonar portion of the display.

The Navigation Data Icon presents the following information.

Event: Displays your destination Event name or 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.

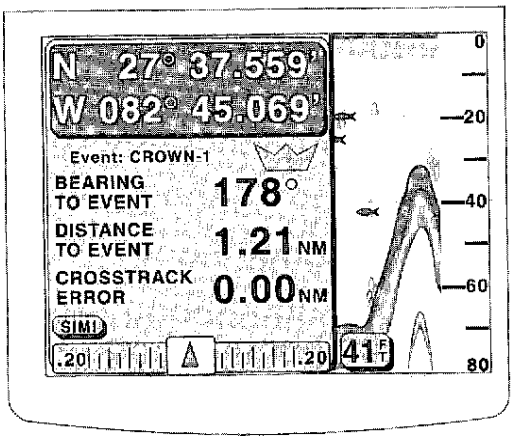
SPEED kts: Displays your Speed Over the Ground (SOG) if speed data is obtained from a navigation receiver or Speed Through the Water (STW) if speed data is obtained from the paddle-wheel. Select speed data source from Menu 3.

BAT Vdc: Your vessel's battery voltage is always displayed. A visual and audible alert sound if battery voltage declines below 11.2 Vdc. *PROFISH 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. Cross Track Error is indicated by the position of the bowling ball along the CDI scale. When you are on course, the bowling ball is hidden by the Steering Arrow. If the bowling ball emerges on the right, steer to the left. If it appears on the left, steer to the right. Steer a course to keep the ball hidden under the Steering Arrow. There are situation, such as traveling away from an destination Event, when the bowling ball indicates in the opposite direction. Use the Plotter to get a better visualization of the total navigation picture to determine the best course of action.

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

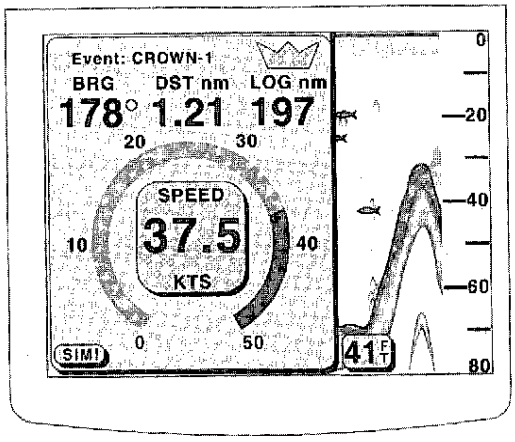


NAV 2 SCREEN

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

Navigation data is presented in large number format with the CDI and Steering Arrow Icon at the bottom. Sonar is displayed on the right hand side of the screen.

If valid differential GPS position is used, a small letter D is displayed following the Latitude hemisphere designator. Example: ND 28° 03.881'.



NAV 3 SCREEN

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.

Event: Displays your destination Event Number and symbol.

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

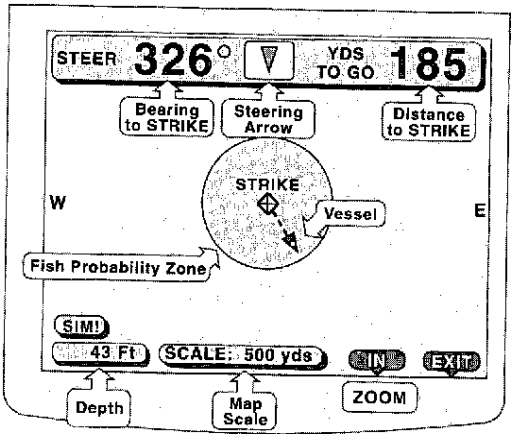
DST nm: Displays the distance from your Present Position to the selected destination Event in nautical miles. Other distance units may be selected from the Plotter Adjust menu.

LOG: Your accumulative total distance traveled since the last time the Log was reset. Log data is not lost when *PROFISH 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 your Present Position as the Strike coordinates 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. Maps are not displayed while Strike is active.



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

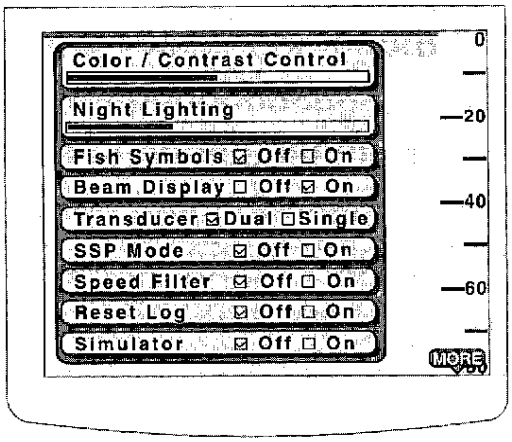
Displayed at the top of the screen is the Steering Arrow and digital readouts indicating bearing and distance back to the Strike. At the bottom of the screen are displayed, the depth, map scale and soft keys pointing to keys for Zoom and Exit. Steer your vessel to stay in the Fish Probability Zone for the likelihood of more action. If Fish Alarm is active, an audible tone sounds momentarily and the FISH! Icon appears briefly in the upper right corner of the display.

When you press the EXIT 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 *PROFISH II* by selecting options from the menu items displayed on the screens. To view any of the six 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



MENU 1 SCREEN

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 illumination level for the display and keys during night time operation. Moving the bar to the left dims the backlight and moving it to the right brightens the backlight.

When the *PRO*FISH II is first powered On, the backlight is turned On at full level for about 20 seconds allowing time for you to set the backlight to remain On.

Fish Symbols: Turns the Fish Symbols On or Off. If turned On, Fish Symbols appear in Sonar displays when echoes which meet the selection criteria are detected. There are 3 different sizes of Fish Symbols and each size is a different color. The *PRO*FISH II places the fish symbols over the echoes for an enhanced view of the actual echo plus the fish ID.

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.

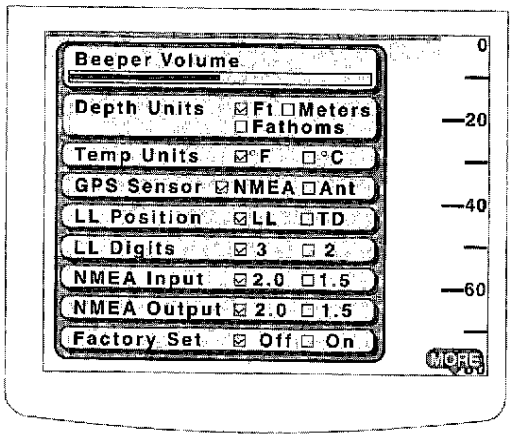
SSP Mode: Turns Surface Signal Processing On or Off. SSP suppresses the surface noise caused by the transmitted main sonar pulse.

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, Map 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



MENU 2 SCREEN

Beeper Volume: The 3 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 for Sonar displays and also depths and soundings appearing on maps.

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 *PROFISH 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 *PROFISH II*. Choose either version depending upon requirements of the device receiving data.

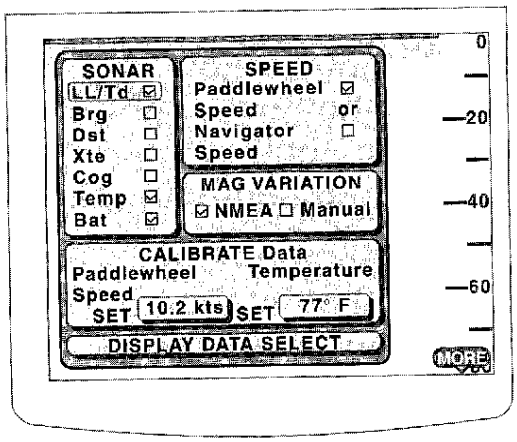
Factory Set: Never use this menu selection. It is for factory use only, for receiver alignment.

Menu 3

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 Loran Td data is available from your navigation receiver, dashes appear in all position displays.



MENU 3 SCREEN

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.

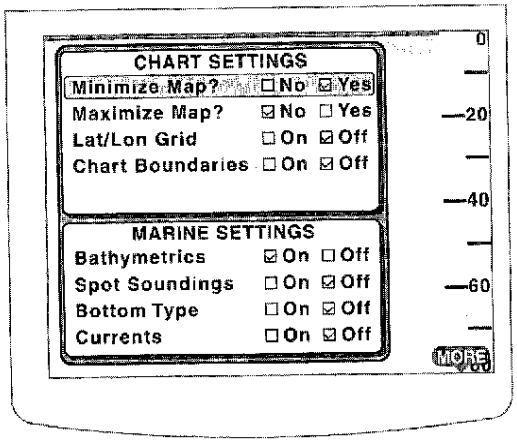
Bat: Your vessel's battery voltage is displayed.

SPEED: Lists two sources for speed input data. Select either the transducer paddlewheel or a navigation receiver.

MAG VARIATION: Lists two sources for magnetic variation. Select either NMEA data from a navigation receiver or manual input. In Manual, use the cursor keys to enter variation in 0.1° steps East or West.

CALIBRATE Data: Provides two data Icons for manual input of correction values to offset inaccuracies in Paddlewheel Speed and Temperature. When either Icon is selected, use the cursor keys to enter values to correct the SET field to match a known to be correct value. Thereafter, the corrections are stored in memory and applied to displayed values. Speed corrections are entered as a percentage and temperature corrections are entered in tenths of degrees, plus or minus.

Menu 4



MENU 4 SCREEN

CHART SETTINGS

Minimize Map? Selects a preset minimum useful set of map features to avoid clutter and allow faster screen updates. Default setting: No. When minimize is set to Yes, all Map settings in Menu 4 and Menu 5 cannot be changed. When Minimize Map is set to No, any combination of other Map features may be selected.

Maximize Map? Sets Map 2 screen to show maximum map area by removing navigation data from the bottom of the Map 2 screen. Default setting: No.

Lat/Lon Grid: Display Latitude and Longitude grid lines and legends, On/Off. Default setting: Off.

Chart Boundaries: Display of coverage boundaries for local chart cartridges, On/Off. Default setting: Off.

MARINE SETTINGS

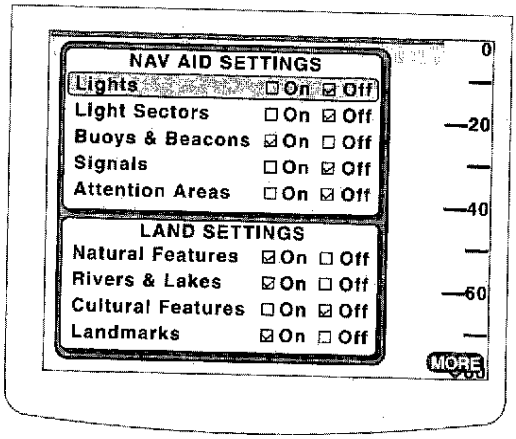
Bathymetrics: Display of depth contour lines, On/Off. Default setting: On.

Spot Soundings: Display of depth spot soundings, On/Off. Default setting: Off.

Bottom Type: Display of sea bottom characteristics, On/Off. Default setting: Off. See listing at end of this section for descriptions for bottom type abbreviations.

Currents: Display of large tidal flows and currents, On/Off. Default setting: Off.

Menu 5



MENU 5 SCREEN

NAV AID SETTINGS

Lights: Display of symbols for lights and light vessels, On/Off. Default setting: Off.

Light Sectors: Display of Light Sectors, On/Off. Also displays specific buoy symbols when Buoys and Beacons are On. Default setting: Off.

Buoys & Beacons: Display of generic symbols for Buoys and Beacons, On/Off. If Light Sectors are turned On, specific symbols are displayed. Default setting: On.

Signals: Display of symbols for fog horns and other signals, On/Off. Default setting: Off

Attention Areas: Display of caution areas, anchorage, cables, pipelines, zones of various activities, On/Off. Default setting: Off.

LAND SETTINGS

Natural Features: Display of symbols for dunes, hills, tree line, vegetation etc., On/Off. Default setting: On.

Rivers & Lakes: Display of symbols for rivers, lakes, canals, rapids, water falls etc., On/Off. Default setting: On.

Cultural Features: Display of symbols for airports, railways, pipelines, communities etc., On/Off. Default setting: Off.

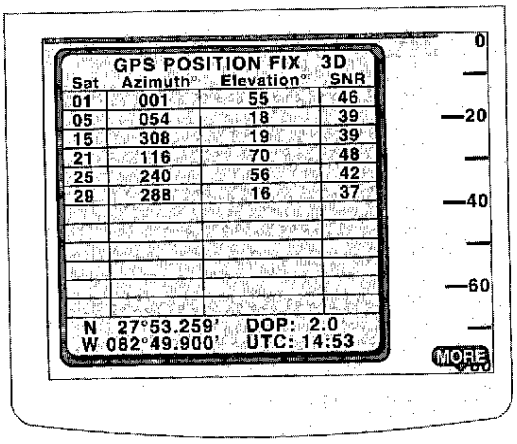
Landmarks: Display of symbols for buildings, cemetery, chimneys, stacks, tanks, towers etc., On/Off. Default setting: On.

NOTE

For fastest map drawing, it is recommended to use the default Map menu settings.

Menu 6

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



MENU 6 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.

Map Sea Bottom Types

Bottom Type designations may be one or more codes combined.

MATERIAL:

Code	Meaning	Code	Meaning
M	mud	Qz	Quartz
Cy	clay	Md	Madrepore
Si	silt	Ba	Basalt
S	sand	Pm	Pumice
St	stones	T	Tufa
G	gravel	Sc	scoriae
P	pebbles	Cn	cinders
Cb	cobbles	Mn	Manganese

MATERIAL continued:

Code	Meaning
R	rock
Lv	lava
Co	coral
Sh	shells
Wd	weed
Gd	ground
Oz	ooze
Ml	marl
Sn	shingle
Bo	boulders
Ck	chalk

Code	Meaning
Gc	glauconite
Oy	Oysters
Ms	Mussels
Sp	Sponge
Al	Algae
Fr	Foraminifera
Gl	Globigerina
Di	Diatoms
Rd	radiolaria
Pt	pteropods
Po	Polyzoa

CONDITION:

Code	Meaning
f	fine
m	medium
c	coarse
bk	broken
sy	sticky

Code	Meaning
so	soft
sf	stiff
v	volcanic
ca	calcareous
h	hard

COLOR:

Code	Meaning
w	white
bl	black
rd	red
gn	green
b	blue
y	yellow

Code	Meaning
gy	gray
br	brown
ch	chocolate
lt	light
d	dark

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 *PRO*FISH II Simulator function while underway if NMEA output data is used for actual navigation.

Specifications

SI-TEX *PRO*FISH II MAP/SOUNDER PLUS

GENERAL

Display Technology	240 x 320 Pixel QVGA Transflective Bi-refringent LCD; direct sunlight readable; 8 colors (7 plus background) Backlight for nighttime operation
Case Construction	Die Cast Aluminum; Waterproof to CFR-46
Mounting Options	Standard Trunnion: (Deck or Overhead); Flush: Screw and Template kit included; Optional Swivel Bracket
Power Requirements	11-18 Vdc @ 6W max. Battery warning window displayed for less than 11.2 Vdc. Automatic shutdown if greater than 18 Vdc
Temperature Range	0° to 70°C ambient; direct sunlight operation
Display Size	5.7" diagonal (4.6"W x 3.46"H)
Input Format	NMEA 0183 V1.5 or 2.0+; Latitude/Longitude TD compatible (when interfaced to Loran)
Output Format	NMEA 0183 V1.5 or 2.0+
Simulator	Yes: Fishfinder, Trackplotter, Chartplotter (cartridge required)
Case Size/Weight	7.8"W x 5.8"H x 2.4"D / less than 4.0 lbs

CHARTING SYSTEM

Cartography	Dual slots for high definition C-MAP NT C-Card cartridges; slot cover gasket; Internal worldwide Map
Map Slots	2, for local charts
Map Modes	North-up with transparent graphic highway presentations; BOATVIEW: Vessel always on screen; CHARTVIEW: Move anywhere in world; INFO: Data displays of selected objects; "Maximize" or "Minimize" displays for faster redraws and best clutter control
Spot Soundings	Yes, On/Off
Cartographic Functions	Worldwide chart coverage, Natural features, Rivers and Lakes, Cultural features, Landmarks, Bathymetric lines, Bottom type, Attention areas, Lights, Buoys and Beacons, Signals, Names, Information, L/L grid, Chart boundaries, WGS-84 coordinates system
Plotter Mode	Maps Off, Plotter operation resumed
Track Points	1,000 points of track history
Events	250 plus STRIKE with Depth and Temperature, up to 8 alphanumeric characters plus 5 symbols
Routes	10 reversible Routes, 10 Events each
Map Scale	From 0.10 to 200 nm/inch

Plot Intervals	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 Auto: 0.05 nm/sm (or .10 km) or 20 seconds, whichever comes first
Fix Correction	Manual
Navigation	Latitude/Longitude input
Event Arrival Alarm	Yes: 3 settings, user adjustable, any key will silence
Highway Scale	Yes: 3 settings, user adjustable

FISHFINDER SYSTEM

Transducer	Standard: Transom Mount 120 kHz dual element with Speed & Temperature; Optional: Bronze thru-hull and others
Transducer Beamwidth	15° or 40°, user selectable
Output Power	300 W RMS (2400 W P-P)
Sounder Modes	SONAR: Standard FF Screen ZOOM: 2X & 4X Zoom capability with both Split and Full Zoom Screens, Auto or Manual Zoom with ZOOM bar MAP: See the Charting System section NAV: Nav Data with Auto-centering Temp Graph Screen & Battery Voltage, Big Numbers Screen with LL/TD position; Circular Speedometer/Log Screen MENU: 5 Pages of screens for customizing user settings, 1 GPS Status Screen ADJUST: FF Adjust Screen with Cursor editing EVENT: 250 + STRIKE are stored in a List with symbols and names; Select any event & press GO key; Event editing possible STRIKE: Direct Course Line Tracking to STRIKE position with 250 yard Strike Zone displayed. Auto zooms scale to 500 yards, Fish Alarm displays in STRIKE mode
Depth Ranges*	1500' depth in 5' steps, 1 Fathom steps, or 2 Meter steps. Upper/Lower depth, set to any 10' increment
Digital Depth Display	Digital Depth Box
Depth Line Indicator	UP/DOWN Cursor control in Sonar mode displays depth line anywhere on screen
Depth Cone Display	Displays actual diameter of Beam on the bottom for Wide & Narrow Transducer beam widths
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, entire FF picture shifts

Zoom Position	Steps of 1/8 of the range, except less than 40'
Image Speed	2X, 1X, 1/2X, 1/4X, 1/8X, & Stop
Depth Alarms	Shallow and Deep
Fish Symbols	On/Off; 3 sizes and colors
Fish Alarm/Volume	Visual and Audible/adjustable tone, 3 settings
Temperature Graph	Yes. Auto reset for 2 °F or °C change
NAV Data Page	Speed data selectable from GPS/Loran/Paddlewheel
SONAR data Window	Display data selectable from 0 to 7 items
Battery Level Warning	Pop-up warning window if ship's voltage less than 11.2 Vdc. Alarm disabled when acknowledged
Paddle wheel Speed	Mph, km, or kts in increments of 0.1 units. Speed calibration stored in NV memory
Speedometer Graph	0-50 mph/kts or 0-100 km (select Paddlewheel or SOG)
Gain Control	Manually variable, 0-20 steps
STC Control	0-20 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

*Depth ranges are for presentation only. Actual depth capability of depth sounders depends upon quality of installation, type of bottom, salinity of water, etc.

IMPORTANT NOTICE: SI-TEX Electronic Charting Systems and C-MAP NT Navigation Charts are not designed to replace standard government charts. Any electronic navigation device should be operated along with the prudent use of reliable manual backup material.

Troubleshooting

Your *PRO*FISH II is a high quality, precision, electronic device capable of service in the marine environment. To assure dependable performance, careful installation and reasonable care are required. If problems develop or if performance appears degraded, perform a thorough inspection of the Transducer, Display Unit and all cables and connections. Look for signs of moisture intrusion, cuts in cable jackets and corrosion on connector pins.

With all of *PRO*FISH 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, with unit turned Off, press the POWER key and then press the key while the Self Test screen is displayed. The unit resets and after Self Test, the Caution screen is displayed. Press any key except Power to continue.

To view full screen color bars, with unit turned Off, press the POWER key and then press the MAP 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 MAP 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

CERTIFICATE OF LIMITED WARRANTY

All Products Except Radar

Providing you present a valid proof of purchase, SI-TEX Marine Electronics Inc. warrants all parts of each new product against defects in material and workmanship under normal use and will repair or exchange any parts proven to be defective at no charge for a period of two years for parts and one year for labor from the date of purchase, except as provided below under Limited Warranty Exceptions.

Defects will be corrected during normal working hours by an authorized SI-TEX Marine Electronics Inc. dealer, service center or at the SI-TEX office in St. Petersburg, Florida. There will be no charge for labor for a period of one year from the date of purchase, except as provided below under Limited Warranty Exceptions.

This Warranty and Proof of Purchase must be made available to the authorized SI-TEX Marine Electronics Inc. service location or dealer at the time of service.

LIMITED WARRANTY EXCEPTIONS

SI-TEX Marine Electronics Inc. will not be responsible for equipment which has been subjected to water or lightning damage, accident, abuse or misuse nor any equipment on which the serial number label has been removed, altered or mutilated.

SI-TEX Marine Electronics Inc. assumes no responsibility for damage incurred during installation. This Limited Warranty is effective only with respect to the original purchaser.

Any cost associated with transducer replacement, other than the cost of the transducer itself, is specifically excluded from this Limited Warranty.

Travel cost incurred will not be accepted for SI-TEX Marine Electronics Inc. products.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.

SPECIFIC EXCLUSIONS

Charges for overtime, standby, holiday, and per diem are specifically excluded from the Limited Warranty.

Chart paper, stylus, stylus belt, lamps, and fuses are consumable items and are not covered by this Limited Warranty.

Installation workmanship or materials except as provided directly by SI-TEX Marine Electronics Inc. are not covered by this Limited Warranty.

SI-TEX Marine Electronics Inc. equipment or parts there of which have been repaired or altered except by an authorized SI-TEX Marine Electronics Inc. dealer or service center are not warranted in any respect.

Transducer, software update, battery, microphone, magnetron and microwave components and water damage on water resistant VHF radio are items excluded from the two-year warranty and are covered by warranty for a period of one year for both parts and labor.

SI-TEX Marine Electronics Inc. will not, at any time, assume any costs or labor charges for checkout or external line fuse replacement or problems not found to be at fault in the equipment itself.

THERE ARE NO WARRANTIES OR GUARANTEES EXPRESSED OR IMPLIED WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF, INCLUDING WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY. SI-TEX MARINE ELECTRONICS INC. HAS NO OTHER LIABILITY TO PURCHASE FOR DIRECT OR CONSEQUENTIAL DAMAGE OR ANY THEORY INCLUDING ABSOLUTE LIABILITY, TORT, OR CONTRACT. THIS LIMITED WARRANTY CANNOT BE ALTERED OR MODIFIED IN ANY WAY AND SHALL BE INTERPRETED IN ACCORDANCE WITH THE LAWS OF THE STATE OF FLORIDA. THIS WARRANTY IS LIMITED TO THE CONTINENTAL USA, ALASKA, HAWAII, AND CANADA.

Mailing Address:

SI-TEX Marine Electronics Inc.
#800 - 11001 Roosevelt Blvd.
St. Petersburg, Florida 33716
(727) 576-5734

HOW TO OBTAIN SERVICE UNDER THIS WARRANTY

To provide greater flexibility, SI-TEX Marine Electronics Inc. gives you the option of obtaining service under this warranty by either:

(a) Contacting an authorized SI-TEX Marine Electronics Inc. service station (the closest service station may be found by contacting your dealer of purchase).

OR

(b) Shipping your equipment prepaid UPS or truck with insurance prepaid to SI-TEX Marine Electronics Inc. at the address provided below. SI-TEX Marine Electronics Inc. will, whenever possible, make all repairs covered by the Limited Warranty within two weeks of receiving the equipment in Florida and return same to you, freight prepaid.

(c) You must present a copy of your Purchase Sales Slip at the time you request warranty service.

Shipping Address:

SI-TEX Marine Electronics Inc.
#800 - 11001 Roosevelt Blvd.
St. Petersburg, Florida 33716

SI-TEX Marine Electronics Inc. is a leader of quality digital instruments, LCD and Video Fish Finders, Loran, GPS, VHF Radio, Stereo and Radar. For more information, contact your SI-TEX dealer or the main office located in St. Petersburg, Florida

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