SHERWOOD SCUBA

LOGIC

LOGIC DIVE COMPUTER

OWNER'S MANUAL

FIRMWARE VERSION SH1020
MANUAL - V1.6_02.24.2025
SherwoodScuba.com

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.

The 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 LOGIC' s wide array of features is 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 re- turned 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 proper instruction, a dive computer only provides the person using it with data, not the knowledge how to use it.

BASIC CONSIDERATIONS

- 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.
- 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 intended to be used 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 even 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.

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 (24 Hours Or Until Your Computer Clears)

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.

STOP

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.

N

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. 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.

BATTERY SAFETY

⚠WARNING

- **INGESTION HAZARD**: This product contains a button cell or coin battery.
- **DEATH** or serious injury can occur if ingested.
- A swallowed button cell or coin battery can cause **Internal Chemical Burns** in as little as **2 hours**.
- **KEEP** new and used batteries **OUT OF REACH of CHILDREN**
- **Seek immediate medical attention** if a battery is suspected to be swallowed or inserted inside any part of the body.

This product contains non-replaceable batteries. Battery type: Lithium-Ion rechargeable Nominal Voltage: 3.8V

a) Remove and immediately recycle or dispose of used batteries according to local regulations and keep away from children. Do NOT dispose of batteries in household trash or incinerate.
b) Even used batteries may cause severe injury or death.
c) Call a local poison control center for treatment information.
d) Non-rechargeable batteries are not to be recharged.
e) Ensure the batteries are installed correctly according to polarity (+ and -).
f) Do not mix old and new batteries, different brands or types of batteries, such as alkaline, carbon-zinc, or rechargeable batteries.
g) Remove and immediately recycle or dispose of batteries from equipment not used for an extended period of time according to local regulations.
h) Always completely secure the battery compartment. If the battery compartment does not close securely, stop using the product, remove the batteries, and keep them away from children.

BUTTONS LAYOUT

(A) Advance Button - Use the Advance Button to toggle through screen options & access sub-menus.
(S) Select Button - Use Select Button to turn backlight on & change values within sub-menus.

When you receive your new Logic dive computer, it is likely that it is going to be on a Deep Sleep Mode.

To wake it up form that mode simultaneously depress both the A and the S buttons for 3 seconds.

The screen will show a self-check countdown and when it stops you should be able to see the Time Screen.

FEATURES AND DISPLAYS

The LOGIC' s two Control Buttons allows you to activate the unit and access specific information when you choose to see it.

While on the surface, you can use the buttons to maneuver through the LOGIC' 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 5 convenient categories (Mode, Alarms, Utilities, Time, Log Clear)
- Activation of the Backlight
- Operation of an on board Plan Mode

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

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, or when accessed, Oxygen accumulation identified by the O2 icon. 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 N2 Bar Graph monitors 16 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 (NO DECO) status and the fifth at the top indicates a Decompression condition (DECO).

When the LOGIC is set to operate in Nitrox mode, the Bar Graph will represent Oxygen accumulation when the O2 data screen (Alternate Display) is accessed temporarily. The O2 icon 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.

ASCENT RATE BAR GRAPH

Ascent Rate Bar Graph (ASC)

The ASC 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 speed should not exceed 60 fpm (18 mpm). At depths of 60 ft (18 m) and shallower, ascent speed should not exceed 30 fpm (9 mpm).

> 60 FT (18M)

SEGMENTS	ASC FPM	ASC MPM
0	0 - 20	0 - 6
1	21 - 50	6.5 - 15
2	51 - 60	15.5 - 18
3	> 60	> 18

SEGMENTS	ASC FPM	ASC MPM
0	0 - 10	0 - 3
1	11 - 25	3.5 - 7.5
2	26 - 30	8 - 9
3	> 30	> 9

FPM - Feet Per Minute
MPM - Meter Per Minute

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.

Underwater Display "DIVE"
During dives, the Current Depth is displayed from 0 to 330 ft (99.9 m) in 1 ft (.1 m) increments (a). The Max Depth reached during that dive will also be displayed (b). Both the Dive time (c) and the NDL in minutes will be present (d).

NOTE : 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 "TIME"
Time displays are shown in hour:minute format (i.e., 6:01 represents 6 hour and 1 minutes, not 601 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 (e) are configured with larger digits, while secondary times such as Surface Interval (f) are smaller.

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

TEMPERATURE, ALTITUDE & MODE DISPLAYS

Temperature (a) and Altitude (b) can be viewed on a Data Display, which can be accessed while viewing the TIME screen while on the surface pressing the A (Left) button once.

Temperature can be viewed on an Alternate Display which can be accessed during dives as well by pressing the S (Right) button once while underwater.

The MODE the LOGIC is on will be displayed at the bottom of the screen (Air, Nitrox or Gauge will be displayed here. (c)

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.

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.

If 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
- O_2 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 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. Rental, Instructional, Institutional activities will result on higher battery consumption.

BATTERY INDICATOR -
A Battery icon provides an indication of Low Battery Condition. It will only appear on the Surface TIME, DATA, and FLY/SAT screens. It will not be displayed on other surface dis- play screens or during Dive Modes.

LOW BATTERY INDICATION -
•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.

NOTE : Please only use Panasonic, Energizer or Rayovac brands of the CR2450 battery. For better results order PN# CR825 (Battery, O-Ring, Silicone Lube) from Sherwood through your local dive shop retailer.

- 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.

It 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 & SETUP

As mentioned before on page 6 when you receive your new Logic dive computer, it is likely that it is going to be on a Deep Sleep Mode.

To wake it up form that mode simultaneously depress both the A and the S buttons for 3 seconds.

The screen will show a self-check countdown sequence and when it stops you should be able to see the Time Screen.

After turning the Logic on, it will remain on for 8 hours. While it is not in use it will be in a low power mode. Upon entering the water and begin your dive it will start the diving calculations. When you are completely done using the Logic for the day you can manually turn it off by holding both the A and S buttons down for 6 seconds.

NOTE : If the LOGIC is not showing the TIME screen at the beginning of the dive it will not go into DIVE MODE as the diver descends. Make sure you see the TIME screen before going underwater.

SURFACE SCREENS & BASIC SETTINGS

To go to Settings, from the Time screen press the A button 6 times to go to the SET screen.

To access SET screens press the S button to go to:

SET 1 - MODE; chose from Air, Nitrox or Gauge.

SET 2 - - ALM - Alarms Options. Depth, Dive Time.

SET 3 - Units, Sampling, Deep Stop alarm.

SET 4 - Time - Change time format, time of day and date.

SET 5 - DivE - Contains aditional options regarding when to account for gas absorption, Surface Interval start, CF & Type of Water

SET 6 - DEL - Deletes Logbook/ Diving Information

SURFACE SCREENS & BASIC SETTINGS

SET 1 - MODE

Toggles between Air, Nitrox or Gauge modes. The Air mode will simulate Nitrogen absorption/ release in tissues using a 16-tissue model & considering a mix of 21% Oxygen/79% Nitrogen and will provide a NDL in minutes.

The Nitrox mode will also conside Oxygen Toxicity within calculations. The NDL will be affected by exposure to a higher concentration of O_2 than normal. To change NITROX parameters like PO2 & FO2 press the A button once and the S button to select values, press the A button again to accept the selection & move to next option.

The Gauge mode will only display Depth, Dive Time (Bottom Time), Max Depth & Temperature.

SET 2 - ALM

Turn Dive Alarms ON/OFF and change the values for maximum depth and maximum dive time. Use the A button to view options, S button to select values, press the A button again to accept the selection & move to next option.

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

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.

- Alpha graphics DEEP and AL
- 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 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 screen.

- Operation reverts to the TIME 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:
- Alpha graphics DEEP and ALL
- Depth Alarm Set Point flashing, with MAXIMUM and FEET (or METERS) icons

To change values:

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

> Pressing & releasing the S button momentarily and repeatedly (< 2 sec/ 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 screen.

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

SURFACE SCREENS & BASIC SETTINGS

SET 3 - UNITS

Change the computer units Metric/Imperial, Sampling Rate 15 sec, 30 sec, 60 sec and Deep Stop alarm on or off. Use the S button to view the different options, the A button to select values, and press the A button again to accept the selection & move to next option.

SET 4 - TIME

Change the computer's Time Format, Time of Day and Date. Use the S button to view the different options, the A button to select values, and press the A button again to accept the selection & move to next option.

SET 5 - DIVE

SET 5 - AUTO – DEPTH
The options are: 1.0 m (3.2 ft), 1.5 m (4.9 ft), 2.0 m (6.5 ft), 2.5 m 8.2 ft), 3.0 m – Default setting is 1.5 m

This is an useful feature for Dive Instructors & their students who do pool dives. This mode tells the computer at what depth start the nitrogen absorption/ release calculations.

Chose the depth you'd like the gas absorption/ release calculations to start using single presses with the S button and accept the value and move to the next option with one press of the A button.

Set 5 contains additional items regarding additional control of when the accounting for nitrogen absorption/ releases should start, when the computer starts imputing dive information into a new log, the Conservative Factor CF different values and type of water the dive is going to take place.

SURFACE SCREENS & BASIC SETTINGS

SET 5 - STOP – LOG

The options are: 1:00 min, 2:00 min, 5:00 min, 10:00 min

This feature uses time gaps at the surface & tells the computer when to start considering a real Surface Interval (end of the dive, leaving the water and initiating a wait time to release nitrogen from tissues between dives).

This feature is also useful to Instructors & students when they reach the surface for a brief moment and but want resume the same dive.

Chose what time you would wish the computer start to consider a real Surface Interval using single presses with the S button and accept the value and move to the next option with one press of the A button.

SET 5 - CONS – CF

Conservative factor is a setting designed to slightly "tweak" the algorithm to give users some additional options of Bottom Time within the NDL. New Sherwood Computers feature 3 CFs built in.

A very conservative CF will provide less bottom time within the NDL while a very liberal CF will provide more bottom time within the NDL. A crucial aspect that needs to be remembered is that the absorption and release of gas in tissues could vary. The factors that affect absorption & release are age, body composition, dehydration and resting level.

The CF Setting also displays the GF (Gradient Factors) used in tissue absorption/ release calculations by the Buhlmann ZHL16c Algorithm.

CF1; the most conservative/ CF2; in the middle/ CF3; the least conservative.

CF1 less time on the NDL
GF 35/75

CF2 in the middle
GF 40/85

CF3 more time on the NDL
GF 45/95

Chose what CF you would wish the computer to consider using single presses with the S button and accept the value and move to the next option with one press of the A button

SURFACE SCREENS & BASIC SETTINGS

SET 5 - TYPE – SALt - FrESH
This is the type of water the dive is going to be performed under Fresh Water or Salt Water.

Chose what type of water you would wish the computer to consider using single presses with the S button and accept the value and move to the next option with one press of the A button

SET 6 - DELETE

Erases the computer's logbook. Use the A button to view Y / N option, confirm deletion (Y) with A button, or exit without deletion (N) with S button & move to the previous screen.

CAUTION : This feature is used only to clear the log memory when the unit has reached its maximum which is about 999 dives. It is important to keep in mind that this feature is not to be used carelessly because it will delete useful dive log information. Use it only when it is needed. This feature will not delete on-going nitrogen calculations from a previous recent dive.

SURFACE SCREENS & BASIC SETTINGS

PLAN MODE

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 screen is being displayed (TIME >> 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 O_2 Bar Graph are displayed.

For Depths where no time is allowed, 00 appears for Time and the DECO segment of the N_2 Bar Graph flashes. The graphic PO_2 and O2 Bar Graph 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.

AIR MODE PLAN

- 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

- 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)

While viewing a PLAN screen -

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

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

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

NOTE : PLAN is not available after a Violation Dive.

SURFACE SCREENS & BASIC SETTINGS

LAST - DIVE SCREENS

The LAST Main screen is accessible by pressing the A (Left) button 3 times while the TIME screen is being displayed (TIME >> 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.

LAST - MAIN SCREEN

- 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 during dive
- 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)

- 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

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 999 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 deleted. After exceeding 999 dives, the LOG has to be cleared (SET 5 - Page 11).

- 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).
- Entering Log Mode displays the LOG GO TO screen.

To access the LOG mode, from the TIME screen, press the A button 4 times. To go to the dive log information press the S button once. The first dive of a specific date will appear.

Press the A button to access the screens containing additional dive information, (2 screens total). Press the A button one more time to go back to the LOG mode screen.

SURFACE SCREENS & BASIC SETTINGS

LOG SCREEN #1 (SCR1)

- 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

> Pressing and releasing the A button will access that dive's LOG Screen #2.
> Pressing both buttons for 2 seconds reverts to the TIME screen.

LOG SCREEN #2 (SCR2)

- 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 screen.

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 -

- 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

HISTORY 2 SCREEN -

- 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.

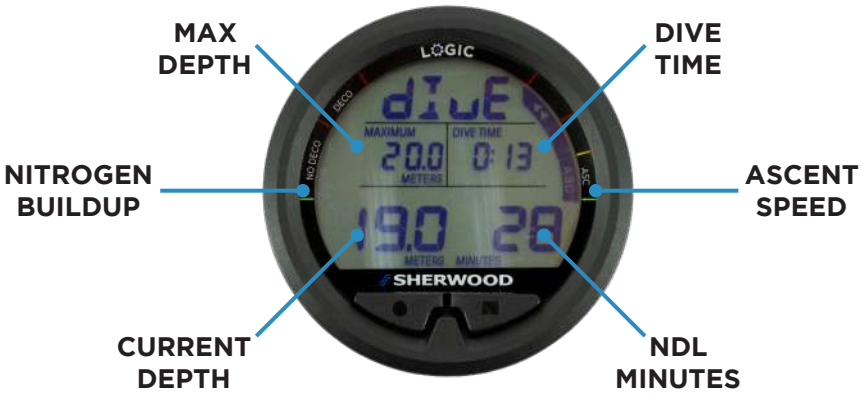
WHILE VIEWING A HISTORY SCREEN -

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

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

DIVE MODES

TYPICAL DISPLAY INFORMATION



SAFETY STOP

NO FLY DIVE

*If DECO Stop has been violated

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:
- 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 & releasing the S (Right) button activates the Backlight and acknowledges/ silences alarms when they strike.

NO DECO ALT 1 -
Information displayed includes:
- 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.

NO DECO ALT 2 (ONLY IF NITROX) -
Information displayed includes:
- 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 No Deco Main.
> Pressing and releasing the S (Right) button activates the Backlight.

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

DIVE MODES

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:
- 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

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 O_2 (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 will automatically appear with the alpha graphics DEEP and STOP scrolling at the top of the screen (each On for 2 seconds).

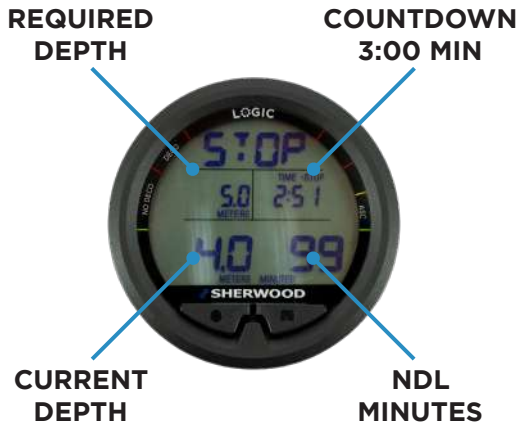
Information displayed also includes:
The recommended Stop Depth (1/2 the calculated Max Depth) with the 2 minute Countdown Timer that counts down from 2:00 to 0:00 (min:sec), Current Depth, NDC Time Remaining, and the N2BG.

Press and release the A button (< 2 sec) to access the ALT 1 screen that displays Max Depth and Elapsed Dive Time, press it again to view the ALT 2 screen displaying Temperature and Time; then if a Nitrox dive, press it again to view ALT 3 displaying FO2 and PO2. 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.

DIVE MODES

NO DECO SAFETY STOP -
Upon ascending to 15 ft (5 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 15 ft (5 m).

Information displayed includes:
- Graphics SAFE>>STOP >> 15 ft (5 m), scrolling (each on 2 sec)
- Stop Depth of 20ft(or 6m) 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
- NDL (min) with MINUTES icon
- N2 Bar Graph

> Press and release the S button to activate the Backlight if needed.
> Press and release the A button to access Alternate Displays that display information similar to those for Deep Stop.

The graphic message SAFE >> STOP >> 15 ft (6 m) continues to scroll while the ALT screens are displayed.

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, NOT providing NDL minutes. 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:
- 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.

GAUGE DIVE ALT -
Information displayed includes:
- 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.

DIVE MODES

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, NDT, and the N2 Bar Graph.

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

HIGH O_2 -
A cautionary mode is entered when O_2 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.

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

- When the Audible is silenced, the message clears until O_2 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 N2 Bar Graph).
- When High O2 occurs (=> 80%), the Deep Stop and Safety Stop features and displays are disabled for the remainder of that dive.

HIGH O_2 MAIN (AT 100%) -
Information displayed includes:
- Graphics UP >> HIGH >> O2 (scroll, each on for 2 seconds)
- Graphics 100 and SAt, indicating % O_2 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 O_2 Time
- O2 Bar Graph, 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.

DIVE MODES

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, 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:
• 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
• N2 Bar Graph, 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.

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:
• 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.
• N2 Bar Graph, 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.

DIVE MODES

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 N2 Bar Graph flash and the message DECO >> STOP >> 60 ft (or 18 m) will scroll.

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 N2 Bar Graph segments (only those loaded) will flash, and the message UP >> TOO >> DEEP will scroll.

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

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:
- 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 N2 Bar Graph flashing, ASC while ascending

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

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 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.

DIVE MODES

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 you are unsure how to properly replace the LOGIC' s battery and ensure the O-ring is well lubricated and the battery hatch secured after replacing the battery do not hesitate on contacting any authorized Sherwood Dealer for assistance.

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 & 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 on top of them.

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 deposits can also be dissolved using a 50% white vinegar/50% fresh water bath for 5 - 10 minutes and thorough rinse after. Towel dry before storing, and transport your LOGIC computer 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.

CARE & MAINTENANCE

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 - registration at SherwoodScuba.com). It is recommended that you have this inspection performed even after the warranty period has expired to ensure your LOGIC is working properly, make sure your dealer records the inspection also at SherwooScuba.com.

Although the registration and dealer recorded inspections is now done digitally through our website, a physical service record is provided in the back of this manual for your convenience in case you want to also keep printed records. 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 LOGIC'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 of the LOGIC for approximately 300 hours using the computer under recreational conditions (few dives a month). Under rental, instructional and institutional use the battery life of your LOGIC will diminish considerably.

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. 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.

CAUTION : 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. Submerging the boot or console in warm water for 5 minutes may facilitate the operation.

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 LOGIC' s limited 2-year warranty. If at any point you are not sure to be able to properly remove/ replace the battery, effectively lubricate the O-Ring from the Battery Hatch and secure the hatch in place, do not hesitate on seeking the assistance of an authorized Sherwood Dealer.

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.

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

NOTE : Please only use Panasonic, Energizer or Rayovac brands of the CR2450 battery. For better results order PN# CR825 (Battery, O-Ring, Silicone Lube) from Sherwood through your local dive shop retailer.

BATTERY REPLACEMENT PROCEDURES

BATTERY HATCH REMOVAL

- Locate the Battery Compartment on the back of the unit & the OPEN - CLOSE icons.
- Use a coin that fits the slot. While applying light steady inward pressure on the center of the Battery Hatch, rotate the Hatch about 5 degrees counterclockwise.

- Lift the Hatch up and away from the Housing using a small plastic prying tool.
- Remove the Battery Hatch.
- Remove the O-ring from the Hatch by hand or using a small plastic tool.

BATTERY REMOVAL

- Using care not to damage the Battery Contacts, slide the Battery up and out of the Battery Compartment. It is OK to use a dull plastic tool to carefully pry up the battery if needed.
- Remove the O-ring from the Battery Hatch by using your index finger and thumb. Once is off the groove pinch it and extract it with the other hand.

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 Contacts use a cotton swab with a solution of 50% white vinegar and 50% fresh water. Clean with another cotton swab slightly damped in fresh water. Allow to dry overnight, or blow dry with a hair dryer (set at 'no heat'). Make sure the contacts are not damaged, bent or corroded.
- Inspect the O-ring for signs of deformation/ damage and replace it if needed.

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 REPLACEMENT PROCEDURES

BATTERY INSTALLATION

- Slide a new 3 volt type CR2450 Lithium Battery, negative (-) side down into the Battery Compartment. Press the battery inwards and ensure good engagement with the contacts.
- Lubricate the O-ring with Silicone Grease

- Reinstall it on the lid making sure the O-ring is well situated inside the O-ring groove
- Look for the icons, both on the housing and the Battery Hatch. First visually locate the OPEN - CLOSE icons and the arrow in the middle on the Battery Hatch. Place the Battery Hatch's arrow on the "0" icon at the housing and by using the same coin used to remove it press inwards and rotate the Battery Hatch 5 degrees clockwise until the arrow on the hatch coincides with the triangle at the housing. Inspect the hatch and housing to ensure even placement and that the O-ring is not extruding.

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.

STOP

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

REINSTALLING THE MODULE TO BOOT

- To facilitate insertion submerge the boot inside warm water for about 5 minutes to make the material more malleable.
- 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.

SPECIAL WARNINGS & ADDITIONAL SAFETY

STOP

- 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 Algorithm within the LOGIC uses a 16-tissue organizational interval model called Bühlmann ZH-L16C. This organization format is also known as modified Bühlmann algorithm with an "M" value or gradient factor. The intervals are displayed using a half-time organization table.

TISSUE COMPARTMENT CONTROL -
The LOGIC tracks sixteen tissue compartments with halftimes ranging from 5 to 635 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 sixteen 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 previously 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 (NDL) -
Note how the No Decompression Limits for the LOGIC are contrasted with the U.S. Navy limits. The LOGIC's Dive Planner does not scroll past 190 ft (57 m), or to depths at which projected dive time is less than one minute.

WARNING : Using the LOGIC, just as using any other dive computer or the U.S. Navy (or other) No Decompression Tables, is no guarantee of avoiding decompression sickness (i.e., the bends).

OXYGEN EXPOSURE LIMITS (OTL) -
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.

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.

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.

REFERENCE

OXYGEN - 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

LOGIC - DEPTH

DPETH FT (M)	USN NDL MINAS. ENG (METRIC)	NDL MINS
30 (9)	260 (283)	- - -
35	- - -	310
40 (12)	137 (144)	20
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)	- - -

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. Instead of “SEA” that denotes Sea Level, the altitude level will be displayed there.

REFERENCE

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.

REFERENCE

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 diving, one of the most important advantages the LOGIC offers.

Sherwood Scuba Decompression Algorithm uses a 16-tissue organizational interval model called Bühlmann ZH-L16C. This organization format is also known as modified Bühlmann algorithm with an "M" value or gradient factor. The intervals are displayed using a half-time organization table. The M-value describes the magnitude of supersaturation (gas pressure greater than the ambient pressure) that a given tissue can theoretically tolerate during ascent before an orderly elimination of inert gas is replaced with a negative outcome. The M value is represented by nitrogen intake/ release linked to diver behavior during a dive (descents/ ascents) and whether diving warnings are violated. After the dive, the computer's algorithm continues to track changes in the "M" value while at the surface (i.e. nitrogen released from tissues).

High oxygen and oxygen exposure are calculated in accordance with NOAA's (National Oceanic and Atmospheric Administration) exposure schedule and limitation principles.

O_2 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.

SPECIFICATIONS

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

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

- **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)

SURFACE MODES / SCREENS (CONTINUED)

- **Set 3** (Utilities):
- 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)

- **Set 5** (Log Clear)
- DEL (N/Y)

REFERENCE

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

DISPLAY ITEM	RANGE	RESOLUTION
Dive Number	0 - 50	1
Depth	0 - 399 FT (0 - 120 M)	1 FT (.1/1 M)
Maximum Depth	399 FT (20 M)	1 FT (.1/1 M)
FO2 Set Point	21 - 50 %	1%
PO2 Value	0.00 - 5.00 ATA	0.1 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	1 minute
Time to Desaturate	23:50 - 0:00 hr:min	1 minute (starting 10 min after dive)
Temperature	0 to 99°F (-9 to 60°C)	1 minute (starting 10 min after dive)

SPECIAL DISPLAYS

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

REFERENCE

BAR GRAPHS

NDBG	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)

ASC : > 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)

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 999 most recent dives in memory for viewing
- After 999 dives, the memory is saturated and it will be required to clear the log (SET 5 - Page 24)

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 - 3.0 V, 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). Rental, Instructional & Institutional environments will consume more battery life.

Activation -
- Manual - push button (recommended)
- 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).
- Cannot be activated at elevations higher than 14,000 feet (4,270 meters)

REFERENCE

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.
- Can be shutoff manually.

Setting FO2 -
- Nitrox Set Points from 21 to 50 %
- If set for 21%, remains set for 21% until changed
- 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) -

CR815- 2023 Logic Battery Cover with Black O-ring

CR825– 2023 Logic Battery Kit, CR2450 Battery, Black Color O-ring, Silicone Lube

CR900– Logic Red Color O-ring, 2024 Battery Cover Only

CR915– 2024 Logic Battery Cap and Red Color O-ring

CR925– 2024 Logic Battery Kit, CR2450 Battery, Red Color O-ring, Silicone Lube

NO DECOMPRESSION MODEL

Basis -
- Modified Bühlmann Algorithm
- 16-tissue compartments

Data Base -
- ZHL16-C - Albert A Bühlmann

Performance -
- Tissue compartment halftimes (mins.) Bühlmann "M" values: 5, 8, 12.5, 18.5, 27, 38.3, 54.3, 77, 109, 146, 187, 239, 305, 390, 498, 635.
- 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%
All Alarms	ON
Ascent Alarm	ON
Depth Alarm	ON
Depth Alarm Value	100 FT
Dive Time Alarm	ON
Dive Time Alarm Value	3 hours
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.

Bühlmann algorithm ZHL16C - Decompression algorithm created by Swiss doctor Albert A Bühlmann that includes the concept of limits in theoretical human tissue compartments and was named after the Swiss city of Zürich

Ceiling - See decompression ceiling.

CF - Conservative Factor.

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/ release in hypotetical human tissues (not real 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.

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 (O_2) in the breathing gas mixture.

GF - Gradient Factor.

Icon - a small pictorial representation of an operational mode

GLOSSARY

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% O_2) 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 effects 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. Used to simulate gas absorption/ release in a tissue within the algorithm.

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.

LOGIC DIVE COMPUTER

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

ALTITUDE / DEPTH (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
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

LOGIC DIVE COMPUTER

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

ALTITUDE / DEPTH (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
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

LOGIC DIVE COMPUTER

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

V1.6. 02.24.2025
SherwoodScuba.com