



RESPONSIBLE COMPUTER DIVING

Since the advent of dive computers, it is a common mistake to assume that the old traditional rules of diving no longer apply, but the truth is just the opposite. Before you dive using your Profile, keep these basic rules in mind:

- Plan each dive, and dive your plan Your Profile was not designed to make decisions for you, only to provide you with the information you need to make responsible decisions for yourself. This begins with a dive plan that will help you avoid a low air or decompression situation.
- Do not plan any dive that exceeds your training or experience level.
- Inspect your computer before every dive If it shows any signs of damage or abnormal function, DO NOT dive with it until it has received factory service.
- Make your deepest dive first When making repetitive dives, it is imperative to ensure that each consecutive dive is shallower than the one before. This will allow your body's slower tissues to continue outgassing nitrogen.
- Make the deepest part of your dive first, and gradually work your way to the surface using a staircase profile The ability to perform multilevel diving is one of the most important contributions of a dive computer, and you should take advantage of it. It will increase your bottom time and at the same time decrease your risk of decompression sickness.
- Ascend slowly by following an ascent line whenever possible, or by ascending diagonally toward the surface Watch the Ascent Rate Indicator closely while you ascend, and keep it in the green zone as much as possible.
- A Safety Stop of 3 minutes or more is recognized as a prudent action to reduce the probability of bubble formation in divers.



The following symbols are used throughout this manual to bring your attention to situations that require special consideration. Be sure to read and follow all instructions carefully.



A **WARNING** is used before a procedure that will result in serious injury or death if the procedure is not followed carefully.



A **CAUTION** is used before a maintenance technique that will result in damage to parts if that technique is not followed carefully.



A **NOTE** is used to emphasize an important maintenance technique.



WARNINGS:

- The Profile is intended for use by recreational divers who have successfully completed a nationally recognized course in scuba diving.
- · It is intended only for no decompression diving, NOT intentional decompression diving.
- It must not be used by untrained persons who may not have knowledge of the potential risks and hazards of scuba diving.
- · You must obtain scuba certification before using the Profile if you have not already done so.
- It is NOT for use by military and commercial divers.
- It should NOT be utilized for any competitive, or repetitive square wave or decompression diving, as it is intended solely for recreational use and no decompression multilevel diving.
- As with all underwater life support equipment, improper use or misuse of this product can cause serious injury or death.
- Never participate in sharing or swapping of a dive computer.
- Conduct your dives in such a manner so as to insure that you continuously check the computer's proper function.
- · Read and understand this owner's manual completely before diving with the Profile.
- If you do not fully understand how to use this dive computer, or if you have any questions, you should seek instruction in its use from your authorized Sherwood Scuba dealer before you utilize this product.
- Never participate in sharing or swapping of a dive computer. Doing so may result in injury or death.
 The Profile provides information based upon a diver's personal dive profile, and therefore must not be
 shared between divers. You should never, under any circumstances, swap your computer with another
 unit between dives, or share your computer with another diver underwater.

LIMITED TWO-YEAR WARRANTY

Sherwood Scuba guarantees, to the original purchaser only, that the Profile will be free of defects in materials and/or craftsmanship under normal recreational multi-level scuba use for two years from date of purchase, provided proper care and annual service are performed as described within this owner's guide. Should your Profile prove to be defective for any reason (other than those listed in the limitations section below) it will be repaired or replaced (at Sherwood Scuba's discretion) free of charge excluding shipping and handling charges.

This warranty will be considered void if the registration card is not filled out completely at the time of purchase and mailed to Sherwood Scuba within 30 days of purchase, and/or if the annual inspection is not done according to this owner's manual. This warranty is non-transferrable and applies to the original purchaser only. All correspondence concerning this warranty must be accompanied by a copy of the original sales receipt and a copy of the owner's portion of the warranty registration card including the annual inspection record.

Once each year you must return the Profile to an Authorized Sherwood Scuba Dealer within 30 days of the original purchase date anniversary to keep the two year limited warranty in force. Annual inspection includes verification of depth accuracy and proper general function. Labor charges for the annual inspection are not covered by the warranty. You must provide a copy of the original sales receipt and a copy of the owner's portion of the warranty registration card including the annual service record to obtain warranty service.

Statement of Limitations - General:

Warranty does not cover damage from accident, abuse, battery leakage, tampering, lack of proper care and maintenance and/or proper annual servicing, or improper use of the Profile. Modifications or repair by anyone other than a Sherwood Scuba Sales and Service Center authorized to service the Profile will void the warranty. Sherwood Scuba will not be responsible for recovery or replacement of the product in the event of loss or theft. Sherwood Scuba, its distributors, and retailers make no warranties, either expressed or implied, with respect to this product or its owner's manual except those stated in the preceding paragraphs. In consideration of the sale of the Profile to you, you agree and understand that in no event will Sherwood Scuba, its distributors or retailers, be held liable for any personal injuries resulting from its operation, or for any other damages whether direct, indirect, incidental, or consequential even if Sherwood Scuba is advised of such damages.

Some states do not allow the exclusion or limitation of implied warranties or liabilities for incidental or consequential damages, so the above limitation may not apply to you.

Warranty does not extend to plastic gauge face, o-rings, batteries, or damage due to accident, abuse, modification, or tampering.

COPYRIGHT NOTICE

This dive computer manual is copyrighted, all rights are reserved. It may not, in whole or in part, be copied, photocopied, reproduced, translated, or reduced to any electronic medium or machine readable form without prior consent in writing from Sherwood Scuba / 2002 Design.

Profile Dive Computer Manual, Doc. No. 12-2372 © 2002 Design 2003

TRADEMARK NOTICE

Sherwood Scuba, and the Sherwood Scuba logo are registered trademarks of Sherwood Scuba, Profile and Hydroglow are also trademarks of Sherwood Scuba. All rights are reserved.

PATENT NOTICE

 $U.S.\ Patents\ have\ been\ is sued, or\ applied\ for, to\ protect\ the\ following\ design\ features:$

Data Sensing and Processing Device (U.S. Patent no. 4,882,678), Dive Time Remaining (U.S. Patent no. 4,586,136), and Ascent Rate Indicator (U.S. Patent no. 5,156,055).

DECOMPRESSION MODEL

The programs within the Profile simulate the absorption of nitrogen into the body by using a mathematical model. This model is merely a way to apply a limited set of data to a large range of experiences. The Profile dive computer model is based upon the latest research and experiments in decompression theory. Still, using the Profile, just as using the U.S. Navy (or other) No Decompression Tables, is no guarantee of avoiding decompression sickness, i.e. "the bends." Every diver's physiology is different, and can even vary from day to day. No machine can predict how your body will react to a particular dive profile.

CONTENTS

Full LCD Display	
FEATURES and DISPLAYS	
Introduction	
Control Button	
Intuitive Displays	
Bar Graphs	14
Ascent Rate Indicator	
Nitrogen Bar Graph	
Depth Displays	
Time Displays	
Temperature Display	18
Backlight Feature	
Operating Temperature	
ACTIVATION and SETUP	
Push Button Activation	20
Water Contact Activation	2 [.]
Surface sequence	22
Surface Mode	22
Entering Settings	23
To Access Set Mode and Enter Settings	23
To Set Units of Measure	23
To Set Hour Format	23
To Set Time	24
To Set Wet Activation	



CONTENTS (CONTINUED)

PRE DIVE and DIVE MODES	25
Pre Dive Plan Mode	
No Decompression Dive Mode	27
No Decompression Dive Mode Safety Stop	
POST DIVE MODES	20
Post Dive Surface Mode	
Transition Period	
After the Transition Period (the First 2 Hours)	
Time to Fly and DeSat Countdowns	
Post Dive Plan Mode	
Log Mode	
After the First 2 Hours	34
CDECIAL CITUATIONS	25
SPECIAL SITUATIONS	
Clear (Reset)	36
Clear (Reset)	
Clear (Reset)	
Clear (Reset) Emergency Decompression Nitrogen Bar Graph Decompression Dive Mode	
Clear (Reset) Emergency Decompression Nitrogen Bar Graph Decompression Dive Mode Managing Decompression Stops	
Clear (Reset) Emergency Decompression Nitrogen Bar Graph Decompression Dive Mode Managing Decompression Stops Violation Modes	36 37 37 37 38 40 40 41
Clear (Reset) Emergency Decompression Nitrogen Bar Graph Decompression Dive Mode Managing Decompression Stops Violation Modes Conditional Violation Mode	36 37 37 37 38 40 41 41 41
Clear (Reset) Emergency Decompression Nitrogen Bar Graph Decompression Dive Mode Managing Decompression Stops Violation Modes Conditional Violation Mode Delayed Violation Mode	36 37 37 38 40 41 41
Clear (Reset) Emergency Decompression Nitrogen Bar Graph Decompression Dive Mode Managing Decompression Stops Violation Modes Conditional Violation Mode Delayed Violation Mode Immediate Violation Mode and Gauge Mode	36 37 37 38 40 41 41 42
Clear (Reset) Emergency Decompression Nitrogen Bar Graph Decompression Dive Mode Managing Decompression Stops Violation Modes Conditional Violation Mode Delayed Violation Mode Immediate Violation Mode and Gauge Mode Permanent Violation	36 37 37 38 40 41 41 42 42 44
Clear (Reset) Emergency Decompression Nitrogen Bar Graph Decompression Dive Mode Managing Decompression Stops Violation Modes Conditional Violation Mode Delayed Violation Mode Immediate Violation Mode and Gauge Mode	36 37 37 38 40 41 41 42 42 44 45

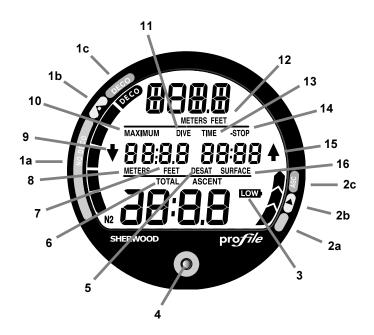


CONTENTS (CONTINUED)

CARE, INSPECTION, and SERVICE	49
Care and Cleaning	
Annual Inspections and Service	
Battery Life	52
Low Battery Condition	52
Battery Replacement Procedures	
REFERENCE	59
Dive Time Remaining	
Altitude Diving	61
Flying After Diving	62
Multiple Tissue Tracking	
No Decompression Limits	
Repetitive Decompression Diving	64
Specifications	
Glossary	68
Inspection / Service Record	



FULL LCD DISPLAY



- 1a. Nitrogen Bar Graph (Green No Deco)
- b. Nitrogen Bar Graph (Yellow No Deco Caution)
- Ic. Nitrogen Bar Graph (Red Deco)
- 2a. Ascent Rate Indicator (Green normal)
- 2b. Ascent Rate Indicator (Yellow caution)
- 2c. Ascent Rate Indicator (Red 'Too Fast')
- Symbol Low Battery
- 4. Control Button
- 5. Symbol DeSAT (time)
- 6. Symbol Total Ascent (time deco)
- 7. Symbol Depth (max feet)
- 8. Symbol Depth (max meters)
- 9. Symbol Down Arrow (descend)
- 10. Symbol-Maximum (depth)
- 11. Symbol Dive (time)
- 12. Symbol-Meters/Feet (current depth)
- 13. Symbol Time
- 4. Symbol Stop (deco)
- 15. Symbol UP Arrow (ascend)
- 16. Symbol Surface (time/mode)

FEATURES and DISPLAYS

INTRODUCTION

Congratulations on your recent purchase of the Sherwood Profile dive computer!

Your Profile presents the information that you need before, during, and after your air dives using an intuitive combination of easy to read displays and identification symbols.

Tissue loading of nitrogen and ascent rate are presented as segmented bar graphs alongside color coded reference indicators that bring quick focus to these important status displays.

As you progress through this instructional guide, you will become familiar with all of the unique functions and features available and see examples of the displays that you could expect to see in the various operational modes. Although it will require an initial investment of time to become acquainted with the various displays and symbols, you'll soon agree that your Profile is easy to understand and use.

Due to the importance that you understand the Profile thoroughly prior to using it, information will be expanded upon and some refreshed as you proceed. Relax and read through the complete manual.

It is extremely important that you:

- Read this manual in sequence and understand it completely before attempting to use the Profile.
- Check the Profile frequently during your dive.
- You must also be a trained diver, certified by a recognized training agency in SCUBA diving.

Remember that the rules you learned in your basic SCUBA certification course still apply to the diving you will do while using a dive computer - some will become even more important. Technology is no substitute for common sense, and a dive computer only provides the person using it with data, not the knowledge to use it.



WARNING: Inspect your Profile prior to every dive, checking for any signs of the entrance of moisture, damage to the button, or damage to the LCD display. If these or other signs of damage are found, return the unit to an Authorized Sherwood Scuba Dealer. DO NOT attempt to use it until it has received factory prescribed service.

CONTROL BUTTON

The Profile's control button (Fig. 1a) allows you to select various settings and access specific information when you choose to see it.

On the surface the control button is used to activate the Profile, access the Log mode, and set Units of Measure, Hour Format, Time, and the Wet Activation feature.

The button can also be used to access an External Access mode which is used by the factory to obtain calibration information.

Underwater, the button is used to view Alternate displays of information that revert to a Main display after 10 seconds.



Fig. 1 - Control Button

INTUITIVE DISPLAYS

The Profile uses 3 rows of easy to understand alpha/numeric displays and symbols (Fig. 2)

When you enter Special Situations, such as Decompression and various Violation modes, an UP Arrow symbol (Fig. 2a) will appear on the display as a warning that a controlled ascent is required. If you ascend above a required Decompression Stop Depth, a DOWN Arrow symbol (Fig. 2b) will appear on the display indicating that you should descend to the Stop Depth.

It is imperative that you understand the formats, ranges, and values of the information presented by the Profile's numeric and graphic displays to avoid any possible misunderstanding that could result in error.

BAR GRAPHS

Two segmented bar graphs appear around the perimeter of the screen next to green, yellow, and red color coded portions of the peripheral decal that denote normal, caution, and danger zones, respectively.

When underwater, you can quickly focus on the bar graphs to make sure that they are in the green and you are not getting too close to the no decompression limit or ascending too fast.

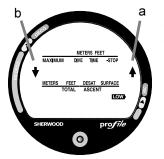


Fig. 2 - Symbols

Ascent Rate Indicator (ARI)

The Ascent Rate Indicator located along the bottom of the screen (Fig. 3a) is provided to help you avoid excessive ascent rates by providing a visual representation of ascent speed, rather than just showing that you are ascending too fast.

The ARI displays up to 3 segments that may be considered an ascent rate speedometer. Green is a 'normal' rate, yellow a 'caution' rate, and red is 'Too Fast'. The segments of the Ascent Rate Indicator represent 2 sets of speeds which change at a reference depth of 60 feet (18 meters). Refer to the chart at the right for segment values.

When your Ascent Rate exceeds the maximum recommended rate of 60 feet (18 meters) per minute when deeper than 60 feet (18 meters) or 30 feet (9 meters) per minute when shallower than 60 feet (18 meters), the bar graph segments will enter the red 'Too Fast' zone at which time all 5 segments will flash once per second until your ascent speed is slowed.

Nitrogen Bar Graph (NiBG)

The Nitrogen Bar Graph (Fig. 3b) represents tissue loading of nitrogen, showing your relative no decompression or decompression status. As your depth and elapsed dive time increase, segments will add to the bar graph, and as you ascend to shallower depths, the bar graph will begin to recede, indicating that additional no decompression time is allowed for multilevel diving.

The Nitrogen Bar Graph also warns you that you have entered Decompression Mode by filling the red Deco segment. Decompression is described in more detail in the Special Situations section of this manual.

	eeper than 60 feet (18 m) egments Ascent Rate =			
Displayed	FPM		- 1	
0	0-20	0 - 6	- 1	
1	21-40	6.5-12	- 1	
2	41-60	12.5-18		
3	>60	>18		
60 feet (18 m) & Shallower				
Segments	Ascent	Rate =	ı	
Displayed	<u>FPM</u>	MPM	- 1	
0	0-10		- 1	
1	11-20	3.5-6	- 1	
2	21-30	6.5-9	- 1	
3	>30	>9	- :	
Ascent Rate Indicator				



Fig. 3 - Bar Graphs

The Nitrogen Bar Graph monitors 12 different nitrogen compartments simultaneously and displays the one that is in control of your dive at that time. It is divided into a green No Decompression zone, a yellow Caution zone, and a red DECO (decompression) zone.

The yellow Caution zone gives a visual representation of just how close you are to the no decompression limit which allows you to make a decision regarding safety stop duration.

The red DECO zone alerts you to focus your attention on the current required Decompression Stop Depth indicated graphically in the center of the display.

DEPTH DISPLAYS

The **Depth** displays indicate depths ranging from 0 to 330 feet (99.5 meters) in 1 foot (.1 meter) increments.

During a dive, **Current Depth** is displayed continuously on the Main display with the symbol FEET (or METERS) below it (Fig. 4a).

Maximum Depth and the symbols MAXIMUM and FEET (or METERS) is displayed on the row below it (Fig. 4b).

In the event that you descend deeper than 330 feet (99.5 meters), the Depth displays will show 3 dashes (- - -) to indicate that you have gone 'out of range'. This is described in more detail in the Special Situations section of this manual.



Fig. 4 - Depth Displays

TIME DISPLAYS

The Profile has 3 time displays.

The largest display is the **Main Time** display (Fig. 5a - bottom row of digits). Indicated is theoretical Dive Time Remaining (NDL) or Total Ascent Time (Deco Mode), depending on the operating mode that the Profile is in at that time.

A second time display (Fig. 5b - left side of the middle row of digits) indicates Time to Fly after a dive.

The third time display (Fig. 5c - right side of the middle row of digits) indicates Elapsed Dive Time, Decompression Stop Time Required, Time of Day, or Time to Desaturate after a dive, depending on the operating mode that the unit is in.

Each display is described in detail in subsequent sections of this manual.

Time displays are shown in hour:minute format (i.e., 1:09 represents one hour and nine minutes, not 109 minutes!). The colon that separates hours and minutes blinks once per second when the display is indicating real time such as Surface Time, Elapsed Dive Time, and Time of Day. Dive Time Remaining (NDL), Total Ascent Time (Deco), Deco Stop Time, Time to Fly, and desat Time are calculated projections of time and use a solid (non-blinking) colon to indicate that they are counting down.

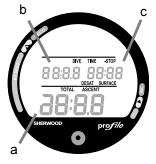


Fig. 5 - Time Displays



Fig. 6 - Temperature (Surface)

TEMPERATURE DISPLAY

While on the Surface, Ambient Temperature is displayed on the Surface Mode screen (Fig. 6a). During a dive, Water Temperature is displayed when the button is pressed momentarily to view the Alternate Display (Fig. 7a).

BACKLIGHT FEATURE

During a dive, the Profile's Hydroglow Backlight will illuminate the display when the button is pressed for 2 seconds and released. The display will remain illuminated for 10 seconds.

OPERATING TEMPERATURE

The Profile will operate in water temperatures from 28° to 95° F (-2 to 35° C) and in air from 20° to 140° F (-6 to 60° C). At extremely low temperatures, the LCD may become sluggish, but this will not affect it's accuracy. If stored or transported in extremely low temperature areas (below freezing), warm the module and battery with body heat before diving.



Fig. 7 - Temperature (Dive)

ACTIVATION, and SETUP



Fig. 8 - Diagnostic Mode

50 123 456 - 18 SHERWOOD Profile

Fig. 9 - Serial Number

ACTIVATION

PUSH BUTTON (PRIMARY METHOD)

To activate the Profile, press the button and release it. The unit will immediately enter **Diagnostic Mode**, displaying all "8's" (Fig. 8), followed by "dashes", and a countdown from 9 to 0. The left digit of the Main Time display does not contain a segment in the top/left position.

While conducting diagnostics, the display is illuminated by the backlight as it checks its display functions to ensure that everything is working properly and that battery voltage is sufficient to complete a full day of diving. If there is not enough battery voltage, the unit will either deactivate itself or would not have activated at all.



WARNING: If a Low Battery symbol (Fig. 8a) is indicated following diagnostics, Sherwood Scuba strongly recommends that you DO NOT dive until the Battery is replaced.

The unit will automatically turn OFF 2 hours after activation if no dive is made. If the water activation contacts are still bridged (the unit is wet), it will automatically reactivate.

When the button is held depressed as the Diagnostic countdown reaches 00, a Serial Number screen appears displaying the unit's firmware code Revision Number and Serial Number (Fig. 9). Upon releasing the button, the unit shuts Off. Press and release the button to reactivate the unit and enter Surface Mode.

WATER CONTACT ACTIVATION (BACKUP METHOD)



NOTE: Water contact will only activate the unit if the Wet Activation feature is Set ON (a user setting).

The Profile has 2 contacts that cause it to activate and enter Surface, or Dive, Mode when the space between the contacts is bridged by a conductive material (e.g., water contact).

If the Wet Activation feature is Set On and the water contacts are bridged when the unit shuts Off, it will automatically reactivate.



WARNING: Never attempt to activate the Profile underwater (activation feature set Off. This may result in inaccurate depth and no decompression time displays. If activated when deeper than 4 feet (1 meter) underwater, or at elevations higher than 14,000 feet (4,267 meters), it will perform a diagnostic check followed by immediate shutdown.

Upon activation and every 30 minutes while on the surface, the Profile will also check the ambient barometric pressure, and calibrate its present depth as zero. At elevations of 2,000 feet (610 m) or higher, it will recalibrate itself to provide adjusted No Decompression Limits.



WARNING: If any display or function varies from the information presented here, return the Profile to your Authorized Sherwood Scuba Dealer for inspection.



SURFACE SEQUENCE

While on the surface, the Profile automatically scrolls through a Sequence of displays -

- Surface Mode for 3 seconds
- Time to Fly / Desaturate for 3 seconds (only after a dive)
- Plan Mode (each Depth/Time displayed for 3 seconds)

The Sequence repeats for 2 hours or until a dive is made or the button is pressed to access Log Mode or Set Mode.

SURFACE MODE

Surface Mode is identified by the symbol SURFACE TIME (Fig. 10a/b).

Other information displayed includes Dive Number (0 if no dive made that activation period - Fig. 10c), Air Temperature with the graphic F or C (Fig. 10d), Time of Day (Fig. 10e), and Surface Interval Time (Fig. 10f) with colon flashing

ENTERING SETTINGS

The Set Mode allows you to set, or verify, Units of Measure (Imperial or Metric), 12/24 Hour Format, Time of Day, and Wet Contact Activation On/Off.

• Time must be reset when the Battery is removed for more than 8 seconds.



Fig. 10 - Surface Mode



NOTE: While in Set Mode, the unit will revert to the Surface Sequence if there is no button action for 2 minutes.

TO ACCESS SET MODE AND ENTER SETTINGS

While the unit is scrolling through the Surface Sequence -

- Press and hold the button down for 2 seconds, releasing it when the **Set Units** screen appears.
- **F** (or C) and **FT** (or M) will be displayed flashing (Fig. 11).
- Momentarily press and release the button (less than 2 seconds) to toggle between Imperial and Metric Units of Measure.
- Press and hold the button down for 2 seconds to save the selection, releasing it when the **Set Hour Format** screen appears. An **EA** screen (Fig. 12) will appear prior to the Hour Format screen. It is used only by the factory during calibration.
- The graphic **Hr** and **12** (or 24) will be displayed with 12 (or 24) flashing (Fig. 13).
- Momentarily press and release the button (< 2 seconds) to toggle between 12 and 24.
- Press and hold the button down for 2 seconds to save the selection, releasing it when the **Set Time** screen appears.



Fig. 11 - Set Units of Measure



Fig. 12 - EA Screen



Fig. 13 - Set Hour Format



Fig. 14 - Set Time



Fig. 15 - Set Wet Activation

ENTER SETTINGS (continued) -

- The graphics **AM** (or PM) and **TIME**, and the **Time of Day** will be displayed with the **Hour** value flashing (Fig. 14).
- Press and release the button repeatedly until the correct **Hour** value appears (1: to 12: or 0: 23:). Do Not hold the button depressed.
- Press and hold the button down for 2 seconds to save the selection, releasing it when the Minute value flashes.
- Press and release the button repeatedly until the correct **Minute** value appears (:00 to :59). Do Not hold the button depressed.
- Press and hold the button down for 2 seconds to save the selection, releasing it when the **Set Wet Activation** screen appears. The graphics **H2O** and **ON** (or OFF) will be displayed with **ON** (or OFF) flashing (Fig. 15).
- Momentarily press and release the button (< 2 seconds) to toggle between ON and OFF.



• Press and hold the button down for 2 seconds to save the selection, releasing it when the **Surface Mode** screen appears.

PRE DIVE and DIVE MODES

Depth		NDL		
feet (meters) hou				:mins
	30	(9)	4:20	(4:43)
	40	(12)	2:17	(2:24)
	50	(15)	1:21	(1:25)
	60	(18)	:57	(:59)
	70	(21)	:40	(:41)
	80	(24)	:30	(:32)
	90	(27)	:24	(:25)
	100	(30)	:19	(:20)
	110	(33)	:16	(:17)
	120	(36)	:13	(:14)
	130	(39)	:11	(:11)
	140	(42)	:09	(:09)
	150	(45)	:08	(:08)
	160	(48)	:07	(:07)
	170	(51)	:07	(:06)
	180	(54)	:06	(:06)
	190	(57)	:05	(:05)
No Decemberation Limite				

No Decompression Limits for an Air Dive (no dive made yet)



Fig. 16 - Plan Mode

PRE DIVE PLAN MODE



NOTE: Sherwood Scuba strongly recommends that you review the Plan Mode <u>prior to every dive</u> to help you plan your dive as required to avoid exceeding no decompression or oxygen exposure limits.

This is especially important for repetitive dives, when the Plan Mode indicates adjusted no decompression limits available for your next dive based on any residual nitrogen following your last dive and surface interval.



WARNING: The Plan Mode predicts only no decompression times for subsequent dives. Depending on cylinder size and air consumption you may have *less time available* than indicated.

Plan Mode appears as part of the Surface Sequence (Surface Mode > Fly/DeSat > Plan).

With each Depth displayed in the Plan Mode, you will see 'predicted' no decompression limits (NDL) based upon your previous dive profiles. The symbol DIVE TIME will be displayed (Fig. 16a) with a sequence of theoretical dive times (NDLs) available for depths ranging from 30 feet (9 meters) to 190 feet (57 meters) in 10 foot (3 meter) increments.

No decompression times are only displayed for depths where there are at least 3 minutes of dive time available at that depth, taking into account a descent rate of 60 feet (18 meters) per minute.



WARNING: If the Wet Activation feature is Set OFF, the unit must be manually activated prior to start of a dive. It will not activate automatically by immersion in water unless the Wet Activation feature is Set ON.

NO DECOMPRESSION DIVE MODE MAIN (DEFAULT) DISPLAY (FIG. 17)

The Profile will enter the No Decompression Dive Mode when you descend deeper than 5 feet (1.5 meters). Displayed from top to bottom will be -

- Current Depth with the symbol FEET (or METERS).
- Maximum Depth with the symbols MAXIMUM and FEET (or METERS).
- Elapsed Dive Time with the symbols DIVE and TIME.
- Dive Time Remaining (NDL) at the bottom, the largest digits of the LCD.
- The Bar Graphs will indicate nitrogen loading and ascent rate.
- Pressing the button for 2 seconds will activate the Backlight.

NO DECOMPRESSION DIVE MODE ALTERNATE DISPLAY (FIG. 18)

To view the Alternate Display, momentarily press the button <u>1 time</u> (less than 2 seconds). Displayed from top to bottom will be -

- Current Depth with the symbol FEET (or METERS).
- Water Temperature with the graphic F (or C) and Time of Day with the symbol TIME will be displayed in the center of the screen.
- The screen will automatically revert back to the No Deco Main Display after 10 seconds.
- The Bar Graphs will indicate nitrogen loading and ascent rate.
- Pressing the button for 2 seconds will activate the Backlight.



Fig. 17 - No Deco Main



Fig. 18 - No Deco Alternate

Bar Graphs

As your Depth and Dive Time increase during a dive, the Nitrogen Bar Graph will fill with segments (green toward red) to represent nitrogen loading. Segments of the Ascent Rate Indicator fill and recede as your Ascent Rate increases (and decreases) throughout the dive.



WARNING: Every effort should be made to keep each of the bar graphs in the green throughout your dives.

NO DECOMPRESSION DIVE MODE SAFETY STOP

Upon ascending to 20 feet (6 meters) on any No Decompression dive in which Depth exceeded 30 feet (9 meters), a non mandatory Safety Stop screen appears with a countdown timer beginning at 3:00 (min:sec) and counting down to 0:00. There is no Penalty if you surface during the countdown period.

In the event that you descend below 30 feet (9 meters) during the countdown, the No Deco Main screen replaces the Safety Stop screen which reappears upon ascent to 20 feet (6 meters).

Displayed from top to bottom are (Fig. 19) -

- Current Depth and the symbol FEET (or METERS)
- Safety Stop Depth (20 feet or 6 meters) and the symbol FEET (or METERS)
- Countdown Timer (min:sec) and the symbols STOP and TIME
- Dive Time Remaining
- Applicable Bar Graphs NiBG, ARI



Fig. 19 - No Deco Safety Stop

POST DIVE MODES



Fig. 20 - Transition Period



Fig. 21 - Log Mode

POST DIVE SURFACE MODE

When you ascend to 3 feet (1 meter) or shallower, the Profile will enter Surface Mode and begin counting your Surface Interval.

TRANSITION PERIOD

The first 10 minutes is, in affect, a Transition Period during which time the following information is displayed from top to bottom (Fig. 20):

- Dive number (2).
- Temperature (76) and graphic F (or C)
- Surface Interval time (6 minutes) with flashing colon and symbols SURFACE (flashing) and TIME.
- Time of Day (11:45 AM)
- Nitrogen Bar Graph indicating current nitrogen loading.

If you descend during the 10 minute Transition Period, time underwater will be considered a continuation of that dive. The time at the surface (if less than 10 minutes) will not be added to Elapsed Dive Time.

To view that dive's Log (Fig. 21), press the button 1 time. Log Mode is described on page 32.

- press the button again to view the second screen of the Log.
- The unit will revert to Surface Mode after 2 minutes.



NOTE: Data will not be stored in the unit's Log until the 10 minute Transition Period is completed. Also, no other modes are accessible.

AFTER THE TRANSITION PERIOD (THE FIRST 2 HOURS)

Once 10 minutes have elapsed, that Dive and the Transition Period are completed, and a subsequent descent will be considered a new dive. That dive will then be entered into the Profile's Dive Log and Download Memory.

For the remainder of the **first 2 hours after surfacing**, information will continue to be displayed in the Surface Sequence, scrolling through Surface Mode, Time to Fly / DeSat, and the Planning Sequence. You will have full access to Log Mode and Set Mode.

Time to Fly and Desaturate Countdowns

The Time to Fly counter (Fig. 22a) begins counting down 10 minutes after the last dive (after the Transition Period) displaying FLY with a countdown that starts at 23:50 (hr:min) and counts down to 0:00 (hr:min).

The Desaturate counter (Fig. 22b) provides calculated time for tissue desaturation at sea level. It begins 10 minutes after the last dive displaying the symbol DESAT with a countdown that starts at 23:50 (hr:min) maximum and counts down to 0:00 (hr:min).

If a Violation occurred during that dive, Time to Desaturate will not be displayed and a single dash (-) will appear instead of the letters FLY.

When the unit is wet (wet activation contacts bridged), the graphic H2O will appear on the display (Fig. 23).



Fig. 22 - Time to Fly / DeSat



Fig. 23 - Fly Mode (unit wet)

Post Dive Plan Mode

After a dive, Plan Mode will display <u>adjusted</u> No Decompression Limits (Fig. 24) based upon your previous dive profiles

The Plan Mode will only display Depths/Times to the Maximum Depth allowed by the nitrogen limit. The calculated dive times and the maximum allowed depth displayed will increase as the real time Surface Interval increases after completion of a dive.

Log Mode

Information from your latest 50 dives is stored in the **Log** for viewing. After exceeding 50 dives, the oldest dive in the Log will be overwritten by the most recent dive.

Log information will not be lost when the Battery is removed/replaced, but factory service will delete data.

Log Mode recalls dives in reverse order from the one most recently recorded back to the oldest of the 50 dives stored. Your most recent dive will always be the first shown when Log Mode is accessed.

Each dive has two Log screens, Dive Identifier and Dive Data.

Dives are identified by the Dive Number (for that activation period) and Time started. The first dive of a new Activation Period will always be #1.



Fig. 24 - Adjusted NDLs

To access the Log Mode (10 minutes after a dive):

- press the button momentarily while the unit is scrolling through the Surface Sequence.
- the first screen (**Dive Identifier** Fig. 25) of the most recent dive will appear displaying (from top to bottom) -
 - · Graphic LOG.
 - Dive Number for that activation period (2) and symbol DIVE.
 - Surface Interval Time prior to that dive (1:24) and symbols SURFACE and TIME.
 - Time of Day that the dive started (10:25 AM).

To view the second screen for that dive (Dive Data-Fig. 26):

- press the button again momentarily. Displayed (from top to bottom) will be -
 - · Graphic LOG.
 - Maximum Depth reached (128) and symbols MAXIMUM and FEET (or METERS).
 - Elapsed Dive Time (0:45) and symbols DIVE and TIME.
 - Temperature (68) lowest recorded during that dive and graphic F (or C).
 - Ascent Rate Indicator showing the maximum ascent rate maintained for 4 consecutive seconds during the dive
 - Nitrogen Bar Graph showing tissue nitrogen loading at the time you surfaced from the dive. It will also display the segment that reflects the maximum nitrogen loading that was achieved during the dive (Fig. 26a).

To exit Log Mode and return to the Surface Sequence, press the button for 2 seconds.



Fig. 25 - Log Dive Identifier



Fig. 26 - Log Dive Data



Fig. 27 - Fly / DeSat Times

AFTER THE FIRST 2 HOURS

Two hours after the last dive, the unit will no longer scroll through the Surface Sequence. Instead, the **Fly/Desat screen** (countdown timers) will be displayed continuously, giving the final countdowns from 22:00 (hr:min) to 0:00 (Fig. 27).

If the Wet Activation feature is set ON, the graphic H2O will appear on the screen if the unit is Wet (Fig. 28). This is an indication that the unit should be dried off prior to travel or storage.

To access other modes or enter settings while in Fly/DeSat Mode:

- press the button to reactivate the Surface Sequence.
- The Fly/Desat screen will appear in the Sequence and again be the only screen displayed after 2 hours, if the button is not pressed.



Fig. 28 - Unit Still Wet



SPECIAL SITUATIONS

CLEAR (RESET)

The Profile is configured with a feature that allows calculations pertaining to a dive series in progress to be interrupted. Activation of this feature will delete all data accumulated during the dive series necessary for planning a next dive and should only be performed if the user plans to suspend diving for at least 24 hours.

This feature is present to provide institutional users of the computer a means to provide a "clean" computer to subsequent users without having to wait for the computer to complete all calculations in real time. This practice requires strict control to ensure that the "clean" computer is not used by a diver that has been diving within the preceding 24 hours. Failure to follow this practice could adversely affect the accuracy of subsequent calculations by failing to account for previous exposure to elevated nitrogen absorption.



WARNING: Do not attempt to activate the CLEAR (Reset) function on your computer. Proper activation of this feature requires controlled procedures and is restricted to authorized personnel.



WARNING: Improper activation of this feature could expose the user to elevated risk of decompression sickness. This is a serious risk and could result in injury or death.



WARNING: If the CLEAR (Reset) screen appears (Fig. 29), cease all operation of the unit's button and wait until Surface Mode appears on the display (2 minutes). If the unit shuts Off completely, all calculations for repetitive dives will be cleared in which case you must wait at least 24 hours before resuming diving activity.



Fig. 29 - Clear

EMERGENCY DECOMPRESSION

The Profile is a sophisticated instrument designed with capabilities that can help you to avoid and, if necessary, manage Decompression.



WARNING: See pages 47 and 48 for Special Warnings and Additional Safety Information.

NITROGEN BAR GRAPH

The Nitrogen Bar Graph offers you a convenient way to consistently monitor how close you are coming to the No Decompression Limit. As you use the Profile and become familiar with the Nitrogen Bar Graph, you will notice that it displays fewer segments for shorter dive times and shallower depths. Use this feature to adjust conservatism to your diving needs.



NOTE: Use the yellow Caution Zone of the Nitrogen Bar Graph (Fig. 30a) as a visual reference to place a wider margin of protection between you and the No Decompression Limit.

Sherwood Scuba suggests keeping the Nitrogen Bar Graph in the green No Decompression zone during all of your dives, and that it always be in the 'green' when leaving the water.



Fig. 30 - NiBG Caution Zone

DECOMPRESSION DIVE MODE

The Profile is designed to help you by providing a complete representation of how close you are to entering decompression. Decompression Dive Mode activates when theoretical no decompression time/depth limits are exceeded.

In the event that you enter Decompression Mode, you would need to immediately begin a safe controlled Ascent to a depth slightly deeper than, or equal to, the Required Ceiling Stop Depth indicated and decompress for the Stop Time indicated.

Entry into Decompression Mode (Fig. 31)

Upon entering Decompression Mode, the UP Arrow symbol appears on the display as a warning. Information displayed from top to bottom includes:

- Current Depth and the symbol FEET (or METERS).
- Required Ceiling Stop Depth and the symbol FEET (or METERS).
- Stop Time Required (for the Stop Depth indicated) and the symbols STOP and TIME.
- Total Ascent Time with the symbols TOTAL and ASCENT this includes stop times required at all ceilings plus vertical ascent time calculated at 60/30 feet (18/9 meters) per minute.
- The Nitrogen Bar Graph (all segments).
- Ascent Rate Indicator while ascending.

To activate the **Backlight** while in Deco Mode, press the button for 2 seconds. The display will be illuminated for 10 seconds.



Fig. 31 - Entry into Deco

Deco Stop Main Display #1 (Fig. 32)

Information displayed is similar to that displayed upon Entry into Deco. The UP Arrow will not be displayed as long as you stay within 10 feet (3 meters) below the required stop depth.

Deco Stop Alternate Display #1 (Fig. 33)

To view Alternate Display #1, momentarily press the button (less than 2 seconds) while viewing the Main Display.

Maximum Depth and the symbols MAXIMUM and FEET (or METERS) and Elapsed Dive Time with the symbols DIVE and TIME will be displayed for 10 seconds then revert to the Main Display.

Deco Stop Alternate Display #2 (Fig. 34)

To view Alternate Display #2, press the button 2 times while viewing the Main Display, or 1 time while viewing Alternate Display #1.

Water Temperature and the graphic F (or C) and the Time of Day and the symbol TIME will be displayed for 10 seconds in the middle of the screen then revert to the Main Display.





Fig. 33 - Deco Stop Alternate



Fig. 34 - Deco Stop Alt #2



Fig. 35 - Managing a Deco Stop

MAXIMUM DIVE TIME 128 |: 10 FEET N2 SHERWOOD Pro///e

Fig. 36 - Deco Completed

MANAGING DECOMPRESSION STOPS

The amount of decompression Credit Time that you receive is dependent on Depth, with slightly less credit given the deeper you are below a Required Stop Depth.

You should stay slightly deeper (Fig. 35a) than the Required Stop Depth indicated (Fig. 35b) until the next shallower Stop Depth appears. Then, you can slowly ascend to, but not shallower than that indicated ceiling Stop Depth.



WARNING: You must not ascend shallower than the ceiling Stop Depth indicated. Doing so will greatly increase your risk of decompression sickness and place the Profile into a Conditional Violation Mode (described on the next page).

Once all required decompression has been completed, the Profile will revert to the No Decompression Dive Mode. This is indicated by Total Ascent Time = 0:00, and the Nitrogen Bar Graph receding into the Caution Zone.

Dive Time Remaining (Fig. 36a) now appears in place of Total Ascent Time displaying the No Decompression Time Remaining.



WARNING: If you exceed certain limits, the Profile will not be able to respond with information to guide you to the surface. These situations exceed tested limits and can result in loss of some Profile functions for 24 hours after the dive in which a Violation occurred. It is important to understand each different Violation Mode and how to carry out emergency procedures in the event that you enter one.

VIOLATION MODES

Violation Modes the Profile can enter are termed Conditional, Delayed, and Immediate. Permanent Violation Mode and Gauge Mode are continuations of these. While in Violation Modes, the Backlight can be activated and Alternate Displays similar to those shown for Deco Mode can be accessed using the button.

CONDITIONAL VIOLATION MODE

The unit will enter the Conditional Violation Mode if you ascend shallower (Fig. 37a) than the Required Deco Ceiling Stop Depth displayed (Fig. 37b).

Total Ascent Time and the DOWN Arrow symbol will flash until you descend below the Required Stop Depth.

If you descend below the Required Stop Depth <u>before 5 minutes have elapsed</u>, the Profile will continue to function in Decompression Dive Mode. In this case, no off-gassing credit will be given, and for each minute above the Required Stop Depth $1^{1}/_{2}$ minutes of **Penalty Time** is added to Required Stop Time and Total Ascent Time.



Fig. 37 - Conditional Violation (< 5 min above a Deco Stop)



Fig. 38 - Delayed Violation (> 5 min above a Deco Stop)



Fig. 39 - Delayed Violation (> 60 FT/18 M Stop Required)

The added Penalty Time will have to be served before obtaining off-gassing credit begins again. Once the Penalty Time is served and off-gassing credit begins, Required Stop Depths and Times will decrease toward zero, then the Nitrogen Bar Graph will recede into the yellow Caution Zone and the Profile will revert to the No Decompression Dive Mode.

DELAYED VIOLATION MODE

Three conditions will cause the Profile to enter a Delayed Violation Mode:

1. You remain above the Required Ceiling Stop Depth for 'more than 5 minutes'.

The DOWN Arrow symbol and the full Nitrogen Bar Graph will flash (Fig. 38) until you descend below the Required Stop Depth.

You would then need to follow the Stop Depths and Times toward the surface until the Nitrogen Bar Graph recedes into the yellow Caution Zone.

2. Your necessary Decompression requires a Ceiling Stop Depth between 60 feet (18 meters) and 70 feet (21 meters).

The full Nitrogen Bar Graph and the UP Arrow symbol will flash (Fig. 39) until you Ascend to within 10 feet/3 meters below the Required Stop Depth of 60 FEET/18 METERS.

You must ascend to just deeper than 60 feet (18 meters), staying as close to 60 feet (18 meters) as possible without causing Total Ascent Time to flash. When the Required Stop Depth indicates 50 FEET (15 METERS), etc., you can ascend to, but no shallower than those depths and continue decompressing.

The Profile cannot accurately calculate decompression times for Stop Depths much greater than 60 feet (18 meters) and offers no indication of how much time spent underwater would result in the need for a greater Stop Depth.

3. You exceed the Maximum Operating Depth (330 feet/99.5 meters).

Upon descending deeper than 330 feet (99.5 meters), the Nitrogen Bar Graph will flash as a warning (Fig. 40).

Current Depth and Max Depth displays will only indicate 3 dashes (- - -) until ascent is made to a depth shallower than 330 feet (99.5 meters).

Once you ascend above 330 feet (99.5 meters), the Current Depth display will be restored, however Max Depth will only display 3 dashes (- - -) for the remainder of that dive. The Log for that dive will also only indicate dashes (- - -) as the Max Depth achieved.



WARNING: The expanded capabilities of the Profile are provided as safety features to assist you with emergency situations. Special training, equipment, and support are necessary for diving deeper than the maximum recommended sport diving depth limit of 130 feet (39 meters).



Fig. 40 - Delayed Violation (> 330 ft/99.5 m)

IMMEDIATE VIOLATION MODE AND GAUGE MODE



WARNING: The Profile enters Immediate Violation Mode when a situation totally exceeds its capacity to predict an ascent procedure. These dives represent gross excursions into decompression that are beyond the boundaries and spirit of the Profile design, and a Profile should not be used for the dives.

Gauge Mode Underwater

If a Decompression ceiling Stop Depth of 70 feet (21 meters) or greater is required, an Immediate Violation Mode (Gauge Mode) will be entered.

This situation would be preceded by entering a Delayed Violation Mode.

The Profile would then operate with limited functions in **Gauge Mode** during the remainder of that dive and for 24 hours after surfacing.

Gauge Mode turns the Profile into a digital instrument without any decompression monitoring functions. Only Current Depth, Max Depth, Elapsed Dive Time, and the bar graphs will be displayed on the Main screen (Fig. 41). Temperature and Time of Day can be viewed the Alternate display. The UP Arrow and full Nitrogen Bar Graph will flash as a warning. The Backlight can be activated.



Fig. 41 - Immediate Violation/ Gauge Mode Underwater

Gauge Mode on the Surface

The Profile will also enter an **Immediate Violation/Gauge Mode** 5 minutes after surfacing from a dive in which a Delayed Violation occurred.

For the first 2 hours, **Gauge Mode** displays the Dive Number, Temperature, Surface Interval, and Time of Day. The full Nitrogen Bar Graph flashes as a warning (Fig. 42).

The Countdown Timer that appears with 3 dashes in place of Fly/DeSat Mode and as the only screen 2 hours after the dive <u>does not</u> represent 'Time to Fly'. It is <u>only</u> provided to inform you of the time remaining before normal Profile operation can resume with full features and functions.

PERMANENT VIOLATION

Entering the Immediate Violation Mode, then Gauge Mode, will result in loss of all Profile decompression functions for 24 hours after that dive. Plan Mode will not appear.

This condition is considered a Permanent Violation, and in the event that a dive is made during the 24 hour period, a full 24 hour surface interval must then be served before all functions are restored.



Fig. 42 - Immediate Violation/ Gauge Mode On Surface

UNEXPECTED LOSS OF DISPLAYED INFORMATION

While diving, if you find that any major piece of equipment is not functioning correctly, you must abort the dive immediately and surface slowly in a controlled manner.

If your Profile stops working for any reason, it is important that you have anticipated this possibility and are prepared for it. This is an important reason to avoid pushing the no decompression limits, and a critical reason to avoid entering decompression.

Regardless of your diving habits, Sherwood Scuba advises you to dive with additional backup instrumentation that can provide the data necessary to properly surface if and when your primary instruments fail.

As with any other piece of equipment, unforeseen things can happen. By preparing ahead of time, you can spare yourself a great deal of frustration and disappointment.

If you dive in situations where your trip would be ruined or your safety would be jeopardized by losing the use of your Profile, an analog or digital backup system or use of standard air tables is highly recommended.





SPECIAL WARNINGS and ADDITIONAL SAFETY INFORMATION

There are few legitimate excuses for making unplanned Decompression dives, and the consequences of this type of diving can be severe. By making an unplanned Decompression dive without the necessary preparation and training, you will have placed yourself in an unnecessarily dangerous situation. Allow a Surface Interval of at least 24 hours before reentering the water in the event a dive requires emergency decompression.

By entering decompression, you automatically impose a Ceiling above you which you cannot immediately ascend beyond, denying you free access to the surface.

Exiting the water with the Nitrogen Bar Graph in the red DECO zone greatly increases the risk of decompression sickness, and may result in injury or death.

Existing data for making planned decompression dives is extremely limited, and virtually nonexistent for repetitive decompression diving. Decompression diving greatly increases your risk of decompression sickness.



SPECIAL WARNINGS and ADDITIONAL SAFETY INFORMATION

Decompression diving, or diving deeper than 130 feet (39 meters), will greatly increase your risk of decompression sickness.

Sherwood Scuba does not advocate diving to depths below 130 feet (39 meters), the basis for which is purely theoretical.

It should not be considered that the capabilities built into the Profile provide any implied approval or consent from Sherwood Scuba for individuals to exceed the defined limits of recreational dive profiles, as agreed on by all internationally recognized training agencies.

The Profile is not intended for use by military or commercial divers.

CARE, INSPECTION, AND SERVICE

CARE AND CLEANING

The Profile is a sensitive electronic instrument. Although it has been built to endure the rigors of diving, it still must be handled carefully to protect it from shock, excessive heat, chemical attack, and tampering. The housing is made of an impact resistant resin that is shock resistant but susceptible to scratches and attack by strong chemicals.



CAUTION: Never spray aerosols of any kind on, or near, the Profile. The propellants may chemically attack the plastic.

Be careful not to leave it in an unsupervised, unprotected location where it might be damaged. Many dive computers (and dive trips) are ruined due to carelessly tossed weight belts or cylinders.

If the lens becomes scratched, Sherwood Scuba can replace it, although small scratches will naturally disappear underwater. For even more convenience and additional protection against scratches, place a transparent Instrument Lens Protector on the gauge face. This can be purchased from your Authorized Sherwood Scuba Dealer.

CLEANING

Soak and rinse the Profile in fresh water following each day of diving, preferably after each dive, and ensure that it is free of any debris or obstructions that would block the sensors. If possible, use lukewarm water to dissolve any salt crystals. Salt deposits can also be dissolved using a 50% vinegar/50% fresh water bath. Towel dry before storing, and transport your Profile cool, dry, and protected.



CAUTION: Never, under any circumstances, poke any object through any slots or holes on the rear side of the Profile. Doing so may damage the Depth Sensor, possibly resulting in erroneous depth and/or dive time remaining displays.

ANNUAL INSPECTIONS AND SERVICE

Your Profile should be inspected annually by an Authorized Sherwood Scuba Dealer who will perform a factory prescribed function check and inspection for damage or wear. To keep the 2 year limited warranty in effect, this inspection must be completed one year after purchase (± 30 days). The original sales receipt and owner's portion of the Warranty Registration Card must be presented at the time of service. It is recommended that you have this inspection performed even after the warranty period has expired to ensure your Profile is working properly.

A Service Record is provided in the back of this manual for your convenience. It should be signed by the Authorized Sherwood Dealer service technician after each annual inspection or factory service. The costs of annual inspections are not covered under the terms of the 2 year limited warranty.



WARNING: If you are in doubt about the accuracy of your Profile's Depth readings, DO NOT attempt to dive with it until it has been inspected by an Authorized Sherwood Scuba Dealer.

The facility conducting the depth check must have a pressure test chamber that is capable of pressurizing the Profile to its Maximum Operating Depth (330 feet / 99.5 meters). Also, the test gauge on the pressure test chamber must be as accurate as the Depth Sensor in the Profile ($\pm 1\%$ of full scale).



CAUTION: Never pressure test the Profile in an air environment. Doing so may damage the Depth Sensor; possibly resulting in erroneous depth or time readings.

It is possible to damage the Profile Depth Sensor if it is not pressure tested properly. The Profile must be placed completely underwater when being pressure tested to protect the Depth Sensor.

BATTERY LIFE

Battery consumption rate varies throughout periods of operation, which begin upon activation and continue for 24 hours after surfacing from a dive. The exact number of dives, or hours of operation, that you will obtain is subject to variables, such as, temperature, the number of dives conducted during each operational period, and the frequency and duration that the backlight is used (excessive use will reduce battery life).

Tests and calculations indicate that a new CR2450 Lithium battery will maintain unit operation for approximately 300 hours or -

- 150 dives, if 1 1 hour dive per activation period to over -
- 300 dive hours, if 2 or more 1 hour dives per activation period

LOW BATTERY CONDITION

During unit operation, voltage level is checked every second while on the surface. You will be alerted to a Low Battery condition by a flashing Battery symbol (Fig. 43a).

Upon decreasing to a voltage level that will not maintain proper unit operation, the symbol will flash for 5 seconds followed by shutdown of the Profile.

If the Profile did not display the Low Battery symbol prior to entering the Dive mode, and a Low Battery condition occurs during a dive, there will be sufficient Battery power to maintain unit operation for the remainder of that dive, however the Backlight will be disabled. You will be alerted by the Battery symbol appearing when you surface from the dive.



Fig. 43 - Low Battery Condition



NOTE: Sherwood Scuba strongly advises that you replace the Battery and DO NOT attempt to dive when the Battery symbol remains on the display, and that you replace the Battery with a new one prior to any multi day dive trip.

BATTERY REPLACEMENT PROCEDURES

MODULE REMOVAL FROM BOOT

If the Profile is in a Wrist Boot, it will be necessary to peel the lips of the Boot downward off the Module while applying pressure from underneath, working it out slowly.

If it is in a Console, bend the rubber Console Boot back to expose the edge of the Module. If the Boot is flexible enough to permit, you may bend it back far enough to scoop the Module out with your finger. Otherwise, it may be necessary to insert a blunt screwdriver until the tip rests just underneath the Module. DO NOT pry the Module from the Console! Slowly increase the pressure under the Module by releasing the tension on the rubber Boot. The Module will slide up the screwdriver and exit the Console.



CAUTION: The procedure that follows must be closely adhered to. Damage due to improper battery replacement is not covered by the Profile's limited 2 year warranty.



BATTERY REPLACEMENT

The Battery Compartment should only be opened in a dry and clean environment with extreme care taken to prevent the entrance of moisture or dust.

As an additional precautionary measure to prevent formation of moisture in the Battery Compartment, it is recommended that the Battery be changed in an environment equivalent to the local outdoor temperature and humidity (e.g., do not change the Battery in an air conditioned environment, then take it outside during a hot sunny day).

- Inspect the Button, Lens, and Housing to ensure they are not cracked or damaged.
- If there is any sign of moisture in the module, DO NOT use the Profile until it receives proper service by an Authorized Sherwood Scuba Dealer.



WARNING: If damage, moisture, or corrosion is found, it is recommended that you return your Profile to an Authorized Sherwood Scuba Dealer, and DO NOT attempt to use it until it has received factory prescribed service.



NOTE: If the old battery can be removed and the new one inserted within <u>8 seconds</u>, nitrogen calculations and settings, will be retained for repetitive dives.



Battery Hatch Removal

- Locate the Battery Compartment on the back of the unit.
- While applying steady inward pressure on the center of the Battery Hatch, rotate the Hatch Retaining Ring 10 degrees clockwise by pressing against the upper tab of the Retaining Ring with a small blade screwdriver (Fig. 44).
- Lift the Hatch Ring up and away from the Housing, or turn the Module over to allow the Ring to drop out into your hand.
- Remove the Battery Hatch.



Fig. 44 - Hatch Ring Removal

Battery Removal

- Remove the Retaining Bar located across the lower portion of the Battery (Fig. 45a).
- Remove the Hatch O-ring. DO NOT use tools
- Using care not to damage the Battery Contacts (Fig. 45b/c), slide the Battery up and out of the Battery Compartment.

Inspection

- Closely check all of the sealing surfaces for any signs of damage that might impair proper sealing.
- Inspect the Buttons, Lens, and Housing to ensure they are not cracked or damaged.
- If it is necessary to clean the Battery Compartment, flush it and all components with a solution of 50% white vinegar and 50% fresh water. Rinse with fresh water, and allow to dry overnight, or blow dry with a hair dryer (set at 'no heat').

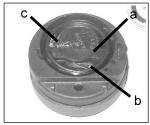


Fig. 45 - Battery Compartment



Fig. 46 - Battery Insertion



Fig. 47 - Retaining Bar



Fig. 48 - Retaining Ring



WARNING: If damage or corrosion is found in the Battery Compartment, return your Profile to an Authorized Sherwood Scuba Dealer, and DO NOT attempt to use it until it has received factory prescribed service.

Battery Installation

- Slide a new 3 volt type CR2450 Lithium Battery, negative (-) side down into the Battery Cavity. Slide it in from the right side and ensure that it slides under the contact clip on the left rim of the cavity (Fig. 46).
- Orient the Retaining Bar across the lower portion of the Battery and carefully push it down into position (Fig. 47).

Battery Hatch and Hatch Retaining Ring Installation

- Replace the Hatch O-ring with a new one. This O-ring must be a genuine Sherwood Scuba part that can be purchased from an Authorized Sherwood Scuba Dealer. Use of any other O-ring will void the warranty.
- Lightly lubricate the **new** Hatch O-ring with silicone grease and place it on the inner rim of the Battery Hatch. Ensure that it is evenly seated.
- Slide the Hatch Retaining Ring, top portion first (small opening), onto your thumb (Fig. 48).
- Carefully place the Battery Hatch (with O-ring) into position on the rim of the Battery Compartment, then press it evenly and completely down into place with your same thumb.
- Maintain the Battery Hatch securely in place and, using your other hand, slide the Retaining Ring down off your thumb and into position around the Battery Compartment.

Profile

- The tabs on the Retaining Ring fit down into the two slots located at the 2 and 8 o'clock positions.
- Using your fingers, turn the Ring counter clockwise 5 degrees until the tabs engage (Fig. 49), then tighten it 5 more degrees by turning it counter clockwise with the aid of a small blade screwdriver (Fig. 50).



NOTE: While tightening (turning) the Retaining Ring, exert continuous inward pressure on it until it is secured in the proper position. A small symbol located on the Ring should be aligned with the Locked symbol located on the Housing (Fig. 50 a/b)



Fig. 49 - Retaining Ring Tabs

Inspection

• Activate the unit and watch carefully as it performs a full diagnostic and battery check, and enters Surface Mode. Observe the LCD display to ensure it is consistently clear and sharp in contrast throughout the screen.



WARNING: If there are any portions of the display missing or appearing dim, or if a Low Battery condition is indicated, return your Profile to an Authorized Sherwood Scuba Dealer for a complete evaluation before attempting to use it.

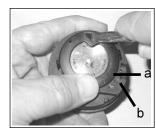


Fig. 50 - Securing the Retaining Ring

RETURNING THE MODULE TO BOOT

- If the Boot was fitted with a Spacer and it was previously removed, replace the Spacer into the Boot.
- Orient the Module over the opening in the Boot, and dip the bottom edge into it while pressing the top edge with the palm of your hand. Stop pressing when the bottom edge of the Module has just entered the Boot.
- Correct the alignment of the Module as needed so that it is straight.
- Press the Module completely into place with your thumbs, watching the alignment, until it snaps into place.





NOTE: The Wet Activation Contacts are located on the stem of the Button and on metal Pins located on the lower left side of the module. The Profile module is designed for use in a Boot that has an opening on the left side which exposes the Pins (and side Wet Activation Contact) to water upon immersion.



WARNING: If the Profile is installed in a Boot that does not have the side opening where the side Wet Activation Contact is located, the unit may not activate automatically upon descending on a dive.

REFERENCE

DIVE TIME REMAINING

One of the most important pieces of information on the Profile is the patented Dive Time Remaining numeric display. To numerically display Dive Time Remaining, the Profile constantly monitors no decompression status. This unique feature has been granted U.S. Patent No. 4,586,136.

No Decompression Dive Time Remaining

No Decompression Dive Time Remaining (NDL) is the maximum amount of time that you can stay at your present depth before entering a decompression situation. It is calculated based on the amount of nitrogen absorbed by twelve hypothetical tissue compartments. The rates each of these compartments absorb and release nitrogen is mathematically modeled and compared against a maximum allowable nitrogen level. Whichever one of the twelve is closest to this maximum level is the controlling compartment for that depth. Its resulting value will be displayed numerically with the NDL symbol (Fig. 51a) and graphically as the Nitrogen Bar Graph.

As you ascend from depth following a dive that has approached the no decompression limit, the Nitrogen Bar Graph will recede as control shifts to slower compartments. This is a feature of the decompression model that is the basis for multilevel diving, one of the most important advantages the Profile offers.

The no decompression algorithm is based upon Haldane's theory using maximum allowable nitrogen levels developed by Merrill Spencer. Repetitive diving control is based upon experiments designed and conducted by Dr. Ray Rogers and Dr. Michael Powell in 1987. Diving Science and Technology® (DSAT), a corporate affiliate of PADI®, commissioned these experiments.



Fig. 51 - No Deco Dive Time Remaining

ALTITUDE DIVING

Atmospheric pressure decreases as Altitude increases above sea level. Weather systems and ambient temperature also affect barometric pressures. Consequently, depth reading instruments that do not compensate for the decrease in ambient pressure indicate depth readings shallower than the depth they are actually at.

The Profile automatically compensates for decreased ambient pressures for Altitudes between 2,000 (610 meters) and 14,000 feet (4,267 meters). Its program contains a high altitude algorithm that reduces no decompression and oxygen exposure limits to add a larger zone of caution.

The Profile senses ambient pressure when it is manually activated, every 15 minutes while it is activated, or every 30 minutes when it is not activated. At an Altitude of 2,000 feet (610 meters), it will automatically recalibrate itself to measure depth in feet of fresh water rather than feet of sea water. It will then readjust the no decompression limits at additional intervals of 1,000 feet (305 meters). Therefore, when returning to lower Altitudes, diving should not be conducted until the unit automatically clears of any residual nitrogen and oxygen loading and resets to operate at the new lower Altitude.



WARNING: Diving at high altitude requires special knowledge of the variations imposed upon divers, their activities, and their equipment by the decrease in atmospheric pressures. Sherwood Scuba recommends completion of a specialized Altitude training course by a recognized training agency prior to diving in high altitude lakes or rivers.



FLYING AFTER DIVING

In 1990 the Undersea and Hyperbaric Medical Society (UHMS) published a set of guidelines aimed at minimizing the possibility of decompression sickness due to flying too soon after diving. The UHMS suggests* that divers using standard air cylinders and exhibiting no symptoms of decompression sickness wait 24 hours after their last dive to fly in aircraft with cabin pressures up to 8,000 feet. (2,440 meters).

* excerpted from "The UHMS Flying After Diving Workshop"

The two exceptions to UHMS's recommendation are:

- If a diver had less than 2 hours total accumulated dive time in the last 48 hours, then a 12 hour surface interval before flying is recommended.
- Following any dive that required a decompression stop, flying should be delayed for at least 24 hours, and if possible, for 48 hours.

Since the 1990 UHMS guidelines were introduced, data from the Diver's Alert Network (DAN) was introduced that resulted in DAN's position** that "A minimum surface interval of only 12 hours would be required in order to be reasonably assured a diver will remain symptom free upon ascent to altitude in a commercial jet airliner (altitude up to 8,000 feet/2,440 meters). Divers who plan to make daily, multiple dives for several days, or make dives that require decompression stops, should take special precautions and wait for an extended surface interval beyond 12 hours before flight".

Both the UHMS and DAN agree that "There can never be a flying after diving rule that is guaranteed to prevent decompression sickness completely. Rather, there can be a guideline that represents the best estimate for a conservative . . . surface interval for the vast majority of divers. There will always be an occasional diver whose physiological makeup or special diving circumstances will result in the bends".

MULTIPLE TISSUE TRACKING

The Profile tracks twelve tissue compartments with halftimes ranging from 5 to 480 minutes. The Nitrogen Bar Graph always displays the controlling compartment that is the only one important at that time.

Think of the Nitrogen Bar Graph as transparent displays laid on top of one another. The tissue compartment that has filled up fastest is the only one that can be seen from the top.

At any particular point, one tissue compartment may be absorbing nitrogen, while another that was previously higher may be off-gassing. One compartment hands over control to another compartment at a different depth. This feature of the Decompression Model is the basis of multi-level diving, one of the most important contributions the Profile offers you. Take advantage of this feature and make all of your dives multilevel dives.

NO DECOMPRESSION LIMITS

Note how the No Decompression Limits (NDL) for the Profile compare with the U.S. Navy limits (Fig. 52). For most depths, the Profile provides somewhat less no decompression times than the U.S. Navy Tables. However, while the No Decompression Limits may be less, you will receive increased allowable Dive Times as you take advantage of the multilevel dive capabilities offered by the Profile.

Profile U.S.N.			
Dep	th	NDL-mins.	NDL
feet	(meters)	Eng (Metric)	mins.
30	(9)	260 (283)	
35			310
40	(12)	137 (144)	200
50	(15)	81 (85)	100
60	(18)	57 (59)	60
70	(21)	40 (41)	50
80	(24)	30 (32)	40
90	(27)	24 (25)	30
100	(30)	19 (20)	25
110	(33)	16 (17)	20
120	(36)	13 (14)	15
130	(39)	11 (11)	10
140	(42)	9 (9)	10
150	(45)	8 (8)	5
160	(48)	7 (7)	5
170	(51)	7 (6)	5
180	(54)	6 (6)	5
190	(57)	5 (5)	

Fig. 52 - NDL Comparison

REPETITIVE DECOMPRESSION DIVING

The decompression model used by the Profile is based on the no decompression multilevel repetitive dive schedules successfully tested by Dr. Ray Rogers and Dr. Michael Powell. These tests did not include repetitive dives deeper than 90 feet (27 meters) or decompression dives. Due to the present unavailability of statistical data, the Profile's decompression predictions are based on U.S. Navy theory. Therefore, pay special attention to the following warnings.



WARNINGS:

The decompression capabilities of the Profile are intended strictly for emergency use.

Decompression diving is inherently hazardous and greatly increases your risk of decompression sickness, even when performed according to the computer's calculations. In the event that you must make an emergency decompression dive, you must not make another dive for at least 24 hours.

Using the Profile, just as using the U.S. Navy (or other) No Decompression Tables, is no guarantee of avoiding decompression sickness, i.e. "the bends."

Sherwood Scuba advocates responsible diving practices and does not recommend decompression diving, or diving below 130 feet (39 meters).

CONCLUSION

The Profile is an informational tool whose entire worth depends on using it correctly. **Learn how to use it and use it wisely.** Have fun with the Profile, and **thank you for being a responsible diver!**

SPECIFICATIONS

NO DECOMPRESSION MODEL

Basis:

- · Modified Haldanean Algorithm
- 12 tissue compartments

Data Base:

· Diving Science and Technology (DSAT) - Rogers/Powell

Performance:

- Tissue compartment halftimes (in mins.) Spencer's "M" values 5, 10, 20, 40, 80, 120, 160, 200, 240, 320, 400, 480
- · Reciprocal subsurface elimination
- 60 minute surface credit control for compartments faster than 60 minutes
- · Tissue compartments tracked up to 24 hours after last dive

Decompression Capabilities:

 Decompression stop ceilings at 10, 20, 30, 40, 50, and 60 feet (3, 6, 9, 12, 15, and 18 meters)

Altitude Algorithm:

· Based on NOAA tables

OPERATIONAL MODES

- · Activation/Diagnostic
- Surface
- Fly/DeSat
- Plan
- Log (identifier, data)
- Set -
 - Units of Measure (Imperial / Metric)
 - · Hour Format.
 - Time (hour, minutes)
 - Wet Activation (On/Off)
- No Decompression Dive (Main, Alternate 1)
- Decompression Dive (Main, Alternate 1, Alternate 2)
- · Conditional Violation
- Delayed Violation
- Immediate Violation/Gauge

SPECIFICATIONS (continued)

DISPLAY RANGE/RESOLUTION

Numeric Displays:	Range:	Resolution:
 Dive Number 	0 - 50	1
• Depth	0 - 330 ft (0 - 99.5 m)	1 ft (.1 m)
 Maximum Depth 	330 ft (99.5 m)	1 ft (.1 m)
 Dive Time Remaining 	0 - 9 hr. 59 min.	1 minute
Total Ascent Time	0 - 9 hr. 59 min.	1 minute
• Decompression Stop Time	0 - 99 min. (per stop depth	n) 1 minute
 Elapsed Dive Time 	0 - 9 hr. 59 min.	1 minute
 Surface Time 	0 - 23 hr. 59 min.	1 minute
 Dive Log Surface Interval 	0 - 25 hr. 59 min.	1 minute
 Time to Fly 	23 hr. 50 min 0*	1 minute
	(* starting 10 min. after the dive)	
 Time to Desaturate 	23 hr. 50 min 0*	1 minute
	(* starting 10 min. after the dive)	

Special Displays:	<u>Occurrence</u>	
 Diagnostic Display 	Activation	

• Out of Range (---) >330 feet (>99.5 meters)

Gauge Mode Countdown Timer 24:00 - 0:00 hr:min (after violation)

BAR GRAPHS

Nitrogen Bar Graph:	<u>segments</u>
No Decompression zone (green)	4
No Deco Caution zone (yellow)	1
Decompression Warning zone (red)	1

Ascent Rate Indicator:

At depths of 60 feet (18 meters) and shallower			
	<u>segments</u>	feet/min.	meters/min.
	0	0 - 10	0 - 3
Normal zone (green)	1	11 - 20	3.5 - 6
Caution zone (yellow)	2	21 - 30	6.5 - 9
Too Fast zone (red)	3	> 30	> 9

(all flashing when red)

At depths deeper than 60 feet (18 meters)

	segments	feet/min.	meters/min.
	0	0 - 20	0 - 6
Normal zone (green)	1	21 - 40	6.5 - 12
Caution zone (yellow)	2	41 - 60	12.5 - 18
Too Fast zone (red)	3	> 60	> 18
(all flashing when red)			

SPECIFICATIONS (continued)

OPERATIONAL PERFORMANCE

Function: Accuracy:
Depth ±1% of full scale
Timers 1 second per day

Dive Counter:

- Displays Dives #1 to 50
- · Displays #1 for 51st dive of an activation period
- · Resets to Dive #1 upon reactivation

Dive Log Mode:

- · Stores 50 most recent dives in memory for viewing
- · After 50 dives, the 51st dive is added, overwriting the oldest
- · Screens Identifier and Data

Altitude:

- Operational to 14,000 feet (4,267 meters) elevation
- Sampling of ambient pressure every 30/15 minutes
- Recalibration of depth readings at 1,000 feet (305 m) intervals beginning at 2,000 feet (610) elevation

Power:

Battery 1 - 3 volt CR2450, Lithium

Shelf life Up to 5 years

• Replacement User replaceable (yearly is recommended)

• Life expectancy 150 dive hours (if 1 - 1 hour dive per activation period)

300 dive hours (if 2 or more 1 hour dives per period)

Activation:

- Manual-push button (recommended)
- Automatic by water contact (if set On)
- Cannot be activated deeper than 4 feet (1.5 meters) if Wet Activation is set Off
- Cannot be activated at elevations higher than 14,000 feet (4,267 m)

Shutoff:

- Automatically shuts off if no dive is made within 2 hours after initial activation.
- Automatically shuts off 24 hours after the last dive (will reactivate if the Wet Activation feature is set On and the contacts are wet).

GLOSSARY

The following are diving terms to become familiar with. Some apply specifically to the Profile.

Algorithm - A step-by-step mathematical formula designed to accomplish a particular result (i.e. Dive Time Remaining in the Profile).

Altitude Dive - A dive made at an elevation above sea level (2,000+ ft. / 610+ m.) where a different set of no decompression tables is used .

Ascent Rate - The speed that a diver ascends toward the surface.

Ascent Rate Indicator - A graphic representation of vertical ascent rate (speed) displayed alongside a color coded indicator.

Boot - A protective rubber covering that surrounds an instrument module.

BT - Abbreviation for Bottom Time (Elapsed Dive Time).

Caution Zone - The yellow section of a bar graph that gives visual warning of a diver's proximity to projected limits.

Ceiling - See decompression ceiling.

Clean Dive - A dive preceded by 24 hours of no diving activity.

CLr - Abbreviation for Clear (reset).

Competitive Dive - A dive conducted for profit or prize.

Compartment - A term applied to the hypothetical modeling of nitrogen absorption in the tissues (more accurate than the term "tissue" because dive computer models have no direct relation to human tissues).

DCS - Abbreviation for decompression sickness (i.e., the bends).

DECO - Abbreviation for Decompression.

Decompression Ceiling - The shallowest depth a diver may reach upon ascent without risking DCS.

Decompression Stop - The depth(s) at which a diver must pause during ascent to allow absorbed nitrogen to escape naturally from the tissues.

Depth Sensor - An electromechanical device that converts water pressure into an electrical signal, that is converted to a visual depth display.

DESAT-Abbreviation for Desaturation Time.

Diagnostic Mode - The first display seen on Sherwood Scuba dive computers after initial activation during which time a self-check for internal faults and battery voltage is performed.

Display - A visual readout of information.

Dive Time Remaining - A display of time allowed before a diver must surface based on no decompression status.

Elapsed Dive Time - The total time spent underwater during a dive between 5 feet (1.5 meters) on initial descent to 3 feet (1 meter) on final ascent.

H2O - A graphic indicating that the unit is still wet after 2 hours on the surface.

GLOSSARY (continued)

Hydroglow - A Sherwood Scuba term for an instrument backlight feature.

LCD - Abbreviation for liquid crystal display, an easily viewed low voltage display usually found on dive computers

Log Mode - A computer display of previous dive information.

MAX - Abbreviation for Maximum Depth.

Maximum Depth - The deepest depth attained during a dive or allowed by the Plan Mode.

Mode - A specific set of functions in a dive computer.

Multi-level Dive - A type of dive profile where the diver spends various times at different shallower depths (opposite of a "Square Wave" dive profile).

NDL - Abbreviation for No Decompression Limit (No Decompression Dive Time Remaining).

Nitrogen Bar Graph - A graphic display of simulated nitrogen absorption.

No Decompression - Any part of a dive where the diver can surface without requiring a decompression stop.

No Decompression Limit - The amount of dive time remaining based on no-decompression status.

Out of Range - The point at which a dive computer can no longer supply correct dive information.

Partial Pressure - The proportion of the total pressure contributed by a single gas in a mixture of gases.

Plan Mode - An accessible sequential display of available dive times at 10 foot. (3 meter) intervals from 30 to 190 feet. (9 to 57 meters) used when dive planning.

Repetitive Dive - Any dive that takes place within 12 hours of a previous dive.

Safety Stop - A depth at which a diver may choose, but is not required, to pause during ascent to allow absorbed nitrogen to escape naturally from the tissues.

Square Wave Dive - A type of dive profile where the entire dive is spent at one depth between descent and ascent.

Symbol - A small pictorial representation of an operational mode or informational display.

TAT - Abbreviation for Total Ascent Time.

Tissue - See Compartment.

Tissue Compartment - See Compartment.

Transducer - An electro-mechanical device in a dive computer that acts as a depth or pressure sensor.

Transition Period - The first 10 minutes of surface time after ascending above 3 feet (1 meter) from a dive.

NOTES

INSPECTION / SERVICE RECORD

	PURCHASE		REAL PROPERTY OF THE PARTY OF T
	ED FROM (DEALER) D BE FILLED IN BY AN AUTHORIZED SHERWOOD	SCUBA DEALER:	
DATE	INSPECTION / SERVICE PERFORMED	DEALER / TECHNICIAN	



Authorized Sherwood Scuba dealers are equipped to provide you with the service you need including technical service, repair and returns. Should you need to return a product under warranty, please provide your Sherwood dealer with the item and your sales receipt.



4 CHRYSLER · IRVINE, CALIFORNIA 92618 · USA www.SherwoodScuba.com