SHERWOOD SCUBA®

www.SherwoodScuba.com

Logic

DIVE COMPUTER MANUAL

RESPONSIBLE COMPUTER DIVING

- **Always Plan Each Dive**
- **Always Limit Your Dive to the Level of Your Training and Experience**
- **Always Make Your Deepest Dive First**
- **Always Make The Deepest Part Of Every Dive First**
- **Check Your Computer Often During the Dive**
- **Do A Safety Stop On Every Dive**
- **Allow Adequate Surface Interval Between Each Dive**
- **Allow Adequate Surface Interval Between Each Day Of Diving (12 Hours Or Until Your Computer Clears) Read And Understand This Manual Thoroughly Before Using the Logic.**

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.

Throughout this owner's manual reference is made to the term 'breathing gas'. The rationale being that the Logic can be used for Air dives or Nitrox dives. For clarity, these terms are defined as -

Breathing Gas - the gaseous mixture breathed during a dive.
Air - a breathing gas that contains approximately 21% oxygen and 79% nitrogen (nature's common nitrogen-oxygen mixture).
Nitrox - a nitrogen-oxygen breathing gas that contains a higher fraction of oxygen (22 to 50%) than air.

WARNINGS:

- **The Logic is intended for use by recreational divers who have successfully completed a nationally recognized course in scuba diving, and diving with enriched nitrogen-oxygen (nitrox) breathing gas mixtures.**
- **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, and diving with enriched nitrogen-oxygen (nitrox) mixtures.**
- **You must obtain scuba certification, and certification in diving with enriched nitrogen-oxygen mixtures (nitrox) before using the Logic 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 Logic.**
- **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.**

LIMITED TWO-YEAR WARRANTY

Sherwood Scuba guarantees, to the original purchaser only, that the Logic will be free of defects in materials and/or craftsmanship under normal recreational multilevel 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 Logic 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 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 Logic to an Authorized Sherwood 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 Logic. Modifications or repair by anyone other than a Sherwood Sales and Service Center authorized to service the Logic 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 Logic 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 the plastic gauge face, o-rings, batteries, or damage due to accident, abuse, modification, or tampering.

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TRADEMARK NOTICE

PATENT NOTICE

U.S. Patents, registered in the U.S. Patent and Trademark Office, have been issued to protect the following design features:
Data Sensing and Processing Device (U.S. Patent no. 4,882,678) and Ascent Rate Indicator (U.S. Patent no. 5,156,055).

DECOMPRESSION MODEL

The programs within the Logic 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 Logic dive computer model is based upon the latest research and experiments in decompression theory. **Still, using the Logic, 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.

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INTRODUCTION

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

Your new Logic uses a unique and intuitive display that represents the information you need before, during, and after the dive, laid out in a logical format based on a dive profile diagram. Information is located where you would expect it to be.

In addition to no-decompression/decompression status, tissue loading of nitrogen, accumulation of oxygen, and ascent rate are presented as peripheral bar graphs alongside reference indicators.

As you progress through this instruction manual, you will become familiar with the unique functions and features available. A symbol legend is provided on the last page of this section for your convenience.

The INSIGHT's wide array of features are described in detail throughout the pages that follow.

The initial time that you invest becoming acquainted with the symbols and various operating modes and displays will be returned as you enjoy your underwater activities with the comfort that your familiarization affords.

As you use the Logic, remember that the rules you learned in your SCUBA course(s) 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.

FEATURES AND DISPLAYS

The Logic has two Control Buttons that allow you to activate the unit and access specific informa-tion when you choose to see it. The Left button (Fig. 1a) is referred to as the A (Advance) and the Right button (Fig. 1b) as the S (Select).

While on the surface, you can use the buttons to maneuver through the Insight's unique Menu System that allows -

- selection of 3 Main Operating Modes (Air, Nitrox, or Gauge)
- viewing of various information displays (Last Dive, Plan Depths/Times, Dive Logs, History, etc.)
- entering of settings divided into 4 convenient categories (Basics, Alarms, Utilities, and Time)
- activation of the Backlight
- operation of an onboard Simulator
- setup for a PC interface program

During the Dive modes, the buttons may be used to -

- activate the display's Backlight
- view Alternate displays of information
- acknowledge Alarms

The Logic uses easy to understand alpha/numeric displays and graphic icons (Fig. 2). It is impera-tive that you understand the formats, ranges, and values of the information presented by the INSIGHT's numeric and graphic displays to avoid any possible misunderstanding that could result in an error.

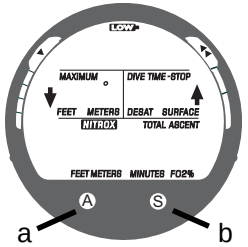


Fig. 1 - Buttons & Icons

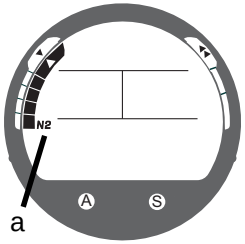


Fig. 2 - Nitrogen BG

BAR GRAPHS

N2/O2 (Nitrogen/Oxygen) Bar Graph

The Logic features a shared Bar Graph that represents either Nitrogen loading identified by the N2 icon (Fig. 2a), or when accessed, Oxygen accumulation identified by the O2 icon (Fig. 3a). By default, the Bar Graph is referred to as the Nitrogen Bar Graph (N2BG), and represents your relative no decompression or decompression status.

As your Depth and Dive Time increase, segments will add to the N2BG, and as you ascend to shallower depths, the segments will begin to recede, indicating that additional no deco time is allowed.

The N2BG monitors 12 different nitrogen compartments simultaneously and displays the one that is in control of your dive. It consists of 5 segments, the lower 4 represent No Decompression status and the fifth at the top indicates a Decompression condition.

When the Logic is set to operate in Nitrox mode, the Bar Graph will represent Oxygen accumula-tion when the O2 data screen (Alternate Display) is accessed temporarily. The O2 icon (Fig. 26a) will appear as an indication.

Regardless of which parameter the Bar Graph is representing at the time, nitrogen and oxygen calculations will continue to be performed in the background.

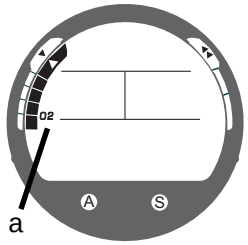


Fig. 3 - Oxygen BG

Ascent Rate Bar Graph (ASC)

The ASC (Fig. 4a) provides a visual representation of Ascent speed (i.e., an ascent speedometer), 'normal' rate, a 'cautionary' rate, and 'Too Fast'. The segments of the ASC represent 2 sets of speeds which change at a reference depth of 60 FT (18 M). Refer to the chart at the right for segment values.

WARNING: At depths greater than 60 FT (18 M), Ascent Rates should not exceed 60 FPM (18 MPM). At depths of 60 FT (18 M) and shallower, Ascent Rates should not exceed 30 FPM (9 MPM).

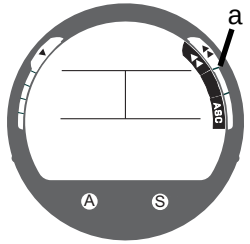


Fig. 4 - ASC

=> 60 FT (18 M)

Segments Displayed	Ascent Rate = FPM	MPM
0	0 - 20	0 - 6
1	21 - 50	6.5 - 15
2	51 - 60	15.5 - 18
3	> 60	> 18

< 60 FT (18 M)

Segments Displayed	Ascent Rate = FPM	MPM
0	0 - 10	0 - 3
1	11 - 25	3.5 - 7.5
2	26 - 30	8 - 9
3	> 30	> 9

Ascent Bar Graph

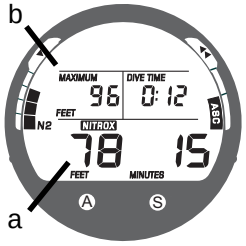


Fig. 5 - Depth

INFORMATIONAL DISPLAYS

Each numeric and graphic display represents a unique piece of information. It is imperative that you understand the formats, ranges, and values of the information represented to avoid any possible misunderstanding that could result in error.

Depth Displays

During dives, the **Current Depth** is displayed (Fig. 5a) from 0 to 330 FT (99.9 M) in 1 FT (.1 M) increments. The **Max Depth** reached during that dive will also be displayed (Fig. 5b).

- When the unit is set to operate as a Digital Depth Gauge/Timer (referred to as Gauge Mode), the Depth Display range is 'extended' to 399 FT (120 M).
- At depths greater than 99.9 M, it will indicate metric values in increments of 1 M.

Time and Date Displays

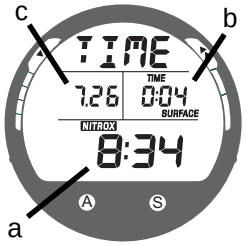


Fig. 6 - Times

Time displays are shown in hour:minute format (i.e., 1:09 represents 1 hour and 9 minutes, not 109 minutes!). The colon that separates hours and minutes blinks once per second when the display is indicating real time (e.g., Dive Time), and is solid (not blinking) when times are calculated projections (e.g., Time to Fly).

Primary **times** such as Time of Day (Fig. 6a) are configured with larger digits, while secondary **times** such as Surface Interval (Fig. 6b) are smaller.

Date (Fig. 6c) is only displayed during select surface modes such as the TIME screen.

Temperature and Altitude Displays

Temperature (Fig. 7A_a) and **Altitude** (Fig. 7A_b) can be viewed on a Data Display, which can be accessed while viewing the TIME screen while on the surface.

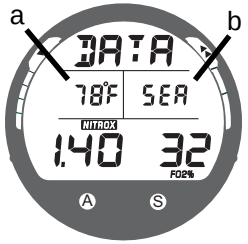


Fig. 7A - Temp & Altitude (surface)

Temperature can be viewed on an Alternate Display (Fig. 7B_a) which can be accessed during dives.

NOTE: The Informational Displays are described in detail as the various operating modes they appear in are presented throughout this manual.

AUDIBLE ALARM

When Reminder Alarm situations activate the Alarm, the unit will emit a quick double beep each second for 10 seconds, or until the situation is corrected, or it is acknowledged by pressing the S (Right) button.

When Cautionary Alarm situations activate the Alarm, the beep will be on for 1/2 second then off 1/2 second, repeating for 10 seconds, or until the situation is corrected, or it is acknowledged by pressing the S (Right) button.

Some Alarms cannot be acknowledged. These are differentiated by 1 beep per second for 10 seconds followed by a full 3 second beep.

If an Alarm is acknowledged and the situation corrected, the Alarm will sound again if the situation occurs again, or another Alarm situation occurs.

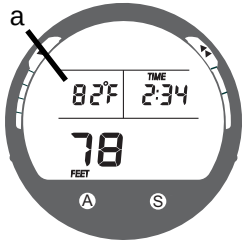


Fig. 7B - Temp (dives)

A single short beep is emitted after the Diagnostic check, upon automatic return to Surface Mode from Simulator Mode, upon completion of a battery change with calculations/settings saved, or upon change from Delayed to Full Violation after that dive.

In the event that another Alarm situation occurs, any scrolling message will be displayed until it is acknowledged, at which time it will be replaced by a message that was previously scrolling.

Reminder Alarm situations include -

- PO2 equal to or greater than 1.60 ATA, or the Max PO2 Alarm setting.
- Descent deeper than the Max Depth Alarm setting.
- Dive Time Remaining decreases to the Alarm setting.

Cautionary Alarm situations include -

- Entry into Decompression Mode
- O2 Accumulation equal to or greater than allowable per dive limit, or limit for a 24 hour period.
- Ascending above a required Decompression Stop Depth for less than 5 minutes.
- Ascent rate exceeds 60 FPM (18 MPM) when deeper than 60 FT (18 M), or 30 FPM (9 MPM) at 30 FT (9 M) or less.
- Entry into Delayed or Full Violation modes (described later).

Situations in which the Alarm cannot be acknowledged include -

- Being above a required Decompression Stop Depth for more than 5 minutes.
- Being in Decompression that requires a Stop Depth much greater than 60 FT (18 M).
- Being on the surface for 5 minutes without completing a Decompression obligation.

BACKLIGHT

To activate the HydroGlo® Backlight, press the S (Right) button momentarily (< 2 seconds).

The screen will be illuminated for 10 seconds. Press the button again to activate as desired.

The Backlight is disabled if the button is held depressed longer than 10 seconds or during a Low Battery Condition.

NOTE: Sherwood Scuba recommends that you carry primary and backup dive lights when conducting dives that could include low light situations.

POWER SUPPLY

The Logic utilizes one (1) 3 volt, CR2450 Lithium Battery that should provide from 300 dive hours of operation if you conduct one 1 - hour dive each time the unit is activated, to over 600 dive hours of operation if you conduct two or more dives each time the unit is activated.

Battery Indicator

A Battery icon (Fig. 8a) provides an indication of Low Battery Condition. It will only appear on the Surface TIME (or WET), DATA, and FLY/SAT screens. It will not be displayed on other surface display screens or during Dive Modes.

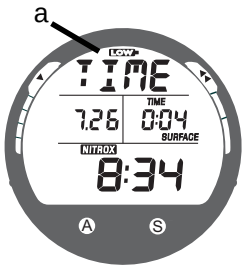


Fig. 8 - Low Battery

Low Battery Condition

- Voltage level is checked upon activation and every 4.5 minutes during operation.
- Once 75% of full power is consumed, the icon will appear on the screens mentioned as a warning that the Battery is to be changed prior to conducting any further dives with the unit.

- If a Low Battery Condition exists when the unit is activated (by pressing the button), the Battery icon will appear flashing once per second for 5 seconds followed by shutdown of the unit.
- If the button is not pressed to activate the unit prior to a dive, and a Low Battery Condition exists, the Low Battery icon will appear flashing as a warning upon descent past 4 feet (1.2 meters). No other information will be displayed and the unit will not enter Dive Mode.
- If the unit did not display the Low Battery icon 'prior to' entering the Dive Mode, and a Low Battery Condition occurs during the dive, there will be sufficient Battery power to maintain unit operation for the 'remainder of that dive'. The Low Battery icon will appear upon surfacing when the TIME (or WET) screen is displayed.

OPERATING TEMPERATURE

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

I**t is possible to damage the electronics if left exposed to direct sunlight, or in a hot confined space (like a car trunk).** After diving, cover it and **keep it out of the sun**. If inadvertently left in the direct sunlight, the LCD display may become totally black. If this occurs, immediately immerse it in water. The display should recover its normal appearance after a few minutes. **Damage from excess heat, or cold, is not covered by the two year limited warranty.**

ACTIVATION
and
SETUP

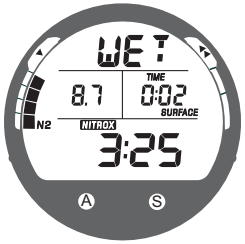


Fig. 9A - Unit Wet

ACTIVATION

PUSH BUTTON

A momentary press of the A (Left) button activates the Logic.
The Logic 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 automatically reactivates.

WATER CONTACT

NOTE: This method functions only when the Wet Activation feature is set ON.

The Logic has contacts that cause it to activate when the space between the contacts is bridged by a conductive material (e.g., water contact) and enter WET Mode (Fig. 9A) or DIVE Mode.

Upon removing the bridge between the contacts (drying the unit), the alpha graphic TIME replaces the graphic WET (Fig. 9B).

If the contacts are still bridged 2 hours after a dive, the alpha graphic WET appears together with the graphic FLY:SAT and the Time to Fly and Desaturation countdown timers.

Upon drying the unit, the graphic WET is replaced with the graphic TIME.

Fig. 9B - Unit Dry

DIAGNOSTIC MODE (ONLY IF MANUALLY ACTIVATED)

Immediately following manual (push button) activation, the Logic lights all segments of the LCD and initiates a countdown sequence (Fig. 10). Following the countdown sequence (from 8, -, 9, 8, 7, 6, 5, 4, 3, 2, 1, 0) which takes about 2 seconds, it verifies that sensor readings and battery voltage are within tolerance. If values are satisfactory, it enters Surface Mode displaying the TIME screen.

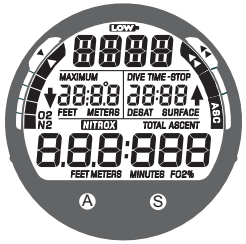


Fig. 10 - Diagnostics

When the A (Left) button is held depressed and as the Diagnostic countdown reaches 00, a Serial Number screen appears displaying the unit's Serial Number and firmware code Revision Number as long as the button is held depressed (Fig. 11). Upon releasing the button, the unit shuts Off.

Once the unit is activated, regardless of what mode it is in, it automatically reverts to DIVE MODE upon descending to 5 FT (1.5 M) for 5 seconds.

SURFACE SCREENS

TIME SCREEN

The TIME screen appears immediately following diagnostics (if manually activated) on a new day, or upon re-activation in FLY/DESAT MODE.

If the unit is wet, the alpha graphic WET replaces the alpha graphic TIME. Once the unit is dry, the WET graphic is replaced by the TIME graphic.

The graphic TIME (or WET) flashes during the first 10 minutes after a dive.

Fig. 11 - Serial No.

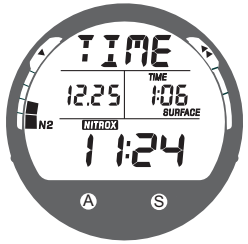


Fig. 12 - Time

TIME/WET SCREENS (Fig. 12/13)

Appearing on the display are -

- Alpha graphic TIME (Fig. 12), or WET (Fig. 13)
- Date (month.day)
- Elapsed surface time (or time since activation if no dive made yet that day) with TIME and SURFACE icons
- NITROX icon, blank if Air or Gauge
- Time of Day (hr:min)
- NiBG, if any
- Battery icon, if Low Battery Condition

Pressing and releasing the S (Right) button momentarily (< 2 sec) activates the Backlight.
Pressing and releasing the A (Left) button momentarily (< 2 sec) accesses the DATA screen.

In addition to the DATA screen, you can use also use the A (Left) button to access the -

- PLAN screens (sequence of allowed dive depths/times)
- LAST screen (previous dive's data)
- LOG screens
- HISTORY screen
- SIMULATOR Mode
- SET Modes

FLY/SAT appears automatically in place of TIME/WET 2 hours after a dive.

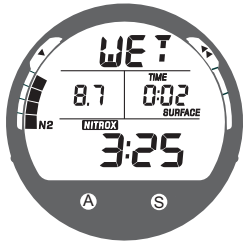


Fig. 13 - Wet

DATA SCREENS

The DATA screens are accessible during a new activation period or greater than 10 minutes after surfacing from a dive. By pressing the A (Left) button 1 time while the TIME (or WET) screen is being displayed (TIME/WET >> DATA), you can access the DATA screen representing the Mode that you set the dive computer to operate in (Nitrox, Air, or Gauge described later).

You can also access the DATA screen when FLY/SAT is being displayed during the period from 2 hours to 24 hours after a dive by pressing the A (Left) button 1 time to first recall the TIME/WET screen from which you can access to the sequence of Surface Displays.

FLY/SAT >> TIME/WET >> DATA >> PLAN >> LAST >> LOG > HIST >> SIM >> SET

ALTITUDE LEVEL Graphics that appear on DATA or Log/History screens represent the following -

SEA (sea level)	= 0 to 3,000 feet (915 meters)
L - 2 (level 2)	= 3,001 to 5,000 feet (916 to 1,525 meters)
L - 3 (level 3)	= 5,001 to 7,000 feet (1,526 to 2,135 meters)
L - 4 (level 4)	= 7,001 to 9,000 feet (2,136 to 2,745 meters)
L - 5 (level 5)	= 9,001 to 11,000 feet (2,746 to 3,355 meters)
L - 6 (level 6)	= 11,001 to 13,000 feet (3,356 to 3,965 meters)
L - 7 (level 7)	= 13,001 to 14,000 feet (3,966 to 4,270 meters)
outr (out of range)	= > 14,000 feet (> 4,270 meters)

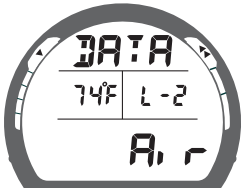


Fig. 14 - Air Mode Data

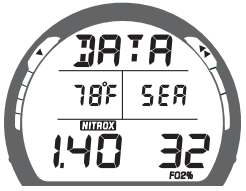


Fig. 15 - Nitrox Mode Data

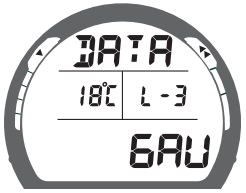


Fig. 16 - Gauge Mode Data

AIR MODE DATA screen (Fig. 14)

- Alpha graphic DATA
- Temperature and graphic (F or C)
- Altitude level graphic SEA (or L - 2 through L - 7, or outr)
- AIR graphic (indicating operating mode)

NITROX MODE DATA screen (Fig. 15)

- Alpha graphic DATA
- Temperature and graphic (F or C)
- Altitude level graphic SEA (or L - 2 through L - 7, or outr)
- NITROX icon (indicating operating mode)
- PO2 and FO2 set points, and FO2% icon

GAUGE MODE DATA screen (Fig. 16)

- Alpha graphic DATA
- Temperature and graphic (F or C)
- Altitude level graphic SEA (or L - 2 through L - 7, or outr)
- GAU graphic (indicating operating mode)

While viewing the DATA screens -

- Pressing the S (Right) button (< 2 sec) activates the Backlight.
- Pressing both buttons for 2 seconds reverts to the TIME/WET screen.
- Pressing the A (Left) button (< 2 sec) accesses the PLAN screen (LAST screen if Gauge).
- The unit reverts to the TIME/WET screen if neither button is pressed in 2 minutes.

PLAN SCREENS

The PLAN screens are accessible during a new activation period or greater than 10 minutes after surfacing from a dive.

When set for Air or Nitrox operation, pressing and releasing the A (left) button 2 times (< 2 sec each time) while the TIME/WET screen is being displayed (TIME/WET >> DATA >> PLAN), or 1 time while the DATA screen is being displayed will access the PLAN screen.

While viewing the PLAN screen, pressing and releasing the S (Right) button increases the Planned Depth in increments of 10 FT (3 M), displaying the information one screen at a time. Holding the button depressed scrolls through the screens at a rate of 8 per second. The Backlight does not operate when S is pressed.

Information provided includes Depths and allowable no decompression dive times (NDLs) for Depths from 30 to 190 FT (9 to 57 M).

If calculations are controlled by Nitrogen, the N2 Bar Graph displays all no deco segments. If calculations are controlled by Oxygen, all segments of the O2 Bar Graph are displayed.

For Depths where no time is allowed, 00 appears for Time and the DECO segment of the N2 Bar Graph flashes. The graphic PO2 and O2BG flash on the last PLAN screen (allowed time = 00).

The chart in the back of the manual lists predicted PLAN VALUES for Altitudes from Sea Level to 14,000 feet (4,270 meters) based upon no residual nitrogen from previous dives.

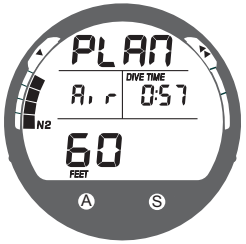


Fig. 17 - Air Mode Plan

AIR MODE PLAN screen (Fig. 17)

- Alpha graphic PLAN
- Air graphic (indicating operating mode)
- No Deco Limit (hr:min) with DIVE TIME icons, 3 dashes if no time available
- Plan Depth with FEET (or METERS) icon
- N2 Bar Graph (4 No Deco segments)

NITROX MODE PLAN screen (Fig. 18)

- Alpha graphic PLAN
- Maximum Depth for PO2 Alarm set with MAXIMUM and FEET (or METERS) icons
- No Deco Limit (hr:min) with DIVE TIME icons, 3 dashes if no time available
- NITROX icon (indicating operating mode)
- Plan Depth with FEET (or METERS) icon
- FO2 set point with FO2% icon
- N2 Bar Graph (4 No Deco segments)

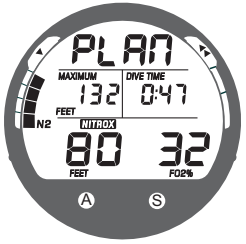


Fig. 18 - Nitrox Mode Plan

While viewing a PLAN screen -

> Depressing both buttons for 2 seconds reverts to the TIME/WET screen.

> Pressing both buttons simultaneously momentarily (< 2 sec) accesses the CLEAR (Reset) screen, which is described later in this manual.

> Pressing the A button (< 2 sec) accesses the LAST screen.

- The unit reverts to the TIME/WET screen if neither button is pressed in 2 minutes.

LAST DIVE SCREENS

The LAST Main screen is accessible by pressing the A (Left) button 3 times while the TIME/WET screen is being displayed (TIME/WET >> DATA >> PLAN >> LAST). It displays data for the most recent dive conducted. Pressing the S (Right) button will access the ALT screen, if set for Nitrox, which returns to the Main after 5 seconds or if S is pressed again.

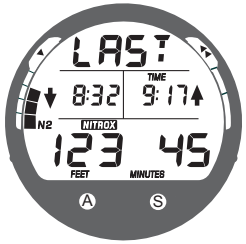


Fig. 19A - Last Dive

LAST MAIN screen (Fig. 19A)

- Alpha graphic LAST
- Time of Day the dive Started with Down Arrow icon
- Time of Day the dive Ended with UP Arrow and TIME icons
- NITROX icon (blank if Air)
- Max Depth of the dive with FEET (or METERS) icon
- Elapsed Dive Time with MINUTES icon
- N2BG representing end of dive loading and max segment representing max during dive

LAST ALTERNATE screen (Nitrox only - Fig. 19B)

- Alpha graphic LAST
- Max PO2 during dive with MAXIMUM icon and graphic PO2
- NITROX icon
- Graphic ALt (indicating Alternate screen)
- FO2 Set Point with FO2% icon
- O2BG representing end of dive accumulation

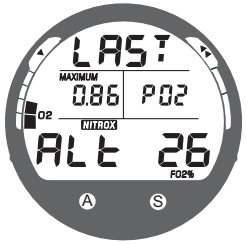


Fig. 19B - Last Alternate (Nitrox only)

LOG MODE

Log Mode stores information for each dive as 3 screens referred to as the Date Screen, Screen #1, and Screen #2.

Upon gaining access to the screens, information displayed is frozen until either button is pressed again. If neither button is pressed, operation reverts to the TIME screen in 2 minutes.

The LOG stores information from the latest 50 dives which can be accessed sequentially from the most recent to the oldest, and retains the information indefinitely, even if the Battery is removed. However, Log information is deleted when the unit is manually Reset (cleared).

After exceeding 50 dives, the LOG stores the most recent dive while deleting the oldest.

Dives are numbered 1 to 50 for each Activation Period.

- During 10 minutes after a dive, pressing the A button 1 time accesses the Log Mode.
- 10 minutes after a Non-Violation Dive, pressing the A button 4 times accesses Log Mode. (TIME >> DATA >> PLAN >> LAST >> LOG).
- 10 minutes after a Violation Dive, pressing the A button 3 times accesses Log Mode. (TIME >> DATA >> LAST >> LOG). PLAN is not available after a Violation Dive.
- Entering Log Mode displays the LOG GO TO screen.

LOG GO TO screen (Fig. 20)

- Displayed are the Alpha graphics LOG and Go to -

While viewing the LOG GO TO screen -

> Pressing both buttons for 2 seconds reverts to the TIME/WET screen.
> Pressing the A button bypasses Log Mode and accesses the HISTORY screen.

- The unit reverts to the TIME/WET screen if neither button is pressed in 2 minutes.

> Pressing the S button once displays the most recent dive's LOG DATE screen.
> Pressing the A button then displays that dive's Log Screen #1 (SCR1).
> Pressing the A button again displays that dive's Log Screen #2 (SCR2).
> Pressing the A button again reverts to the LOG GO TO screen.

Fig. 20 - Log Access

LOG DATE screen (Fig. 21)

- Alpha graphic LOG
- Date (month.day)
- Dive number (1 to 50) for that Activation Period with DIVE icon
- NITROX, blank if Air or Gauge
- Altitude level graphic SEA (or L - 2 through L - 7, or outr)
- FO2 set point with FO2% icon (if Nitrox), or graphic Air or GAU

Fig. 21 - Log Date

While viewing the LOG DATE screen -

> Pressing and releasing the A button will access that dive's Log Screen #1 (SCR1).

> Pressing and releasing the S button repeatedly (< 2 sec each time) steps through the recorded LOG DATE screens. Pressing and holding it, scrolls through them at a rate of 8 per second. The Backlight does not operate when S is pressed.

> Pressing both buttons for 2 seconds reverts to the TIME/WET screen.

LOG Screen #1 (SCR1 - Fig. 22)

- Alpha graphic SCR1
- Temperature (minimum recorded that dive) with degrees icon and graphic F (or C)
- Surface Interval if a repetitive dive, 3 dashes (- : - -) if no previous dive that Activation Period, with TIME and SURFACE icons
- NITROX icon, blank if Air or Gauge
- Max Depth achieved with FEET (or METERS) icon
- Elapsed Dive Time with MINUTES icon
- N2BG, max accumulated segment flashing, others fixed up to end-of-dive accumulation, all flashing for Violations.
- Ascent Rate Indicator, displaying max rate sustained for 4 consecutive seconds

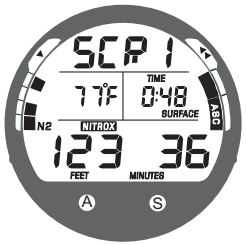


Fig. 22 - Log Screen #1

> Pressing and releasing the A button will access that dive's LOG Screen #2.

> Pressing both buttons for 2 seconds reverts to the TIME/WET screen.

LOG Screen #2 (SCR2 - Fig. 23)

- Alpha graphic SCR2
- Time of Day (hr:min) dive Started with Down Arrow icon
- Time of Day (hr:min) dive Ended with Up Arrow icon
- NITROX icon, blank if Air or Gauge
- Max PO2 achieved (x.xx ATA) with graphic PO2, if Nitrox, blank if Air or Gauge
- O2BG fixed up to end-of-dive accumulation, if Nitrox, blank if Air or Gauge

> Pressing and releasing the A button will revert to the LOG GO TO screen.

> Pressing both buttons for 2 seconds will revert to the TIME/WET screen.

Fig. 23 - Log Screen #2

HISTORY MODE

HISTORY records information for up to 999 Total Dives and 2999 Dive Hours, and retains the information indefinitely, even if the Battery is removed.

- 10 minutes after a Non-Violation Dive, pressing the A button 5 times will access the HISTORY 1 screen (TIME >> DATA >> PLAN >> LAST >> LOG >> HISTORY).

HISTORY 1 screen (Fig. 24)

- Alpha graphic HIST
- Max Depth attained with MAXIMUM and FEET (or METERS) icons
- Total accumulated Dive Time (Hours) up to 2999 with DIVE TIME icons
- Graphic tot: and Total Number of Dives conducted up to 999

> Pressing the S button will access the HISTORY 2 screen.

> Pressing the A button will access the SIMULATOR GO TO screen.

Fig. 24 - History 1

Fig. 25 - History 2

HISTORY 2 screen (Fig. 25)

- Alpha graphic HIST
- Minimum Temperature attained with degrees icon and graphic F (or C)
- Graphic SEA (or L - 2 through L - 7, or out) representing the highest Altitude at which a dive was conducted
- Graphics Lo:Hi indicating that the Temperature was Lowest and Altitude Highest

> Pressing the S button will revert to the HISTORY 1 screen.

While viewing a History screen -

> Pressing both buttons for => 2 seconds reverts to the TIME/WET screen.

- Operation reverts to the TIME/WET screen if neither button is pressed in 2 minutes.

SIMULATOR

Simulator Mode allows you to perform dive mode scenarios without getting wet. It also allows you to perform simulated New or Continuous (repetitive) dives and set simulated Surface Interval time. Calculations performed for simulated dives utilize the dive computer's real settings (i.e., FO2, Alarm values that you previously set, etc.).

10 minutes after a Non Violation Dive, pressing the A button 6 times accesses the Simulator Mode.
(TIME >> DATA >> PLAN >> LAST >> LOG >> HIST >> SIMU)

Entering Simulator Mode displays the SIMULATOR GO TO screen.

SIMULATOR GO TO screen (Fig. 26)

- Displayed are the Alpha graphics SIMU and Go to -

While viewing the SIMU GO TO screen -

> Pressing both buttons for 2 seconds reverts to the real TIME/WET screen.

> Pressing the A button bypasses Simulator Mode and accesses the SET GO TO screen.

- Operation reverts to the real TIME/WET screen if neither button is depressed in 10 minutes. A quick beep Audible Alert sounds when this happens.

> Pressing the S button steps through the Simulator's NEW GO TO, CONT GO TO, and SIMU GO TO screens.

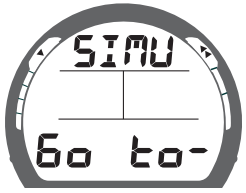


Fig. 26 - Simu Access

NEW GO TO screen (Fig. 27)

- Displayed are the Alpha graphics NEW and Go to -

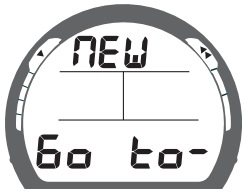


Fig. 27 - New Dive

CONT GO TO screen (Fig. 28)

- Displayed are the Alpha graphics CONT and Go to -

> Pressing the A button accepts the GO TO screen displayed.

- If SIMU GO TO is selected, the Simulator is bypassed and the SET GO TO screen is accessed.
- If NEW GO TO or CONT GO TO is selected, the Simulator SURF screen appears.

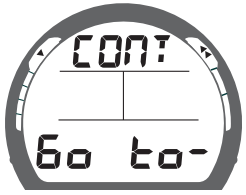


Fig. 28 - Continued Dive

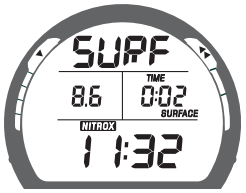


Fig. 29 - Simu Surface

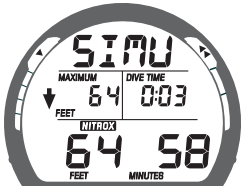


Fig. 30 - Descending

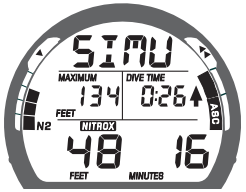


Fig. 31 - Ascending

SIMULATOR SURFACE screen (Fig. 29)

- Alpha graphic SURF
- Date (month.day)
- Surface Interval (hr:min) with graphics TIME and SURFACE
- NITROX icon, blank if Air
- Time of Day (hr:min)

> Depressing and holding the S button increases Surface Interval (SI) 1 minute per real second.
> Pressing and releasing the S button starts a Descent at a rate of 2 FT per real second.
> Pressing and releasing the A button reverts to the SIMU GO TO screen.
> Pressing both buttons for 2 seconds reverts to the SIMU SURF screen.

SIMULATOR DIVE MODE screens (Fig. 30/31)

- Alpha graphic SIMU
- Max Depth with MAXIMUM and FEET (or METERS) icons
- Elapsed Dive Time with DIVE TIME icons
- NITROX icon, blank if Air
- Current Depth with FEET (or METERS) icon
- NDC (min) with MINUTES icon
- Applicable Bar Graphs (N2BG, ARI), O2BG if High O2 Alarm condition
- Down Arrow icon during Descent (Fig. 30), or Up Arrow icon during Ascent (Fig. 31)

> quick taps of the S button stops and starts Descents at a rate of 2 FT per sec.
> quick taps of the A button starts and stops Ascents at a rate of 1 FT per sec.

When the Simulator Ascents and Descents are stopped, depressing/holding the S button (> 2 sec) increases Elapsed Dive Time 1 minute per real 10 seconds (6 times).

Upon ascending to 2 FT (1 M) for 1 second, the Simulator SURF screen will be displayed.

ENTERING SETTINGS

The Settings are divided into groups consisting of Modes/Basics, Alarms, Utilities, and Time/Date. Except for FO2, settings can also be changed using the PC Interface program.

Set 1 (Modes/Basics) - Operating Mode (Air, Nitrox, or Gauge), PO2 Value, FO2, FO2 Default

Set 2 (Alarms) - All (On/Off), Ascent, Depth, Elapsed Dive Time, Reserve Time, Deco, PO2 (On/Off)

Set 3 (Utilities) - Wet Activation (On/Off), Units of Measure, Sample Rate, Deep Stop (On/Off)

Set 4 (Time) - Hour Format, Time, Date

While the TIME/WET screen is displayed, pressing the A button 7 times momentarily and repeatedly (< 2 sec each time) will access the SET GO TO screen.
(TIME >> DATA >> PLAN >> LAST >> LOG >> HIST >> SIMU >> SET)

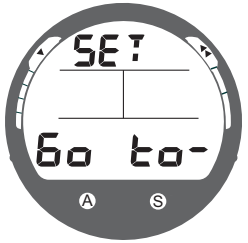


Fig. 32 - Set Access

SET GO TO screen (Fig. 32)

- Displayed are the alpha graphics SET and Go to -

Fig. 33 - Set 1 Group

Pressing and releasing the S button momentarily (< 2 sec each time) steps through the SET 1 (Fig. 33), SET 2, SET 3, SET 4 GO TO screens. SET 2, 3, and 4 screens are similar to SET 1.

While a SET GO TO screen is displayed, you have up to 2 minutes to press and release the A button (< 2 sec) to access the first selection of that Set Group.

SET 1 GROUP (MODES/BASICS)

> Pressing and releasing the S button (< 2 sec) 1 time while the SET GO TO screen is displayed, accesses the SET 1 GO TO screen.

> Pressing and releasing the A button while the SET 1 GO TO screen is displayed, accesses the Set Operating MODE screen with the Set Point flashing.

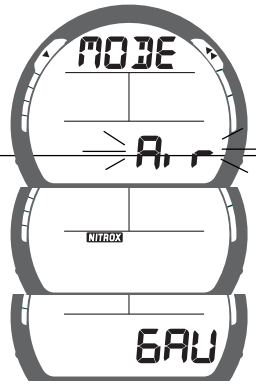


Fig. 34 - Set MODE

SET OPERATING MODE

Factory set for AIR, the Logic can also be set for NITROX or GAUGE.

Appearing on the screen are (Fig. 34) -

- Alpha graphic MODE
- Graphic Air, or NITROX icon, or graphic GAU, flashing

> Pressing and releasing the S button (< 2 sec) step through the Set Points.

> Pressing and releasing the A button (< 2 sec) saves the Set Point.

- If Nitrox is selected, operation advances to SET PO2 ALARM VALUE.
- If Air or Gauge is selected, operation reverts to the TIME/WET screen.

> Depressing both buttons for 2 seconds reverts to the TIME/WET screen.

- Operation reverts to the TIME/WET screen if neither button is pressed in 2 minutes.

When set for AIR -

- calculations are the same as when it is set for NITROX with FO2 set for 21%.
- it remains set for AIR until it is set for NITROX.
- it internally keeps track of the oxygen accumulation so that if it is subsequently set for NITROX, the O2 values of previous AIR dives are accounted for in the Nitrox dives (during that activation period and series of repetitive dives).

- **Once a dive is taken with NITROX or GAUGE selected, that operating mode is locked ON for 24 hours after the last dive.**
- **When AIR or GAUGE is selected, other SET 1 selections which are associated only with NITROX will not be available.**
- **Once 24 hours has elapsed and the unit has shut OFF, operation defaults to the AIR Mode upon reactivation, until the Mode is changed.**

SET PO2 ALARM VALUE (only if Nitrox)

Factory set for 1.60 (ATA), the PO2 ALARM VALUE can also be set from 1.20 to 1.60 (ATA) in increments of .10 (ATA).

To access SET PO2 VALUE while viewing the SET 1 GO TO screen, momentarily press and release the A button 2 times (< 2 sec each time). Information displayed includes (Fig. 35) -

- Alpha graphics PO2 and AL
- PO2 Set Point value x.xx (ATA), flashing
- NITROX icon

Fig. 35 - Set PO2 Value

> Pressing and holding the side (Select) button scrolls through the set points at a rate of 4 per second .
> Pressing and releasing the front (Advance) button accepts the setting and advances to SET FO2.
> Pressing Both buttons for < 2 seconds activates the Backlight.
> Pressing Both buttons for => 2 seconds reverts to the TIME/WET screen.
• Operation reverts to the TIME/WET screen if neither button is pressed in 2 minutes.

SET FO2 VALUE

Factory set for 21%, FO2 can also be set at Values from 22 to 50% in increments of 1%. FO2 defaults to 21% after the unit shuts off and is reactivated and set for Nitrox Mode operation.

To access SET FO2 while viewing the SET 1 GO TO screen, press/release the A button 3 times. Information displayed includes (Fig. 36) -

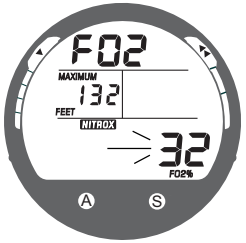


Fig. 36 - Set FO2

• Alpha graphic FO2
• Max Depth allowed for the PO2 Alarm set with MAXIMUM and FEET (or METERS) icons
• NITROX icon
• FO2 Set Point (21 to 50) value flashing with FO2% icon
> Depressing and holding the S button will scroll upward through the Set Points from 21 through 32 in increments of 1 (%) at a rate of 8 per second. The scroll stops at 32 for several seconds then continues to scroll from 32 through 50 then back to 21%.
> Pressing and releasing the S button momentarily and repeatedly (< 2 sec each time) steps upward through the Set Points at a rate of 1 per press/release.

> Pressing and releasing the A button saves the setting and advances to SET FO2 DEFAULT.
> Pressing both buttons for 2 seconds reverts to the TIME/WET screen.
• Operation reverts to the TIME/WET screen if neither button is pressed in 2 minutes.

SET FO2 DEFAULT ON/OFF

Factory set ON, the FO2 DEFAULT can also be set OFF.

When set ON, 10 minutes on the surface after the dive FO2 is displayed as 50 and further calculations are based on 50% O2 for Oxygen and 21% O2 for Nitrogen (79% Nitrogen) unless you set the FO2 before the dive. FO2 continues to reset to the FO2 50% Default after subsequent repetitive dives until the unit shuts Off, or the DEFAULT is set OFF.

When set OFF, the FO2 Value remains set at the last Set Point saved for the remainder of that Activation Period.

To access SET FO2 DEFAULT while viewing the SET 1 GO TO screen, press/release the A button 4 times. Information displayed includes (Fig. 37) -

• Alpha graphic DFT
• Set Point ON (or OFF) flashing
• NITROX icon
• Graphic 50 with FO2% icon
> Pressing and releasing the S button toggles between ON and OFF.
> Pressing and releasing the A button saves the Set Point and reverts to SET 1 Go To.
> Depressing both buttons for 2 seconds reverts to the TIME/WET screen.
• Operation reverts to the TIME/WET screen if neither button is pressed in 2 minutes.

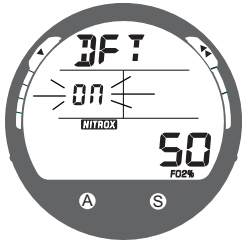


Fig. 37 - Set Default

SET 2 GROUP (ALARMS)

Pressing and releasing the S button momentarily 2 times, while the SET GO TO screen is displayed, will access the SET 2 GO TO screen.

Pressing and releasing the A button 1 time, while the SET 2 GO TO screen is displayed, will access the SET ALL ALARMS screen with the Set Point flashing.

SET ALL ALARMS ON/OFF

Factory set ON, All Alarms can also be set OFF. When set OFF, All Alarm settings are bypassed and the Audible Alarm is turned OFF for the Alarms that could be set On/Off. Information displayed includes (Fig. 38) -

- Alpha graphics ALL and AL
- Set Point graphic ON (or OFF), flashing

Fig. 38 - Set All Alarms

> Pressing and releasing the S button toggles between ON and OFF.
> Pressing and releasing the A button saves the Set Point and/or advances to SET ASCENT ALARM (if ON is selected), or SET 2 GO TO (if OFF is selected).
> Depressing both buttons for 2 seconds reverts to the TIME/WET screen.
- Operation reverts to the TIME/WET screen if neither button is pressed in 2 minutes.

SET ASCENT ALARM ON/OFF

Factory set ON, the ASCENT ALARM can also be set OFF. When set OFF, the Alarm will not sound when Ascent Rate exceeds the recommended max rate.

To access SET ASCENT ALARM while viewing the SET 2 GO TO screen, press/release the A button (2 times) until the Set screen appears (Fig. 39) -

- Alpha graphics ASNT and AL
- Set Point graphic ON (or OFF), flashing
- ARI, all segments solid

> Pressing and releasing the S button toggles between ON and OFF.
> Pressing and releasing the A button saves the Set Point and/or advances to SET DEPTH ALARM with the Set Point flashing.
> Depressing both buttons for 2 seconds reverts to the TIME/WET screen.
- Operation reverts to the TIME/WET screen if neither button is pressed in 2 minutes.

Fig. 39 - Set Ascent Alarm

SET DEPTH ALARM ON/OFF

Factory set ON, the DEPTH ALARM can also be set OFF. When set OFF, the Alarm will not sound when Depth increases toward 330 FT (120 M).

To access SET DEPTH ALARM while viewing the SET 2 GO TO screen, press/release the A button (3 times) until the Set screen appears (Fig. 40) -

- Alpha graphics DEEP and AL
- Set Point graphic ON (or OFF), flashing

> Pressing and releasing the S button toggles between ON and OFF.

Fig. 40 - Set Depth Alarm

> Pressing and releasing the A button saves the Set Point and advances to SET DEPTH ALARM VALUE (if set ON) or SET ELAPSED DIVE TIME ALARM (if set OFF).
> Depressing both buttons for 2 seconds reverts to the TIME/WET screen.
• Operation reverts to the TIME/WET screen if neither button is pressed in 2 minutes.

SET DEPTH ALARM VALUE

Factory set for 100 FT, the DEPTH ALARM VALUE can be set from 30 to 330 FT (9 to 99 M) in increments of 10 FT (3 M).

After saving ON as the setting for DEPTH ALARM ON/OFF, the SET DEPTH ALARM VALUE screen appears with the Set Point flashing. Information displayed includes (Fig. 41) -

• Alpha graphics DEEP and AL
• Depth Alarm Set Point flashing, with MAXIMUM and FEET (or METERS) icons
> Depressing and holding the S button scrolls upward through the Set Points at a rate of 8 per second until released.
> Pressing and releasing the S button momentarily and repeatedly (< 2 sec each time) steps upward through the Set Points 1 at a time.
> Pressing and releasing the A button saves the Set Point and/or advances to SET ELAPSED DIVE TIME ALARM.
> Depressing both buttons for 2 seconds reverts to the TIME/WET screen.
• Operation reverts to the TIME/WET screen if neither button is pressed in 2 minutes.

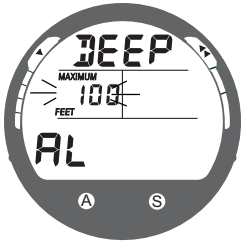


Fig. 41 - Set Depth Alarm Value

SET ELAPSED DIVE TIME ALARM ON/OFF

Factory set ON, the ELAPSED DIVE TIME (EDT or Bottom Time) ALARM can also be set OFF. When set OFF, the Alarm will not sound when EDT increases.

To access SET ELAPSED DIVE TIME (EDT) ALARM while viewing the SET 2 GO TO screen, press/release the A button (4 or 5 times) until the Set screen appears (Fig. 42) -

- Alpha graphics EDT and AL
- Set Point graphic ON (or OFF) flashing, with DIVE TIME icons

> Pressing and releasing the S button toggles between ON and OFF.
> Pressing and releasing the A button saves the Set Point and advances to SET EDT ALARM VALUE (if set ON) or SET RESERVE TIME ALARM (if set OFF).
> Depressing both buttons for 2 seconds reverts to the TIME/WET screen.

- Operation reverts to the TIME/WET screen if neither button is pressed in 2 minutes.

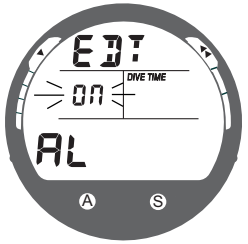


Fig. 42 - Set EDT Alarm

SET ELAPSED DIVE TIME ALARM VALUE

Factory set for 3:00 (hr:min), the ELAPSED DIVE TIME (EDT) ALARM VALUE can be set from :10 to 3:00 (hr:min) in increments of :05 (:min).

After saving ON as the setting for EDT ALARM ON/OFF, the SET EDT ALARM VALUE screen appears with the Set Point flashing. Information displayed includes (Fig. 43) -

- Alpha graphics EDT and AL
- EDT Alarm Set Point (hr:min) flashing, with DIVE and TIME icons

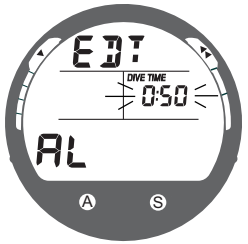


Fig. 43 - Set EDT Alarm Value

> Depressing and holding the S button scrolls upward through the Set Points at a rate of 8 per second until released.
> Pressing and releasing the S button momentarily and repeatedly (< 2 sec each time) steps upward through the Set Points 1 at a time.
> Pressing and releasing the A button saves the Set Point and/or advances to SET RESERVE TIME ALARM.
> Depressing both buttons for 2 seconds reverts to the TIME/WET screen.
• Operation reverts to the TIME/WET screen if neither button is pressed in 2 minutes.

SET RESERVE TIME ALARM ON/OFF

The RESERVE TIME (RES) is the Dive Time Remaining which is a display of No Deco Time or O2 Time, the least available at that moment. Whichever decreases to the Value set will sound the Alarm.

Factory set ON, the RESERVE TIME ALARM can also be set OFF. When set OFF, the Alarm will not sound as Dive Time Remaining decreases toward 0 minutes.

Fig. 44 - Set Reserve Time Alarm

To access SET RESERVE TIME ALARM while viewing the SET 2 GO TO screen, press/release the A button (5 or 6 times) until the Set screen appears (Fig. 44) -

• Alpha graphics RES and AL
• Set Point graphic ON (or OFF) flashing, with TIME icon
> Pressing and releasing the S button toggles between ON and OFF.
> Pressing and releasing the A button saves the Set Point and advances to SET RES TIME VALUE (if set ON) or SET DECO ALARM (if set OFF).
> Depressing both buttons for 2 seconds reverts to the TIME/WET screen.

- Operation reverts to the TIME/WET screen if neither button is pressed in 2 minutes.

SET RESERVE TIME ALARM VALUE

Factory set for 5 minutes, the RESERVE TIME ALARM VALUE can also be set from 1 to 30 minutes in increments of 1 minute.

After accepting ON as the setting for RESERVE TIME ALARM ON/OFF, the SET RESERVE TIME ALARM VALUE screen appears with the Set Point flashing. Information displayed includes (Fig. 45) -

- Alpha graphics RES and AL
- Reserve Time (min) Set Point flashing, with MINUTES icon

> Depressing and holding the S button scrolls upward through the Set Points from 1 to 30 at a rate of 8 Set Points per second until released.

> Pressing and releasing the S button momentarily and repeatedly (< 2 sec each time) steps upward through the Set Points 1 at a time.

> Pressing and releasing the A button saves the Set Point and/or advances to SET DECO ALARM.

> Depressing both buttons for 2 seconds reverts to the TIME/WET screen.

- Operation reverts to the TIME/WET screen if neither button is pressed in 2 minutes.

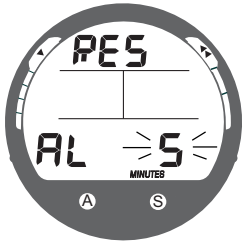


Fig. 45 - Set Reserve Time Alarm Value

SET DECO ALARM ON/OFF

Factory set ON, the DECO ALARM can also be set OFF. When set OFF, the Alarm will not sound upon entry into Decompression.

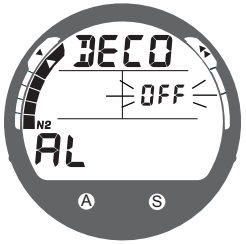


Fig. 46 - Set Deco Alarm

To access SET DECO ALARM while viewing the SET 2 GO TO screen, press/release the A button (6 or 7 times) until the Set screen appears (Fig. 46) -

- Alpha graphics DECO and AL
- Set Point graphic ON (or OFF) flashing, with full N2BG solid

> Pressing and releasing the S button toggles between ON and OFF
> Pressing and releasing the A button saves the Set Point and advances to SET PO2 ALARM.
> Depressing both buttons for 2 seconds reverts to the TIME/WET screen.

- Operation reverts to the TIME/WET screen if neither button is pressed in 2 minutes.

SET PO2 ALARM ON/OFF

Factory set ON, the PO2 ALARM can also be set OFF. When set OFF, the Alarm will not sound when PO2 increases.

To access SET PO2 ALARM while viewing the SET 2 GO TO screen, press/release the A button (7 or 8 times) until the Set screen appears (Fig. 47) -

Fig. 47 - Set PO2 Alarm

- Alpha graphic PO2
- Set Point graphic ON (or OFF) flashing, with NITROX icon

> Pressing and releasing the S button toggles between ON and OFF
> Pressing and releasing the A button saves the Set Point and reverts to the TIME/WET screen.
> Depressing both buttons for 2 seconds reverts to the TIME/WET screen.

- Operation reverts to the TIME/WET screen if neither button is pressed in 2 minutes.

SET 3 GROUP (UTILITIES)

Pressing and releasing the S button momentarily 3 times, while the SET GO TO screen is displayed, will access the SET 3 GO TO screen.

Pressing and releasing the A button 1 time, while the SET 3 GO TO screen is displayed, will access the SET H2O SENSOR screen with the Set Point flashing.

SET H2O SENSOR ON/OFF

Factory set ON, the H2O SENSOR (Wet Activation) can also be set OFF. When set OFF, the unit will not activate when it becomes wet. Information displayed includes (Fig. 48) -

- Alpha graphics H2O and SENSOr
- Set Point graphic ON (or OFF) flashing

> Pressing and releasing the S button toggles between ON and OFF.
> Pressing and releasing the A button saves the Set Point and advances to SET UNITS.
> Depressing both buttons for 2 seconds reverts to the TIME/WET screen.

- Operation reverts to the TIME/WET screen if neither button is pressed in 2 minutes.

SET UNITS

Factory set for Imperial, Units of Measure can also be set for Metric.

- Units of Measure must be set prior to setting selections that contain numerical values.

Fig. 48 - Set H2O Sensor

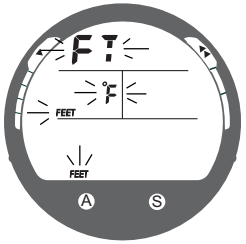


Fig. 49 - Set Units

To access SET UNITS while viewing the SET 3 GO TO screen, press/release the A button (2 times) until the Set screen appears (Fig. 49) -

- Alpha graphics FT (or M) and F (or C) with ° and FEET (or METERS) icons, all flashing

> Pressing and releasing the S button toggles between Imperial and Metric units.
> Pressing and releasing the A button saves the Set Point and advances to SET SAMPLE RATE.
> Depressing both buttons for 2 seconds reverts to the TIME/WET screen.

- Operation reverts to the TIME/WET screen if neither button is pressed in 2 minutes.

SET SAMPLE RATE

SAMPLE RATE is the Rate at which data is sampled for storage in memory for subsequent download to the associated PC Interface software program. This setting has no effect on the rate at which data is sampled for screen displays that you view during unit operation.

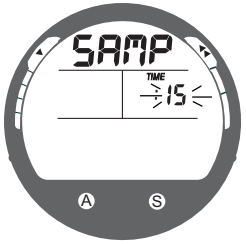


Fig. 50 - Set Sampling Rate

Factory set for a Rate of 15 seconds (which allows about 25 dive hours of data), Sampling Rate can also be set for 30 seconds (for 50 dive hours) or 60 seconds (for 100 dive hours).

To access SET SAMPLING RATE while viewing the SET 3 GO TO screen, press/release the A button (3 times) until the Set screen appears (Fig. 50) -

- Alpha graphic SAMP
- Sampling Set Point :15 (or :30 or :60) seconds flashing with TIME icon

> Pressing and releasing the S button steps through the Rate Set Points.
> Pressing and releasing the A button saves the Set Point and advances to SET DEEP STOP.
> Depressing both buttons for 2 seconds reverts to the TIME/WET screen.
• Operation reverts to the TIME/WET screen if neither button is pressed in 2 minutes.

SET DEEP STOP ON/OFF

Deep Stop (described in more detail later in the No Deco Dive Mode section) is a completely optional safety stop that, when set ON, will trigger upon descent past 80 FT (24 M) and display a recommended Stop to be taken at 1/2 the calculated Max Depth of that dive.

Factory set OFF, the DEEP STOP feature can also be set ON. When set OFF, the Deep Stop screens will not appear during dives.

To access SET DEEP STOP while viewing the SET 3 GO TO screen, press/release the A button (4 times) until the Set screen appears (Fig. 51) -

• Alpha graphic DS (indicating Deep Stop)
• Set Point graphic ON (or OFF) flashing
> Pressing and releasing the S button toggles between ON and OFF
> Pressing and releasing the A button saves the Set Point and reverts to the SET 3 GO TO screen.
> Depressing both buttons for 2 seconds reverts to the TIME/WET screen.
• Operation reverts to the TIME/WET screen if neither button is pressed in 2 minutes.

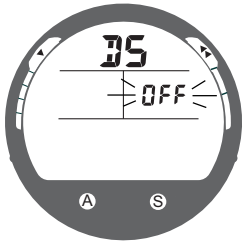


Fig. 51 - Set Deep Stop

SET 4 GROUP (DATE/TIME)

Pressing and releasing the S button momentarily 4 times, while the SET GO TO screen is displayed, will access the SET 4 GO TO screen.

Pressing and releasing the A button 1 time, while the SET 4 GO TO screen is displayed, will access the SET HOUR FORMAT screen with the Set Point flashing.

SET HOUR FORMAT

Factory set for 12 hour, the HOUR FORMAT can also be set for 24 hour. Information displayed includes (Fig. 52) -

- Set Point graphic 12 (or 24) flashing
- TIME icon
- Alpha graphic hour

> Pressing and releasing the S button toggles between the Set Points 12 and 24.
> Pressing and releasing the A button saves the Set Point and/or advances to SET HOUR.
> Depressing both buttons for 2 seconds reverts to the TIME/WET screen.

- Operation reverts to the TIME/WET screen if neither button is pressed in 2 minutes.

Fig. 52 - Set Hour Format

SET TIME

Time is set to local factory Time when the unit is calibrated prior to being shipped. Hours and/or Minutes can be set as follows.

To access SET TIME while viewing the SET 4 GO TO screen, press/release the A button 2 times. Information displayed includes (Fig. 53) -

- Alpha graphic AM or PM (if set for 12 Hour Format), or 24HR (if set for 24 Hour Format)
- Time of Day (hr:min), Hour digits flashing, with TIME icon

> Depressing and holding the S button will scroll upward through the HOUR Set Points from 12: AM through 11: PM (if set for 12 Hour Format), or 0: through 23: (if set for 24 Hour Format) in increments of 1: (1 Hour) at a rate of 8 Set Points per second.
> Pressing and releasing the S button repeatedly (< 2 sec each time) steps upward through the Set Points 1 at a time.
> Pressing and releasing the A button saves the Set Point and the Minute digits flash.
> Depressing and holding the S button will scroll upward through the MINUTE Set Points from :00 through :59 in increments of :01 (1 Minute) at a rate of 8 Set Points per second.
> Pressing and releasing the S button repeatedly (< 2 sec each time) steps upward through the Set Points 1 at a time.
> Pressing and releasing the A button saves the Set Point and accesses the SET DATE screen with the YEAR Set Point flashing.
> Depressing both buttons for 2 seconds reverts to the TIME/WET screen.

- Operation reverts to the TIME/WET screen if neither button is pressed in 2 minutes.

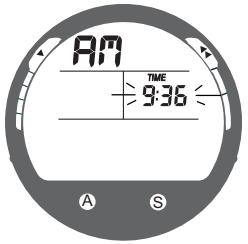


Fig. 53 - Set Time of Day

SET DATE

Factory set for January 1, 2008 (1.1 represents January 1st), the Year, Month, and Day can be set as follows.

To access SET DATE while viewing the SET 4 GO TO screen, press/release the A button 4 times. Information displayed includes (Fig. 54) -

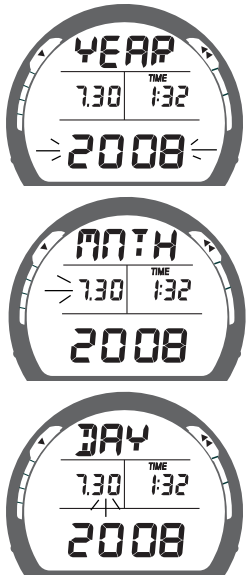


Fig. 54 - Set Date

- Alpha graphic YEAR
- Month.Day previously set
- Time of Day (hr:min) previously set with TIME icon
- Year Set Point, flashing

> Depressing and holding the S button will scroll upward through the YEAR Set Points from 2008 through 2051 at a rate of 8 Set Points per second. Pressing and releasing the S button repeatedly (< 2 sec each time) steps upward through the Set Points 1 at a time.

> Pressing and releasing the A button saves the Year Set Point, the graphic MNTH replaces YEAR, and the Month digits flash.

> Depressing and holding the S button will scroll upward through the MONTH Set Points from 1 through 12 in increments of 1 Month at a rate of 8 Set Points per second. Pressing and releasing the S button repeatedly (< 2 sec each time) steps upward through the Set Points 1 at a time.

> Pressing and releasing the A button saves the Month Set Point, the graphic DAY replaces MNTH, and the Day digits flash.

> Depressing and holding the S button will scroll upward through the DAY Set Points from 1 through 31 (max) in increments of 1 at a rate of 8 Set Points per second. Pressing and releasing the S button repeatedly (< 2 sec each time) steps upward through the Set Points 1 at a time.

> Pressing and releasing the A button saves the Day Set Point and reverts to SET 4 GO TO.

> Depressing both buttons for 2 seconds reverts to the TIME/WET screen.

- Operation reverts to the TIME/WET screen if neither button is pressed in 2 minutes.

DIVE MODES

DIVE MODES

During Dive Modes, a Main (Default) screen of information relevant to that Dive Mode is displayed.

During No Deco dives deeper than 80 FT (24 M), if enabled a Deep Stop (a Set 3 selection) to be taken at 1/2 Max Depth for 2 minutes (2:00 min:sec) is triggered and displayed as a Preview screen when accessed while 10 FT (3 M) deeper than the calculated Stop Depth and as a Stop screen upon ascent to 10 FT (3 M) below the Stop Depth. When the feature is set OFF, the Preview screen is not available and the Stop screen is not displayed.

During an Ascent on No Deco dives deeper than 30 FT (10 M), a Safety Stop to be taken at 20 FT (6 M) for 3 minutes is displayed.

NO DECO MAIN (Default)

Information displayed includes (Fig. 55) -

- Max Depth with MAXIMUM and FEET (or METERS) icons
- Elapsed Dive Time (hr:min) with DIVE TIME icons
- NITROX icon, blank if Air
- Current Depth with FEET (or METERS) icon
- NDC (min) with MINUTES icon
- N2BG and ASC (if ascending)

> Pressing and releasing the A (Left) button accesses the ALT 1 screen.

> Depressing the A button for 2 seconds accesses the Deep Stop Preview screen, if triggered.

> Pressing and releasing the S (Right) button activates the Backlight and acknowledges/silences alarms when they strike.

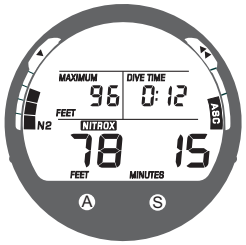


Fig. 55 - No Deco Main

NO DECO ALT 1

Information displayed includes (Fig. 56) -

- Temperature with ° icon and graphic F (or C)
- Time of Day (hr:min) with TIME icon
- Current Depth with FEET (or METERS) icon

> Pressing and releasing the A (Left) button accesses the ALT 2 screen, if Nitrox.

> Pressing and releasing the S (Right) button activates the Backlight.

- Operation reverts to the Main after 5 seconds if A is not pressed.

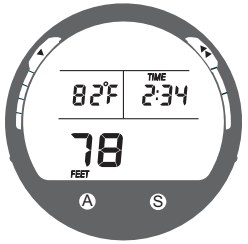


Fig. 56 - No Deco ALT 1

NO DECO ALT 2 (only if Nitrox)

Information displayed includes (Fig. 57) -

- Current PO2 level (x.xx ATA) with graphic PO2
- NITROX icon
- Current Depth with FEET (or METERS) icon
- FO2 Set Point (21 to 50) with FO2% icon
- O2BG

> Pressing and releasing the A (Left) button reverts to the Main.

> Pressing and releasing the S (Right) button activates the Backlight.

- Operation reverts to the Main after 5 seconds if A is not pressed.

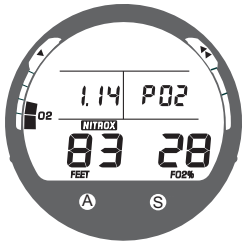


Fig. 57 - No Deco ALT 2

NO DECO DEEP STOP

During No Deco dives in which Depth exceeds 80 FT (24 M), a Deep Stop Preview screen can be accessed that will revert to the No Deco Main after 5 seconds.

- The intent of this screen is to suggest that a Stop should be made as indicated (at 1/2 Max Depth) to help reduce the probability of DCS (decompression sickness).
- The Preview screen will not be available for display once you ascend 10 FT (3 M) above the calculated Stop Depth.
- To access the Preview screen, depress the A (Left) button for 2 seconds while viewing the No Deco Main screen. Information displayed includes (Fig. 58) -

  - Alpha graphic DSP (meaning Deep Stop Preview)
  - Stop Depth (1/2 Max Depth) with FEET (or METERS) icon
  - Stop Time 2:00 (min:sec) with TIME - STOP icons
  - NITROX icon, blank if Air
  - Current Depth with FEET (or METERS) icon
  - NDC (min) with MINUTES icon

Fig. 58 - No Deco Deep Stop Preview

NOTE: The Deep Stop is not required and although recommended, it does not have to be taken. There will be no penalty if the Stop is ignored and ascent (or other activity) is continued.

The Deep Stop feature will be disabled and its screens not displayed if you enter Deco or High O2 (80%), during High PO2 (=> Alarm Set Point), or descend to > 190 FT (63 M)

Upon ascending to within 10 FT (3 M) below the calculated Deep Stop, a Deep Stop (DS) Main screen (Fig. 59) will automatically appear with the alpha graphics DEEP and STOP scrolling at the top of the screen (each On for 2 seconds).

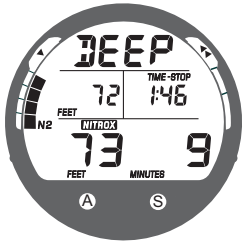


Fig. 59 - DS Main

Information displayed also includes - the recommended Stop Depth (1/2 the calculated Max Depth) with the 2 minute Countdown Timer that counts down from 2:00 to 0:00 (min:sec), Current Depth, NDC Time Remaining, and the N2BG.

Press and release the A button (< 2 sec) to access the ALT 1 screen that displays Max Depth and Elapsed Dive Time (Fig. 60), press it again to view the ALT 2 screen displaying Temperature and Time (similar to figure 56, page 57); then if a Nitrox dive, press it again to view ALT 3 displaying FO2 and PO2 (similar to figure 57, page 57). The graphic message DEEP >> STOP continues to scroll while the ALT screens are displayed.

In the event that you descend 10 FT (3 M) deeper than, or ascend 10 FT (3 M) shallower than, the Stop Depth during the countdown, the No Deco Main display will replace the Deep Stop Main screen which will be disabled for the remainder of that dive.

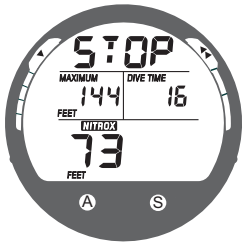


Fig. 60 - DS ALT 1

NO DECO SAFETY STOP

Upon ascending to 20 FT (6 M) on any No Decompression dive in which Depth exceeded 30 FT (9 M), a Safety Stop screen appears with a countdown timer beginning at 3:00 (min:sec) and counting down to 0:00.

NOTE: The Safety Stop is not required and although recommended, it does not have to be taken. There will be no penalty if the Stop is ignored and ascent (or other activity) is continued.

In the event that you descend below 30 FT (9 M) during the countdown, the No Deco Main screen replaces the Safety Stop Main screen which reappears upon ascent to 20 FT (6 M). Information displayed on the Main includes (Fig. 61) -

- Graphics SAFE >> STOP >> 20FT (or 6M), scrolling (each on 2 sec)
- Stop Depth of 20 FT (or 6 M) with FEET (or METERS) icon
- Countdown Timer (min:sec) with TIME - STOP icons
- NITROX icon, blank if Air
- Current Depth with FEET (or METERS) icon
- NDC (min) with MINUTES icon
- N2BG

> Press and release the S button to activate the Backlight.

> Press and release the A button to access Alternate Displays that display information similar to those for Deep Stop. The graphic message SAFE >> STOP >> 20FT (or 6M) continues to scroll while the ALT screens are displayed.

Fig. 61 - Safety Stop Main

DIGITAL GAUGE MODE

When set for Digital Gauge Mode, the unit operates without any decompression or oxygen monitoring functions, basically as a Depth Gauge/Timer. A contiguous 24 hour post dive surface interval is then required for the unit to operate as a full function diving computer.

GAUGE DIVE MAIN (Default)

Information displayed includes (Fig. 62)-

- Alpha graphic GAUG
- Max Depth with MAXIMUM and FEET (or METERS, not displayed > 99.9 M) icons
- Elapsed Dive Time with DIVE TIME icons
- Current Depth with FEET (or METERS, icon not displayed > 99.9 M) icon
- ASC while ascending

> Pressing and releasing the S button activates the Backlight.

> Pressing and releasing the A button accesses the ALT Display.

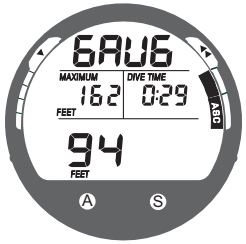


Fig. 62 - Gauge Dive Main

GAUGE DIVE ALT

Information displayed includes (Fig. 63)-

- Temperature with ° icon and graphic F (or C)
- Time of Day (hr:min) with TIME icon
- Current Depth and graphic FEET (or METERS, icon not displayed > 99.9 M)

> Pressing and releasing the A button reverts to the Main.

- Operation reverts to the Main after 5 seconds if A is not pressed.

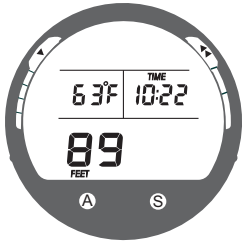


Fig. 63 - Gauge Dive ALT

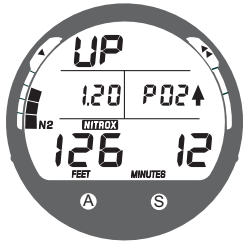


Fig. 64 - High PO2 Warning

HIGH PO2

Upon reaching .20 ATA less than the PO2 Alarm Set Point, a cautionary mode is entered. The graphic UP, Up Arrow icon, and PO2 value (x.xx ATA) with graphic PO2 are displayed solid on the Main Dive screen with Current Depth, NDC, and the N2BG (Fig. 64).

If PO2 decreases, the Dive Main screen will be displayed. If PO2 continues to increase and reaches the Alarm Set Point, the Audible Alarm sounds and the message UP >> HIGH >> PO2 scrolls.

> Pressing and releasing the S button acknowledges and silences the alarm.
- During High PO2 conditions, the Deep Stop feature and displays are disabled.

HIGH PO2 MAIN, information displayed includes (Fig. 65) -

- Message UP >> HIGH >> PO2, scrolling (each on 2 sec)
- PO2 Value flashing with graphic PO2
- UP Arrow flashing
- NITROX icon
- Current Depth with FEET (or METERS) icon
- NDC (min) with MINUTES icon
- N2BG and ASC while ascending

> Press and release the S button to activate the Backlight.

> Press and release the A button to access Alternate Displays that display information similar to those previously described. The message UP >> HIGH >> PO2 continues to scroll while the ALT screens are displayed.

UP >> HIGH >> PO2 (scrolling)

Fig. 65 - High PO2 Alarm Main

HIGH O2

A cautionary mode is entered when O2 increases to 80% (240 OTU) of the Maximum allowed for a single dive or 24 hour period (100% or 300 OTU). The Audible Alarm sounds, the graphics HIGH >> O2 flash (each on 1/2 second), and the UP Arrow icon flashes (Fig. 66).

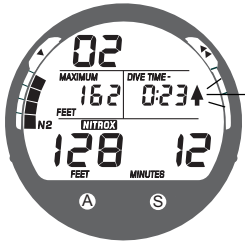


Fig. 66 - High O2 Warning

> Pressing and releasing the S button acknowledges and silences the Audible Alarm.

- When the Audible is silenced, the message clears until O2 increases to 100%, the UP Arrow will remain on the display and continue to flash until you are on the surface.
- When O2 saturation reaches 100% (the 300 OTU limit), the Audible Alarm sounds again and the O2BG is displayed with all segments flashing (in place of the N2BG).
- When High O2 occurs (=> 80%), the Deep Stop and Safety Stop features and displays are disabled for the remainder of that dive.

HIGH O2 MAIN (at 100%), information displayed includes (Fig. 67) -

- Graphics UP >> HIGH >> O2 (scroll, each on for 2 seconds)
- Graphics 100 and SAt, indicating % O2 Saturation at limit
- UP Arrow icon flashing
- NITROX icon
- Current Depth with FEET (or METERS) icon
- Time Remaining as 0 (min) with MINUTES icon, indicating O2 Time
- O2BG, all segments flashing, ASC while ascending

> Press and release the S button to activate the Backlight.

> Press and release the A button to access Alternate Displays that display information similar to those previously described. The message continues to scroll when ALT screens are displayed.

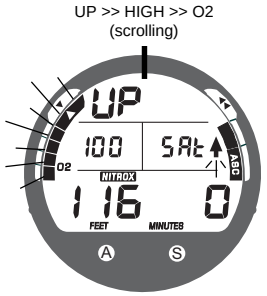


Fig. 67 - High O2 Alarm Main

Fig. 68 - Deco Entry

DECOMPRESSION DIVE MODE

Decompression Dive Mode (DECO) is entered when nitrogen calculations determine that you cannot safely surface without stopping at a predetermined depth to allow off gassing of absorbed nitrogen. The Audible Alarm sounds, and the message DECO >> STOP >> xxFT (or xxM) scrolls at the top of the screen (each on 2 seconds). The UP Arrow icon will be displayed flashing (Fig. 68), if 10 FT (3 M) deeper than the required Stop Depth, then is removed once within 10 FT (3 M) below the required Stop Depth.

> Pressing and releasing the S button acknowledges and silences the Audible Alarm.

- Once DECO is activated, the Deep Stop and Safety Stop features and displays are disabled for the remainder of that dive.

DECO STOP MAIN, information displayed includes (Fig. 69) -

- Graphics DECO >> STOP >> xxFT (or M) scrolling, each on for 2 seconds
- Stop Depth with FEET (or METERS) icon
- Stop Time with TIME - STOP icons
- NITROX icon, blank if Air
- Current Depth with FEET (or METERS) icon
- Total Ascent Time (min) with TOTAL ASCENT and MINUTES icons
- N2BG, all segment on solid

> Press and release the S button to activate the Backlight.

> Press and release the A button to access Alternate Displays that display information similar to those previously described. The message continues to scroll when ALT screens are displayed.

DECO >> STOP >> xxFT (M)
(scrolling)

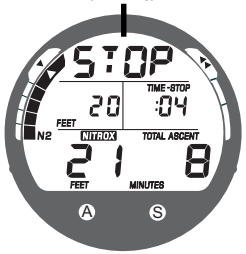


Fig. 69 - Deco Stop Main

CONDITIONAL VIOLATION (CV)

If you disregard a Decompression obligation (i.e., ascend above the Required Stop Depth), operation enters Conditional Violation Mode. The Audible Alarm sounds and the message DOWN >> TO >> STOP scrolls at the top of the screen (each on 2 seconds). If the situation is corrected within 5 minutes, meaning you descend below the Required Stop Depth, operation continues in Decompression Mode, otherwise it enters Delayed Violation Mode indicated by the entire N2BG flashing.

> Pressing and releasing the S button acknowledges and silences the Audible Alarm.

CV MAIN DISPLAY, information displayed includes (Fig. 70) -

- Graphic message DOWN >> TO >> STOP scrolling, each on for 2 seconds
- Down Arrow icon flashing until within 10 FT (3 M) below the Stop Depth
- Stop Depth with FEET (or METERS) icon
- Stop Time (hr:min) with TIME - STOP icons
- NITROX icon, blank if Air
- Current Depth with FEET (or METERS) icon
- Total Ascent Time (min) with TOTAL ASCENT and MINUTES icons
- N2BG, all segments on solid

> Press and release the S button to activate the Backlight.

> Press and release the A button to access Alternate Displays that display information similar to those previously described. The message continues to scroll when ALT screens are displayed.

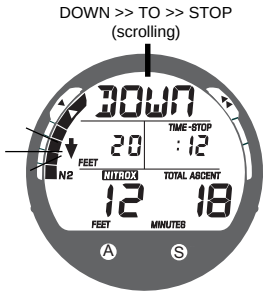


Fig. 70 - CV Main

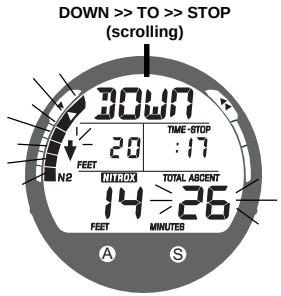


Fig. 71 - DV1 Main

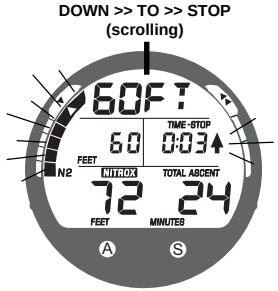


Fig. 72 - DV2 Main

DELAYED VIOLATION # 1 (DV1)

DV1 is a continuation of CV which occurs if you remain above the Stop Depth for longer than 5 minutes. At 5 minutes, the Audible Alarm will sound (even if set Off), the Down Arrow icon, Total Ascent Time, and full N2BG will flash, and the message DOWN >> TO >> STOP will scroll (Fig. 71), until you descend to the Required Stop Depth indicated.

While above the Required Stop Depth, no off gassing credit will be given and for each minute that you remain above the Required Stop Depth indicated, 1.5 minutes of Penalty Time will be added to the Deco Stop Time and Total Ascent Time.

DELAYED VIOLATION # 2 (DV2)

When the Required Deco Stop Depth is greater than 60 FT (18 M), but less than 70 FT (21 M), operation enters DV2. The Audible Alarm will sound (even if set Off), the Up Arrow icon and full N2BG flash and the message DECO >> STOP >> 60FT (or 18M) will scroll (Fig. 72).

To get back to the surface, you would have to ascend to just deeper than 60 FT (18 M), staying as close to that Depth as possible until the Stop Depth of 50 FT (15 M) appears. You would then continue to follow the Decompression Schedule indicated to the surface.

DELAYED VIOLATION # 3 (DV3)

When the Max Operating Depth (MOD) of 330 FT (99.9 M) is exceeded, or 399 FT (120 M) when Digital Gauge Mode is set ON, operation enters DV3 displaying Current Depth and Max Depth as 3 dashes (- - -) signifying out of range.

The Audible Alarm will sound (even if set Off), the Up Arrow icon and N2BG segments (only those loaded) will flash, and the message UP >> TOO >> DEEP will scroll (Fig. 73).

When you ascend to, or above, the MOD, Current Depth will be restored, however, Max Depth will remain as 3 dashes (- - -).

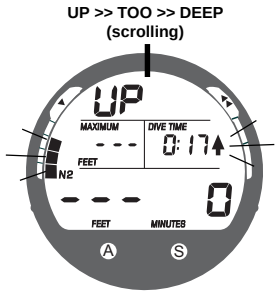


Fig. 73 - DV3 Main

VIOLATION GAUGE MODE (VGM)

When a Decompression Stop Depth greater than 70 FT (21 meters) is required, operation enters VGM for the remainder of that dive and subsequent dives made within a 24 hour period.

Once in VGM, the unit operates with limited functions without any nitrogen or oxygen monitoring or calculating functions. Alternate displays, the Deep Stop, and the Safety Stop will not be available.

Information displayed while underwater includes (Fig. 74) -

- Graphic message UP >> VIOL scrolling, each on for 2 seconds
- Maximum Depth with MAXIMUM and FEET (or METERS) icons
- Elapsed Dive Time (hr:min) with DIVE TIME icons
- NITROX icon, blank if Air
- Current Depth with FEET (or METERS) icon
- NDC as 0 with MINUTES icon
- Full N2BG flashing, ASC while ascending

> Press and release the S button to activate the Backlight.

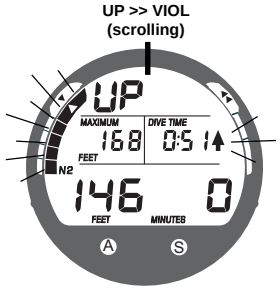


Fig. 74 - VGM Dive

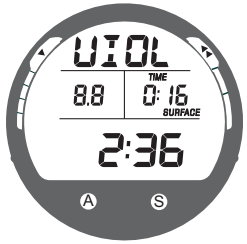


Fig. 75 - VGM Surface

VGM ON SURFACE

On the surface, the graphic VIOL will be displayed for the first 5 minutes, then it will alternate with the graphic TIME (or WET) with other screen information (Date, SI, Time of Day) displayed as it normally would be.

A continuous 24 hour surface interval must be served before the unit will operate as a full function dive computer. Plan Mode and Desat will not be available.

STOP

WARNING: Never participate in sharing or swapping of a dive computer. Doing so may result in injury or death.

The Logic 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.

It is impossible for two divers to stay precisely together underwater, and your computer's dive profile tracking of previous dives will be pertinent to you only. Nitrogen loading of a second user may be significantly different and thus swapping dive computers could lead to inaccurate and potentially dangerous predictions of decompression status.

This rule applies to the use of all dive computers, but is especially important when using the Logic, due to the personal information it provides.

WARNING: DO NOT attempt to disassemble any portion of the module other than the Battery Hatch. Doing so may cause a dangerous malfunction, resulting in possible injury or death. Indication of tampering with the module will void the unit's warranty.

WARNING: If any portions of the display are missing or appear dim, or a Low Battery Condition is indicated after Battery replacement, return your Logic to an Authorized Sherwood Scuba Dealer for a complete evaluation before attempting to use it.

CARE and MAINTENANCE

CARE AND CLEANING

The Logic 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 Logic. 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 Logic 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 de-posits can also be dissolved using a 50% white vinegar/50% fresh water bath. Towel dry before storing, and transport your In-sight cool, dry, and protected.

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

ANNUAL INSPECTIONS AND SERVICE

Your Logic 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 Logic 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 Insight'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 Logic to its maximum operating depth (399 FT/120 M). Also, the test gauge on the pressure test chamber must be as accurate as the Depth Sensor in the Logic (±1% of full scale).

CAUTION: Never pressure test the Logic 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 Logic Depth Sensor if it is not pressure tested properly. The Logic 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 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 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. 76a).

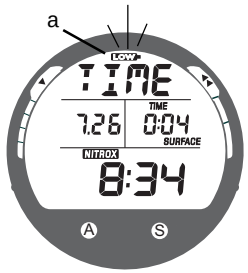


Fig. 76 - Low Battery

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 Logic.

If the Logic 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.

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 Logic 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 Insight'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 Buttons, 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 Logic 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 Logic to an Authorized Sherwood Scuba Dealer, and DO NOT attempt to use it until it has received factory prescribed service.

NOTE: When the old battery is removed, calculations and settings will be retained in non volatile memory for subsequent operation.

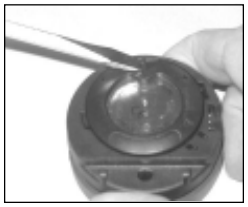


Fig. 77 - Hatch Ring Removal

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. 77).
- 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.

Battery Removal

- Remove the Retaining Bar located across the lower portion of the Battery (Fig. 78a).
- Remove the Hatch O-ring. DO NOT use tools
- Using care not to damage the Battery Contacts (Fig. 78 b/c), slide the Battery up and out of the Battery Compartment.

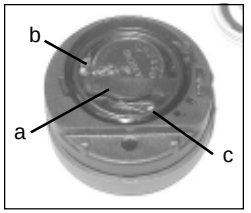


Fig. 78 - Battery Compartment

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').

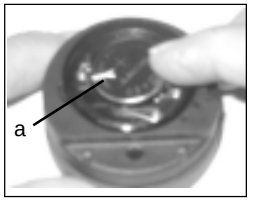


Fig. 79 - Battery Insertion

WARNING: If damage or corrosion is found in the Battery Compartment, return your Logic 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. 79a).
- Orient the Retaining Bar across the lower portion of the Battery (Fig. 80a) and carefully push it down into position.

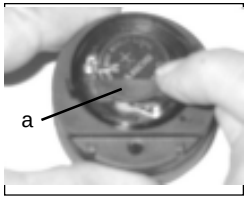


Fig. 80 - Retaining Bar

Fig. 81 - Retaining Ring

Fig. 82 - Retaining Ring Tabs

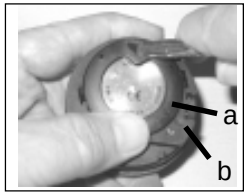


Fig. 83 - Securing the Retaining Ring

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. 81).
- 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.
- 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. 82), then tighten it 5 more degrees by turning it counter clockwise with the aide of a small blade screwdriver (Fig. 83).

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. 83 a/b)

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 Logic to an Authorized Sherwood Scuba Dealer for a complete evaluation before attempting to use it.

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 stems of the Buttons and on metal Pins located on the lower left side of the module. The Logic 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 Logic 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.

SPECIAL WARNINGS and ADDITIONAL SAFETY INFORMATION

- **Maximum limits for exposure to oxygen should not be exceeded, and the consequences of CNS (Central Nervous System) oxygen toxicity can be severe, resulting in Gran Mal convulsions and drowning.**

- **Conducting repetitive dives using enriched nitrogen-oxygen mixtures can lead to oxygen buildup, reducing oxygen tolerance while increasing the risk of pulmonary oxygen toxicity.**

- **The oxygen features of the Logic are intended for use only by recreational divers trained for nitrox diving by an instructor certified by a recognized training agency to teach diving with nitrox.**

- **Allowing oxygen saturation (O2SAT) to increase to 100 (%) greatly increases the risk of CNS oxygen toxicity, and may result in serious injury or death.**

- **It should not be considered that the capabilities built into the Logic 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 Logic is not intended for use by military or commercial divers.**

REFERENCE

DECOMPRESSION MODEL

The Decompression Model used by the Logic is based on the no decompression multilevel repeti-tive dive schedules successfully tested by Dr. Ray Rogers and Dr. Michael Powell. These tests did not include repetitive dives deeper than 90 FT (27 M) or decompression dives. Due to the present unavail-ability of statistical data, Logic decompression predictions are based on U.S. Navy theory.

TISSUE COMPARTMENT CONTROL

The Logic 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 twelve separate transparent displays laid on top of one an-other. The compartment that has filled up fastest is the only one the viewer can see from the top.

At any particular point, one compartment may be absorbing nitrogen, while another that was previ-ously higher may be off gassing. One compartment "hand over" control to another compartment at a different depth. **This feature of the Decompression Model is the basis of multilevel diving, one of the most important contributions the Logic offers you.**

NO DECOMPRESSION LIMITS (NDLS)

Note how the No Decompression Limits for the Logic are contrasted with the U.S. Navy limits (Fig. 84). The INSIGHT's Dive Planner does not scroll past 190 FT (57 M), or to depths at which projected dive time is less than one minute .

Logic Depth FT (M)	USN NDL-mins. Eng (Metric)	NDL 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. 84 - NDL Comparison

WARNINGS:
Using the Logic, 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. 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.

OXYGEN EXPOSURE LIMITS (OTLS)

Predicted exposure limits and oxygen calculations of the Logic are based on maximum exposure durations published by the National Oceanic and Atmospheric Administration (NOAA) in the October 1991 NOAA Diving Manual (see Fig. 85).

Both central nervous system (CNS) oxygen toxicity and pulmonary oxygen toxicity were taken into consideration when the limits were published by NOAA.

Although CNS oxygen toxicity is considered the primary constraint for higher levels of PO2, there are circumstances in which pulmonary oxygen toxicity can limit exposures.

	Maximum Exposure Time	
PO2 (ATA)	Per Dive (Min)	Per 24hr (Min)
0.60	720	720
0.70	570	570
0.80	450	450
0.90	360	360
1.00	300	300
1.10	240	270
1.20	210	240
1.30	180	210
1.40	150	180
1.50	120	180
1.60	45	150

Fig. 85 - OTLs

CNS oxygen toxicity is not considered likely at PO2 levels below 1.30 ATA. It is however related to the diver's work level. Performing strenuous tasks could cause the symptoms of oxygen poisoning to occur at PO2 levels lower than they normally would appear during casual recreational diving.

WARNING: The nitrox features of the Logic are intended for use only by recreational divers trained for nitrox diving by an instructor certified by a recognized training agency to teach diving with nitrox.

Diving with enriched nitrogen-oxygen (nitrox) mixtures requires special knowledge of the variations imposed upon divers, their activities, and their equipment by the increased percentage of oxygen. Sherwood Scuba recommends completion of a specialized Nitrox training course by a recognized training agency prior to diving with any enriched nitrogen-oxygen (nitrox) mixtures.

WARNING: In the event that you exceed the maximum limit of per dive allowable oxygen exposure, it is recommended that you allow a surface interval of at least 2 hours before reentering the water. If you exceed the maximum limit of 24 hour period allowable oxygen exposure, you should allow a surface interval of at least 24 hours before reentering the water.

ALTITUDE DIVING

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.

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 Logic automatically compensates for decreased ambient pressures for Altitudes between 3,000 (915 meters) and 14,000 feet (4,270 meters). Its program contains a high altitude algorithm that reduces no decompression and oxygen exposure limits to add a larger zone of caution.

The Logic senses ambient pressure when it is activated, every 15 minutes while it is activated, or every 30 minutes when it is not activated. At an Altitude of 3,001 feet (916 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 and oxygen 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.

Altitude Level is displayed on the Data screens (Fig. 86a).

SEA	=	0 - 3,000 ft 0 - 915 m
L2	=	3,001 - 5,000 ft 916 - 1,525 m
L3	=	5,001 - 7,000 ft 1,526 - 2,135 m
L4	=	7,001 - 9,000 ft 2,136 - 2,745 m
L5	=	9,001 - 11,000 ft 2,746 - 3,355 m
L6	=	11,001 - 13,000 ft 3,356 - 3,965 m
L7	=	13,001 - 14,000 ft 3,966 - 4,270 m
outr	=>	14,000 ft 4,270 m

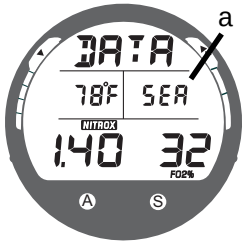


Fig. 86 - Altitude

WARNING: The Logic will not sense ambient pressures or provide Altitude compensation when it is wet. DO NOT dive at any different Altitude until the unit shuts off and is reactivated at the new Altitude.

If the unit is activated at elevations higher than 14,000 feet (4,270 meters), it will perform a diagnostic check followed by immediate shutdown.

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***** 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). The two exceptions to this 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.

* excerpted from "The UHMS Flying After Diving Workshop"

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".

** excerpted from "DAN's Position on Recreational Flying After Diving"

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".

To reduce the risk of developing decompression sickness after a single no decompression dive, current guidelines suggest waiting 12 hours prior to exposure to atmospheric pressures equivalent to 1,000 feet (330 meters) above sea level, or greater. When repetitive dives are conducted during the same day, or period of days, it is suggested that the interval be increased to a minimum of 24 hours. Note that land travel to higher elevations after diving must also be considered as an exposure to altitude.

DIVE TIME REMAINING (DTR)

One of the most important pieces of information on the Logic is the patented DTR numeric display. To numerically display Dive Time Remaining, the Logic constantly monitors two critical pieces of information; no decompression status and oxygen accumulation status. The DTR display will indicate the time that is more critical for you at that particular moment (i.e.; whichever time is the least amount available of the two).

This unique feature has been granted U.S. Patent No. 4,586,136.

No Decompression DTR

No Deco DTR 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 and graphically as the N2BG.

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 div-ing, one of the most important advantages the Logic 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.

O2 Time Remaining

As oxygen accumulation increases during a nitrox dive, DTR decreases before reaching the oxygen limit for that dive or 24 hour period. When the O2 time becomes less than the No Deco DTR (NDL), calculations for the current depth will be controlled by oxygen and O2 Time Remaining will then be displayed.

CLEAR (RESET)

The Logic computer 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 and oxygen partial pressures.

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 or oxygen toxicity. This is a serious risk and could result in injury or death.

WARNING: If the CLEAR (Reset) screen appears (Fig. 87) on your computer, cease all operation of the computer buttons and wait at least 24 hours before resuming diving activity.

Fig. 87 - Clear (Reset)

PC INTERFACE MODE

While the TIME/WET screen is displayed, data can be downloaded from the Logic or settings can be uploaded to it, by connecting it to a compatible PC using a special PC Interface Cable (USB) and setting up the PC program. When the cable is connected, a PC screen will be displayed for 2 minutes, or until the data transfer is complete if less.

While the PC screen is displayed, the buttons on the Logic will be disabled. Interruption of the connection will only occur if the cable is disconnected during the countdown.

PC screen (Fig. 88)

- Alpha graphic PC
- Countdown Timer from 119 to 00 (seconds)

Data Download and/or Settings Upload action is initiated by the PC program (no buttons need to be pressed on the Logic).

If PC action is not initiated by the time the countdown timer reaches 00 (seconds), the unit automatically reverts to the TIME/WET screen.

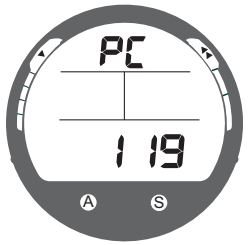


Fig. 88 - PC Interface

SPECIFICATIONS

SURFACE MODES / SCREENS

- Activation/Diagnostic
- Time/Wet
- Fly/Dsat
- Data (Air, Nitrox, Gauge)
- Plan (Air, Nitrox)
- Last (most recent dive data)
- Log
- History
- Simulator (demo dives)

- Set 1 (Modes/Basics):
  - Operating Mode (Air, Nitrox, Gauge)
  - PO2 Alarm Value (1.20 to 1.60 ATA)
  - FO2 Value (21 to 50 %)
  - FO2 50% Default (On/Off)

- Set 2 (Alarms):
  - All Alarms (On/Off)
  - Ascent Alarm (On/Off)
  - Depth Alarm (On/Off)
  - Depth Alarm Value (30 to 330 ft / 9 to 99 m)
  - Elapsed Dive Time Alarm (On/Off)
  - Elapsed Dive Time Alarm Value (10 min to 3 hr)
  - Deco Alarm (On/Off)
  - PO2 Alarm (On/Off)

SURFACE MODES / SCREENS (continued)

- Set 3 (Utilities):
  - Wet Activation (On/Off)
  - Units of Measure (Imperial/Metric)
  - Sampling Rate (15, 30, 60 min)
  - Deep Stop (On/Off)

- Set 4 (Date/Time):
  - Hour Format (12/24)
  - Time (hr:min)
  - Date (Year, Month, Day)

DIVE MODES

- No Decompression Dive:
  - Main display
  - Alternate #1
  - Alternate # 2 (if Nitrox)
  - Deep Stop Preview (if On)
  - Deep Stop (if On)
  - Safety Stop

- Decompression
- Violation - Conditional, Delayed, and Immediate/Gauge
- High PO2 (at Set Point)
- High O2 (at 100% = 300 OTU)

DISPLAY RANGES / RESOLUTION

	Range:	Resolution:
• Dive Number	0 - 50	1
• Depth	0 - 399 FT (0 - 120 M)	1 FT (.1/1 M)
• Maximum Depth	399 FT (120 M)	1 FT (.1/1 M)
• FO2 Set Point	21 - 50 %	1 %
• PO2 Value	0.00 - 5.00 ATA	.01 ATA
• Dive Time Remaining	0 - 599 min	1 minute
• Total Ascent Time	0 - 599 min	1 minute
• Deco Stop Time	0:00 - 9:59 hr:min	1 minute
• Dive Time	0:00 - 9:59 hr:min	1 minute
• Surface Time	0:00 - 23:59 hr:min	1 minute
• Dive Log Surface Interval	0:00 - 23:59 hr:min	1 minute
• Time to Fly	23:50 - 0:00 hr:min (starting 10 min after the dive)	1 minute
• Time to Desaturate	23:50 - 0:00 hr:min (starting 10 min. after the dive)	1 minute
• Temperature	0 to 99°F (-9 to 60°C)	1°

Special Displays:	Occurrence
• Diagnostic Display	After Manual Activation
• Out of Range (- - -)	> 330 FT (> 99.9 M)
• Gauge Mode Countdown Timer	23:50 to 0:00 hr:min

BAR GRAPHS

N2BG:	segments
• No Deco	up to 4 displayed
• Deco	all 5 displayed

O2BG:	segments
• Normal	up to 4 displayed
• Danger	all 5 displayed

ASC:

<= 60 FT (18 M)	segments
0 - 10 FPM (0 - 3 MPM)	0
11 - 25 FPM (3.5 - 7.5 MPM)	1
26 - 30 FPM (8 - 9 MPM)	2
> 30 FPM (9 MPM)	3 (all flashing)

> 60 FT (18 M)	segments
0 - 20 FPM (0 - 6 MPM)	0
21 - 50 FPM (6.5 - 15 MPM)	1
51 - 60 FPM (15.5 - 18 MPM)	2
> 60 FPM (18 MPM)	3 (all flashing)

SPECIFICATIONS (CONTINUED)

OPERATIONAL PERFORMANCE

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

Dive Counter:
- Displays Dives #1 to 50, 0 if no dive made yet
- Resets to Dive #1, upon reactivation after shutdown

Dive Log Mode:
- Stores 50 most recent dives in memory for viewing
- After 50 dives, adds 51st dive in memory and deletes the oldest

Altitude:
- Operational from sea level to 14,000 feet (4,270 meters) elevation
- Compensates for Altitude at elevations higher than 3,000 feet (915 meters) elevation
- No adjustments are made while it is wet

Power:

• Battery	1 - 3 vdc, type CR2450 Lithium battery
• Shelf life	Up to 5 years
• Replacement	User replaceable (annual recommended)
• Life expectancy	150 dive hours (if 1 - 1 hour dive per activation period) to over 300 dive hours (if 2 or more - 1 hour dives per activation period)

SPECIFICATIONS (CONTINUED)

Activation:
- Manual - push button (recommended)
- Automatic - by immersion in water, if set ON
- WET graphic indicates Wet Contacts are bridged (unit must be dried prior to transport or storage).
- Automatically set for AIR Mode operation upon activation
- Remains set for AIR Mode unless the Operating Mode is set for Nitrox or Gauge.
- Cannot be manually activated deeper than 4 FT (1.2 M), if the Water Activation feature is set OFF.
- Cannot be activated at elevations higher than 14,000 feet (4,270 meters)

Shutoff:
- Automatically shuts Off if no dive is made within 2 hours after initial activation. Reactivation required.
- Automatically shuts Off 24 hours after last dive (will reactivate if the Wet Activation is set ON and the unit becomes Wet).
- Cannot be shut Off manually.

Setting FO2:
- Nitrox Set Points from 21 to 50 %
- If set for 21%, remains set for 21% until changed
- If set for >21%, it reverts to 50% 10 minutes after the dive, if the FO2 Default is set ON. If the FO2 Default is set OFF, the value will remain at the number (%) set until changed or the unit shuts Off. Defaults to AIR Mode operation upon shutdown and reactivation.

Operating Temperature:
- In Water >> between 28 and 95 °F (-2 and 35 °C)
- In Air >> between 20 and 140 °F (-6 and 60 °C)

ACCESSORIES (optional items available from your Authorized Sherwood Dealer)
- Lens Guard
- PC download package (hardware and software)
- Battery Kit - includes 1 battery, 1 battery hatch o-ring, silicone grease

SPECIFICATIONS (CONTINUED)

NO DECOMPRESSION MODEL

Basis:
- Modified Haldanean Algorithm
- 12 tissue compartments

Data Base:
- Diving Science and Technology (DSAT) - Rogers/Powell

Performance:
- Tissue compartment halftimes (mins.) Spencer's "M" values 5, 10, 20, 40, 80, 120, 160, 200, 240, 320, 400, 480
- 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, 60 FT (3, 6, 9, 12, 15, 18 M)

Altitude Algorithm:
- Based on NOAA tables

Oxygen Exposure Limits:
- Based on NOAA tables

DEFAULT SETTINGS AS SHIPPED FROM THE FACTORY

• Operating Mode	AIR
• PO2 Alarm	ON
• PO2 Alarm Value	1.60 ATA
• FO2	21%
• 50% FO2 Default	ON
• All Alarms	ON
• Ascent Alarm	ON
• Depth Alarm	ON
• Depth Alarm Value	100 FT
• Dive Time Alarm	ON
• Dive Time Alarm Value	3 hours
• Reserve Time Alarm	ON
• Reserve Time Alarm Value	5 minutes
• Deco Alarm	ON
• Water Sensor (Activation)	ON
• Units	Imperial
• PC Sampling Rate	15 seconds
• Hour Format	12
• Time	actual at calibration
• Date	actual at calibration
• Deep Stop	OFF

GLOSSARY

Air Dive - A dive conducted using air (approximately 21% oxygen & 79% nitrogen) as the breathing gas.
Algorithm - A step-by-step mathematical formula designed to accomplish a particular result (i.e. Dive Time Remaining in the Logic). **Alternate Display** - Additional information accessible by pressing a control button.
Altitude Dive - A dive made at an elevation above sea level (> 3,000 feet/915 meters) when no decompression limits are reduced .
Ascent Rate - The speed that a diver ascends toward the surface.
Ascent Rate Indicator - A display that shows ascent rate as a bar graph.
Audible Alarm - A computer emitted tone that alerts the diver to potential danger.
Battery Indicator - An icon displayed while in Surface Time/Wet Mode, indicates a Low Battery Condition.
Ceiling - See decompression ceiling.
Clean Dive - A dive preceded by 24 hours of no diving activity.
CNS - Abbreviation for the Central Nervous System of the body.
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 decompression sickness.
Decompression Stop - The depth(s) at which a diver must pause during ascent to allow absorbed nitrogen to escape naturally from the tissues.
Deep Stop - A no decompression stop at which a diver may choose, but is not required, to pause during ascent to allow bubbles to dissipate naturally.
Depth Sensor - an electro-mechanical device that converts water pressure into an electrical signal, that is converted to a visual depth display.
DEMO - Abbreviation for demonstration, a variety of modes that display simulated dives.
Diagnostic Mode - The first display seen on dive computers after initial activation during which time a self check for internal faults is performed.
Display - A visual readout of information.
Dive Log Mode - A computer display of previous dive information.
Dive Planner - A display of available dive times at 10 FT (3 M) intervals from 30 to 190 FT. (9 to 57 M) used when dive planning.
Dive Time Remaining - A display of the time before a diver must surface based on no decompression or oxygen accumulation status.
Elapsed Dive Time - Total time spent underwater during a dive between 5 FT (1.5 M) on initial descent to 2 FT (0.6 M) on final ascent.
FO2 - The fraction (percent / 100) of oxygen (O2) in the breathing gas mixture.

GLOSSARY

Icon - a small pictorial representation of an operational mode
LCD - Abbreviation for liquid crystal display, an easily viewed low voltage display usually found on dive computers
Maximum Depth - The deepest depth attained during a dive.
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 depths (opposite of a “Square Wave” dive profile).
Nitrogen Bar Graph - A graphic display of simulated nitrogen absorption on Sherwood dive computers.
Nitrox - A nitrogen-oxygen breathing gas mixture that contains a higher fraction of oxygen than air.
Nitrox Dive - A dive conducted using nitrox (22 to 50 % O2) as the breathing gas.
NOAA - Abbreviation for National Oceanic and Atmospheric Administration.
No Deco - Abbreviation for No Decompression.
No Decompression - Any part of a dive where the diver can surface without requiring a decompression stop.
O2 Bar Graph - A visual representation of oxygen accumulation on a dive computer display.
OTU - Abbreviation for oxygen tolerance unit. A Hamilton's Repex method term for oxygen dose.
Out of Range - The point at which a dive computer can no longer supply correct dive information.
Oxygen Tolerance - Dose or exposure to the physiological affects of elevated levels of oxygen.
Oxygen Toxicity - The adverse physiological affects of exposure to elevated levels of oxygen.
Partial Pressure - The proportion of the total pressure contributed by a single gas in a mixture of gases.
PO2 - Partial pressure of oxygen. The proportion of total pressure of a gas mixture contributed by oxygen.
Repetitive Dive - Any dive that takes place within 12 hours of a previous dive.
Reserve Time - The amount of dive time remaining based on no decompression status.
Safety Stop - A no decompression stop 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.
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 to 2 FT (0.6 M) from a dive.

DSAT NDLS (HR:MIN) AT ALTITUDE (IMPERIAL)

Altitude (feet)	0 to 3000	3001 to 4000	4001 to 5000	5001 to 6000	6001 to 7000	7001 to 8000	8001 to 9000	9001 to 10000	10001 to 11000	11001 to 12000	12001 to 13000	13001 to 14000
Depth (FT)												
30	4:20	3:21	3:07	2:55	2:45	2:36	2:28	2:21	2:15	2:10	2:04	1:58
40	2:17	1:43	1:36	1:30	1:25	1:20	1:16	1:12	1:09	1:06	1:03	1:01
50	1:21	1:03	1:00	0:58	0:55	0:52	0:48	0:45	0:43	0:41	0:39	0:37
60	0:57	0:43	0:40	0:38	0:36	0:34	0:33	0:31	0:30	0:29	0:28	0:27
70	0:40	0:31	0:30	0:28	0:27	0:26	0:24	0:23	0:22	0:20	0:19	0:18
80	0:30	0:24	0:23	0:21	0:20	0:19	0:18	0:17	0:16	0:16	0:14	0:13
90	0:24	0:19	0:18	0:17	0:16	0:15	0:14	0:13	0:12	0:11	0:10	0:10
100	0:19	0:15	0:14	0:13	0:12	0:11	0:10	0:10	0:09	0:09	0:08	0:08
110	0:16	0:12	0:11	0:10	0:09	0:09	0:08	0:08	0:08	0:07	0:07	0:07
120	0:13	0:09	0:09	0:08	0:08	0:08	0:07	0:07	0:07	0:06	0:06	0:06
130	0:11	0:08	0:08	0:07	0:07	0:07	0:06	0:06	0:06	0:06	0:05	0:05
140	0:09	0:07	0:07	0:06	0:06	0:06	0:06	0:05	0:05	0:05	0:05	0:05
150	0:08	0:06	0:06	0:06	0:05	0:05	0:05	0:05	0:05	0:04	0:04	0:04
160	0:07	0:06	0:05	0:05	0:05	0:05	0:05	0:04	0:04	0:04	0:04	0:04
170	0:07	0:05	0:05	0:05	0:04	0:04	0:04	0:04	0:04	0:04	0:04	0:03
180	0:06	0:05	0:05	0:04	0:04	0:04	0:04	0:04	0:04	0:03	0:03	0:03
190	0:05	0:04	0:04	0:04	0:04	0:04	0:04	0:03	0:03	0:03	0:03	0:03

DSAT NDLS (HR:MIN) AT ALTITUDE (METRIC)

Altitude (meters)	0 to 915	916 to 1220	1221 to 1525	1526 to 1830	1831 to 2135	2136 to 2440	2441 to 2745	2746 to 3050	3051 to 3355	3356 to 3660	3661 to 3965	3966 to 4270
Depth (M)												
9	4:43	3:37	3:24	3:10	2:58	2:48	2:39	2:31	2:24	2:18	2:12	2:07
12	2:24	1:52	1:44	1:37	1:30	1:25	1:21	1:17	1:13	1:10	1:07	1:04
15	1:25	1:06	1:03	1:00	0:57	0:55	0:52	0:49	0:46	0:43	0:41	0:39
18	0:59	0:45	0:42	0:40	0:38	0:36	0:34	0:32	0:31	0:30	0:29	0:28
21	0:41	0:33	0:31	0:29	0:28	0:27	0:26	0:24	0:23	0:21	0:20	0:19
24	0:32	0:26	0:24	0:22	0:21	0:20	0:19	0:18	0:17	0:16	0:15	0:14
27	0:25	0:19	0:18	0:17	0:16	0:16	0:14	0:13	0:12	0:12	0:11	0:10
30	0:20	0:16	0:15	0:13	0:12	0:12	0:11	0:10	0:10	0:09	0:09	0:08
33	0:17	0:12	0:11	0:11	0:10	0:09	0:09	0:08	0:08	0:08	0:07	0:07
36	0:14	0:10	0:09	0:09	0:08	0:08	0:07	0:07	0:07	0:06	0:06	0:06
39	0:11	0:08	0:08	0:07	0:07	0:07	0:06	0:06	0:06	0:06	0:05	0:05
42	0:09	0:07	0:07	0:07	0:06	0:06	0:06	0:05	0:05	0:05	0:05	0:05
45	0:08	0:06	0:06	0:06	0:06	0:05	0:05	0:05	0:05	0:05	0:04	0:04
48	0:07	0:06	0:06	0:05	0:05	0:05	0:05	0:04	0:04	0:04	0:04	0:04
51	0:06	0:05	0:05	0:05	0:05	0:04	0:04	0:04	0:04	0:04	0:04	0:04
54	0:06	0:05	0:05	0:04	0:04	0:04	0:04	0:04	0:04	0:03	0:03	0:03
57	0:05	0:04	0:04	0:04	0:04	0:04	0:04	0:03	0:03	0:03	0:03	0:03

INSPECTION / SERVICE RECORD

SERIAL NUMBER _____

DATE OF PURCHASE _____

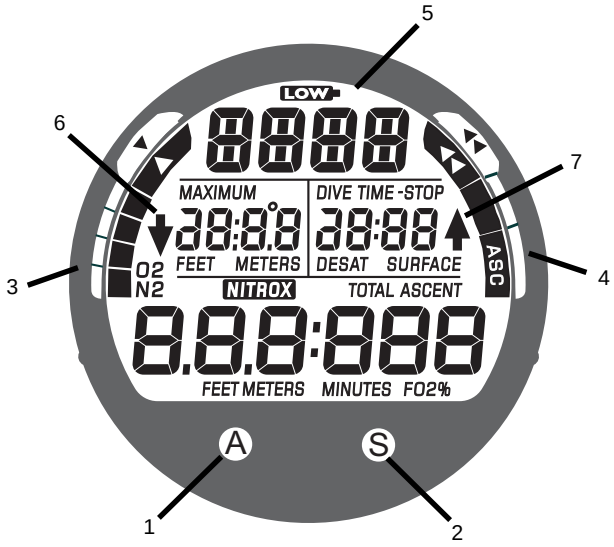
PURCHASED FROM (DEALER) _____

BELOW TO BE FILLED IN BY AN AUTHORIZED SHERWOOD SCUBA DEALER:

DATE	INSPECTION / SERVICE PERFORMED	DEALER / TECHNICIAN

KEY:

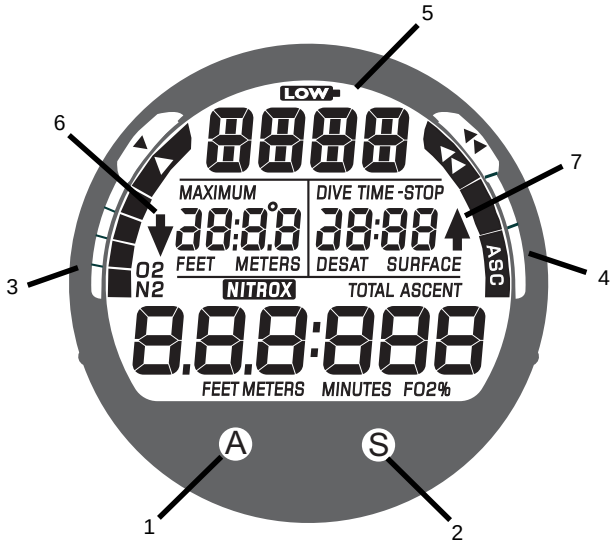
1. A (Advance) button
2. S (Select) button
3. N2/O2 Bar Graph (shared use)
4. ASC (Ascent Rate) Bar Graph
5. Low Battery symbol
6. Descend (Down Arrow) symbol
7. Ascend (Up Arrow) symbol



Logic FULL DISPLAY

KEY:

1. A (Advance) button
2. S (Select) button
3. N2/O2 Bar Graph (shared use)
4. ASC (Ascent Rate) Bar Graph
5. Low Battery symbol
6. Descend (Down Arrow) symbol
7. Ascend (Up Arrow) symbol



Logic FULL DISPLAY

FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

CAUTION:

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

RF Exposure warning

The equipment complies with FCC RF exposure limits set forth for an uncontrolled environment.

The equipment must not be co-located or operating in conjunction with any other antenna or transmitter.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

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