Hollis®

DG02

DIVE COMPUTER

OPERATING MANUAL

LIMITED TWO-YEAR WARRANTY

For details, refer to the Product Warranty Registration Card provided.

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PATENT NOTICE

U.S. Patents have been issued, or applied for, to protect the following design features:
Dive Time Remaining (U.S. Patent no. 4,586,136), Data Sensing and Processing Device (U.S. Patent no. 4,882,678), and Ascent Rate Indicator (U.S. Patent no. 5,156,055).

DIVE COMPUTER MODEL

The program within the DG02 simulates 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 DG02 dive computer model is based upon the latest research and experiments in decompression theory. **Still, using the DG02, just as using the U.S. Navy (or other) No Decompression Tables, is no guarantee of avoiding decompression sickness, i.e. "the bends."** Every diver's physiology is different, and can even vary from day to day. No machine can predict how your body will react to a particular dive profile.

CONTENTS

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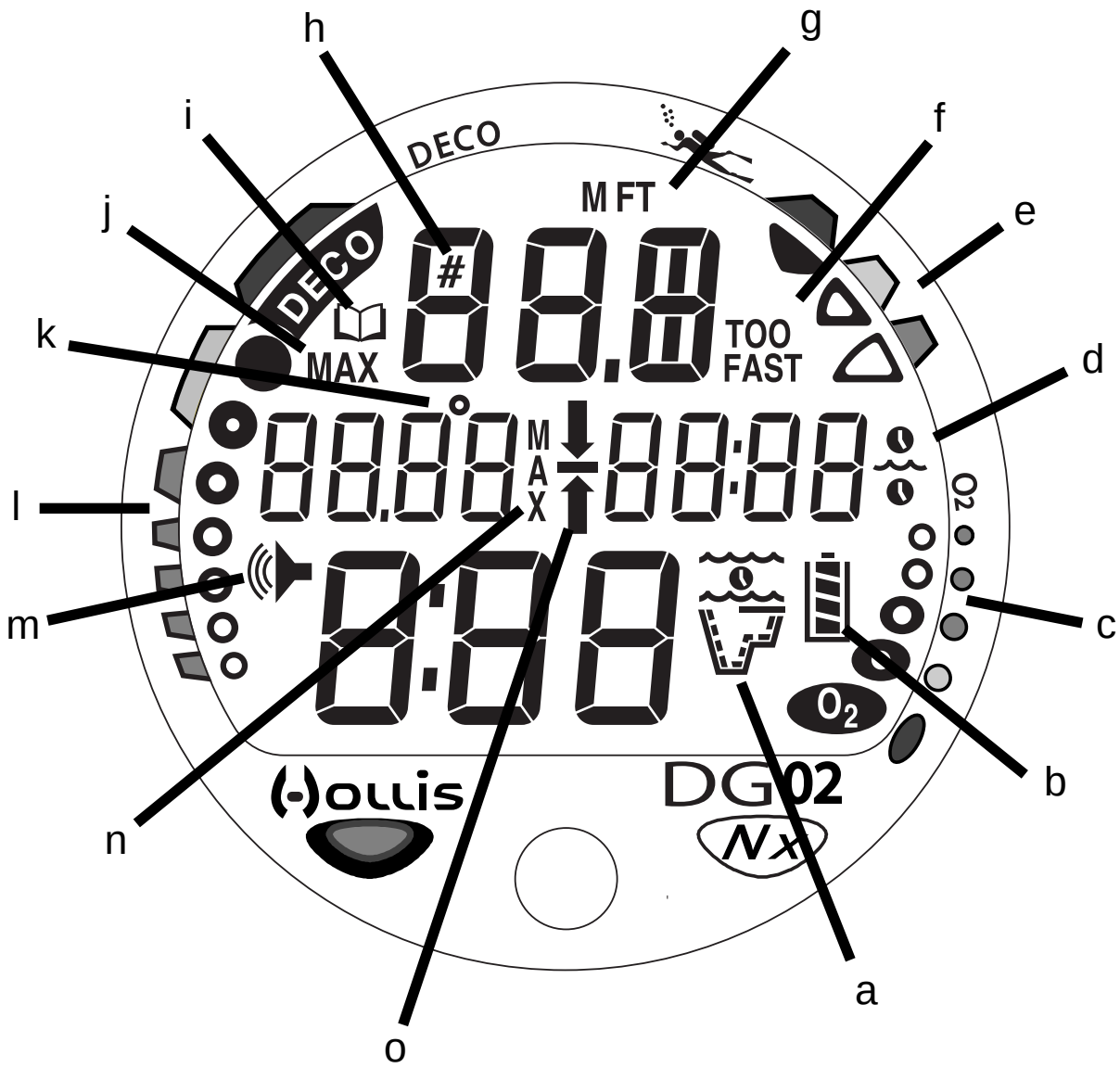
Pay special attention to items marked with this <u>Warning</u> symbol.



Components:

a. Icon - Operating Mode
b. Icon - Battery Status
c. O2 Bar Graph
d. Icon - Time
e. Ascent Rate Indicator
f. Icon - Ascent Too Fast
g. Icon - Depth
h. Icon - Dive No.
i. Icon - Log Mode
j. Icon - Max Depth
k. Icon - Temperature
l. Tissue Loading Bar Graph
m. Icon - Alarm Set
n. Icon - Maximum Depth
o. Icon - Descend Arrow
   Icon - Deco Ceiling Stop Bar
   Icon - Ascend Arrow

LCD DISPLAY

FEATURES and DISPLAYS

INTRODUCTION

Welcome to HOLLIS and thank you for choosing the DG02 !

It is extremely important that you read this Operating Manual in sequence and understand it completely before attempting to use the DG02.

Remember that 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.

Be a - RESPONSIBLE DIVER at all times.

CONTROL BUTTON

The Control Button allows you to select display options and access specific information when you want to see it. It is also used to enter settings and activate the Backlight.

BAR GRAPHS

Tissue Loading Bar Graph (TLBG)

The TLBG (Fig. 1a) represents tissue loading of nitrogen, showing your relative no decompression or decompression status. As your depth and elapsed dive time increase, segments will add to the TLBG, and as you ascend to shallower depths, the segments will begin to recede, indicating that additional no decompression time is allowed for multilevel diving.

The TLBG represents 12 different nitrogen compartments simultaneously and displays the one that is in control of your dive. It is divided into a green No Decompression (normal) zone, a yellow Caution zone (also No Decompression), and a red Decompression (danger) zone.

While you cannot provide a guarantee against the occurrence of decompression sickness, you may choose your own personal zone of caution based upon age, physique, excessive weight, etc., to reduce the statistical risk.

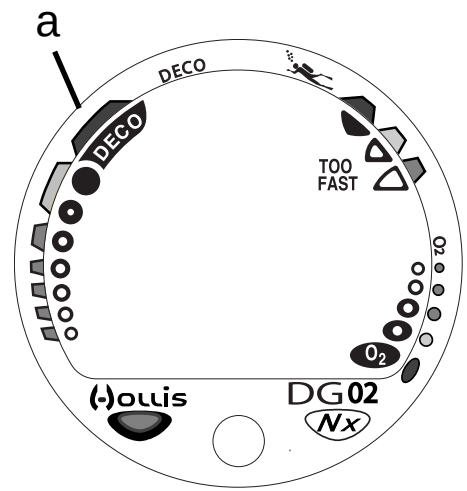


Fig. 1 - TLBG

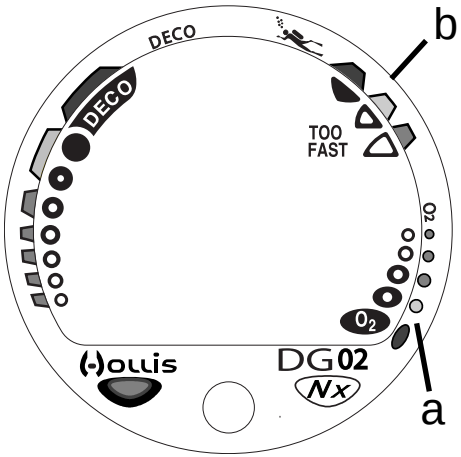


Fig. 2 - O2BG and VARI

Oxygen Accumulation Bar Graph (O2BG)

The O2BG (Fig. 2a) represents oxygen loading, showing the maximum of either per dive or 24 hour accumulated oxygen.

As your oxygen exposure (accumulation) increases during the dive, segments will add to the O2BG, and as loading decreases, it will begin to recede, indicating that additional exposure is allowed for that dive and 24 hour period.

NOTE: Displays associated with oxygen and the O2BG will only appear if FO2 has been set at a value other than 'Air' (e.g., a numerical value).

Variable Ascent Rate Indicator (VARI)

The VARI (Fig. 2b) provides a visual representation of ascent speed (i.e., an ascent speedometer). Green is a 'normal' rate, yellow a 'caution' rate, and red is 'Too Fast'.

The segments of the VARI represent two sets of speeds which change at a reference depth of 60 FT (18 M). Refer to the chart 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).

Deeper than 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) & Shallower

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

VARI

ALPHA / NUMERIC 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 mis-understanding that could result in error.

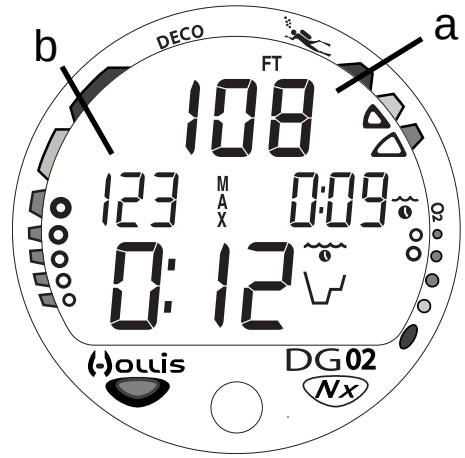


Fig. 3 - Depths

Depth Displays

During a dive, the **Current Depth** will be displayed on the Main screen with the FT (or M) icon (Fig. 3a) in 1 FT (0.1 M) increments.

The **Max Depth** reached during that dive will also be displayed with the MAX icon (Fig. 3b).

- When set to operate as a digital depth gauge/timer (referred to as User Set 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.

When Deep, Safety, or Deco Stops are activated, the **Stop Depth** is displayed on the Main screen (Fig. 4a) in place of Max Depth which can then be viewed on an alternate display accessed by pressing the button.

Fig. 4 - Stop Depth

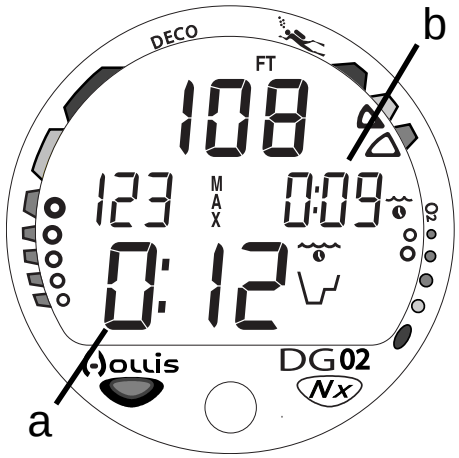


Fig. 5 - Times

Time and Date Displays

Time displays are shown in hour:minute format (i.e., 1:16 represents 1 hour and 16 minutes, not 116 minutes!). The colon that separates hours and minutes blinks once per second when the display is indicating real time (e.g., Elapsed Dive Time), and is solid (non-blinking) when times are calculated projections (e.g., Time to Fly).

The **Main Time** display is located in the lower portion of the display (Fig. 5a) and a **second time display** (Fig. 5b) is located in the center/right. Both displays are identified by a clock icon.

- Time of Day can be set for 12 hour format (Am/Pm) or 24 hour format.

Fig. 6 - Date

Date (Month and Day) is displayed in the center/left portion of the screen (Fig. 6a) only to identify dive data while it is viewed in the Log Mode. Year is only displayed when setting the Date.

- When Units of Measure are set for 'Imperial', the Month appears to the left of Day. When set for Metric, the Month appears to the right of Day.

Temperature Display

Ambient Temperature is displayed in the center/left portion of the screen (Fig. 7a) while in the Surface Mode and Log Mode, and can be viewed as part of an Alternate Display when the button is pressed while in a dive mode.

Fig. 7 - Temperature Display

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

AUDIBLE ALARM

When warning situations activate the Alarm, the unit will emit a beeping tone for 10 seconds. The Alarm will sound again upon reentry into the warning situation, or entry into another type of warning situation. A red LED Warning Light is synchronized with the Audible Alarm and will flash when the Alarm emits a tone.

Situations that will activate the Alarm include -

- Entry into Decompression
- PO2 => than the PO2 Alarm Set Point.
- Depth => 330 FT/99.9 M.
- O2 => 100% (300 OTU).
- Ascending above a required Deco Stop Depth.
- Ascent rate exceeds the allowed limit.
- Deco requires a Stop Depth => 70 FT/21 M.
- Being on the surface for 5 minutes after a Conditional Violation (Permanent Violation).

BACKLIGHT

To activate the Backlight while on the surface, press and release the button momentarily (< 2 sec).

- Press/release the button again to activate as desired.
- The Backlight does not operate during a Low Battery condition.

During a dive depress the button for 2 seconds

- Depress the button again to activate as desired.

POWER SUPPLY

The DG02 utilizes one (1) type CR 2450 Lithium 3 volt cell that should provide 300 hours of continuous, or 50 activation periods, of operation. If you conduct 1 dive each time the unit is activated, you should obtain approximately 50 dives. If you conduct 3 dives each time the unit is activated, you should obtain approximately 150 dives.

Fig. 8 - Battery Indicator

Battery Indication

A Battery icon provides an indication of battery condition. When power is sufficient for normal unit operation, the icon will be displayed during Surface Mode (Fig. 8a). The icon will not be displayed during any Dive Mode (s).

Low Battery Condition

Voltage is checked upon activation and every (1) minute during operation on the surface.

- When 75 % of the rated power has been consumed, the lower bar of the Battery icon (only segment) will be displayed, and the shell of the icon will flash once per second (Fig. 9) as a warning that the Battery is to be replaced prior to conducting any further dives.
- Upon decreasing to a voltage level that will no longer sustain proper operation (2.50 v), the icon will flash 5 times followed by shutdown of the unit.
- If a Low Battery Condition exists when the unit is activated by pressing the button, the graphic bAT and the Battery icon will appear flashing 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 Battery icon will appear flashing as a warning upon descent to 5 FT (1.5 M). No other information will be displayed.
- If the unit did not display a Low Battery Condition prior to entering 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 Battery icon will appear after the dive in Surface Mode.

Fig. 9 -Low Battery Condition

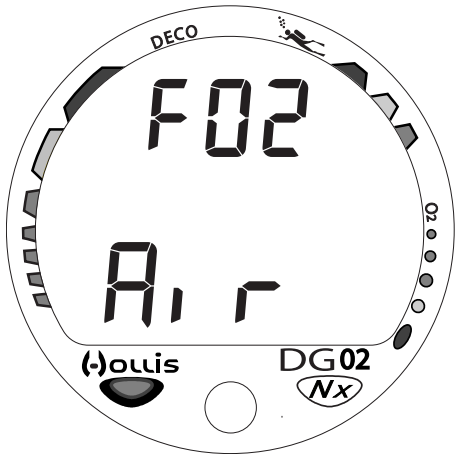


Fig. 10 - FO2 set for Air

FO2 MODE

After Activation, the DG02 will operate as an Air computer without displaying information associated with O2 calculations, unless it is set for a percentage of O2 (FO2) other than Air (a numerical value between 21 and 50 %).

When set with an **FO2 value of 'Air'** (Fig. 10), the DG02 will perform calculations the same as if FO2 were set for 21% O2, internally accounting for O2 for any subsequent Nitrox dives. However, O2 related displays, warnings, and the O2BG will not appear on the display for that dive, or subsequent dives, unless FO2 is set for a numerical value (21 to 50).

Once a dive is made with the unit set as a Nitrox computer (FO2 set for a numerical value), it cannot be programmed to operate as an 'Air' computer until 24 hours after the last dive. 'Air' will not be displayed as an option in the FO2 Set Mode, however, you can set FO2 for 21% for use with Air.

When FO2 is set at a **value of 21%** (Fig. 11), the unit will remain set at 21% for subsequent nitrox dives until FO2 is set to a higher value, or until it automatically turns off and is reactivated.

Setting FO2 is described on Page 23.

Fig. 11 - FO2 set for 21%

FO2 50% Default

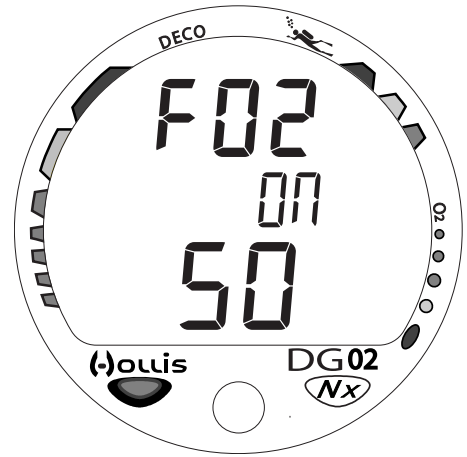


Fig. 12 - FO2 Default ON

If the Default feature is set to ON (Fig. 12) and FO2 is set to a value 'greater than 21%', the FO2 Set Point value will automatically revert to 50% 10 minutes after that dive. The Max Depth that can be achieved with a PO2 of 1.60 ATA will also be displayed.

- FO2 must therefore be reset for each repetitive Nitrox dive, or the value will automatically default to 50% and the dives will be calculated based on 50% O2 (50% nitrogen) for oxygen calculations and 21% O2 (79% nitrogen) for nitrogen calculations.

If the Default feature is set to OFF (Fig. 13), the FO2 value for repetitive dives remains the same as previously set until the FO2 Set Point is manually changed.

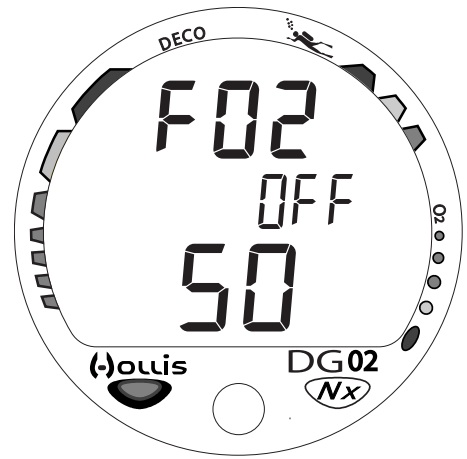


Fig. 13 - FO2 Default OFF

SET MENU

While the SURFACE SEQUENCE is scrolling >>

press button 2 seconds each time to access >>

- SET FO2
- PC (view only)
- SET UNITS
- SET HOUR FORMAT
- SET TIME
- SET DATE
- SET PO2 ALARM
- SET FO2 50% DEFAULT
- SET DIGITAL GAUGE MODE
- SET WET ACTIVATION
- SET DEEP STOP

ACTIVATION and SETUP

Fig. 14 - Diagnostic Mode

Fig. 15 - Serial Number

ACTIVATION

To Activate the DG02, press and release the Button.

- Upon manual activation, the unit will enter Diagnostic Mode (Fig. 14), displaying all segments of the LCD as 8's, followed by dashes (- -), then a countdown from 9 to 0. Diagnostic Mode checks the display and Battery voltage to ensure that everything is within tolerance and functioning properly.
- When the button is held depressed when the Diagnostic countdown reaches 00, an External Access request is initiated. 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. 15). Upon releasing the button, the unit shuts Off. This information will be required if the unit ever requires factory or warranty service
- After manual activation, it will also check the ambient barometric pressure, and calibrate its present depth as zero. At elevations of 3,000 feet (915 meters) or higher, it will adjust (reduce) No Deco Limits and recalibrate itself to measure depth in feet of fresh water instead of feet of sea water.

⚠ WARNING: If the unit is activated at elevations higher than 14,000 feet (4,267 meters), it will perform a diagnostic check and immediately shutdown.

Wet Activation

When the Wet Activation feature is set On, the DG02 will automatically activate by immersion in water. This is accomplished by bridging the gap between contacts located on the button stem and back of the case.

If no dive is made within 2 hours after initial activation, the unit will automatically deactivate. If the wet contacts are still bridged, the unit will reactivate.

SURFACE SEQUENCE

While on the surface, the unit will automatically scroll through a Sequence of displays including-

- Surface Mode
- Fly Mode
- DeSat Mode
- Plan Mode

As the Surface Sequence is scrolling, you can use the button to access Log Mode and Set Mode.

SURFACE MODE

Surface Mode, identified by the Surface Time clock/wave icon (Fig. 16a), appears after Diagnostic Mode after Activation. Information includes Dive Number (as 0 since no dive made yet), Temperature (with icon), Time of Day (with icon), the Battery icon, and Surface Time (with colon flashing).

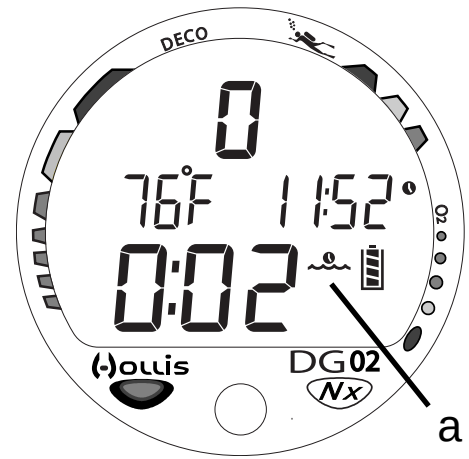


Fig. 16 - Surface Mode
(2 min after activation)

Fig. 17 - Surface Mode
(post dive, module is wet)

If the wet contacts are bridged, the graphic 'H2O' will be displayed in place of the dive number (Fig. 17). After the unit is rinsed and dried, the dive number will replace 'H2O'.

While the Surface Sequence is scrolling -

- depress the button for 2 seconds to access Set Mode.
- press/release the button (< 2 seconds) to access Log Mode.

SET MODE

After gaining access to Set Mode, settings can be made in sequence one after the other, or you can access a specific item that you want to set, bypassing others.

- If the button is not pressed during a 2 minute period while in the Set Mode, the unit will revert to Surface Mode and resume the Surface Sequence scroll.

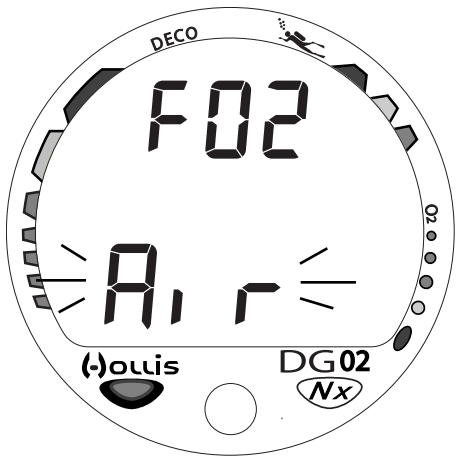


Fig. 18 - Set Mode Entry

Set Mode Access

While the Surface Sequence is scrolling, press and release the button momentarily (< 2 seconds).

- Upon entry into Set Mode, the Set FO2 screen will be displayed with the Set Point flashing (Fig. 18).

TO SET - FO2

Factory set for Air, FO2 can also be set to values between 21 and 50% in increments of 1%.

- While the Surface Sequence is scrolling, press the button for 2 seconds.
- Release the button when the FO2 screen appears with the Set Point flashing (Fig. 19).
- Press and release the button repeatedly to increase the FO2 value from 21 to 50% in increments of 1%, then display AIR again.
- For each FO2 value that appears, the display indicates the Max Depth that is allowed (Fig. 20a) for the PO2 Alarm Set Point. If FO2 is set for 'Air', no Depth value will be displayed.
- Press the button for 2 seconds to accept the FO2 Set Point displayed and advance to the PC screen.

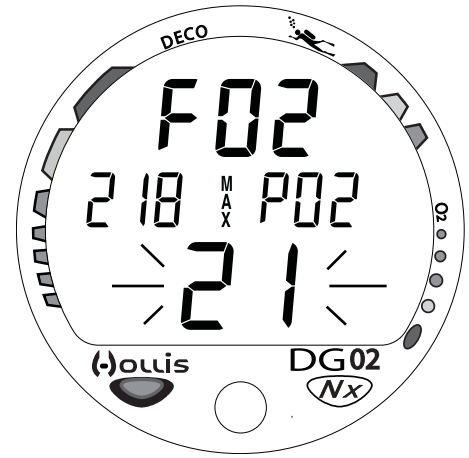


Fig. 19 - FO2 set for AIR

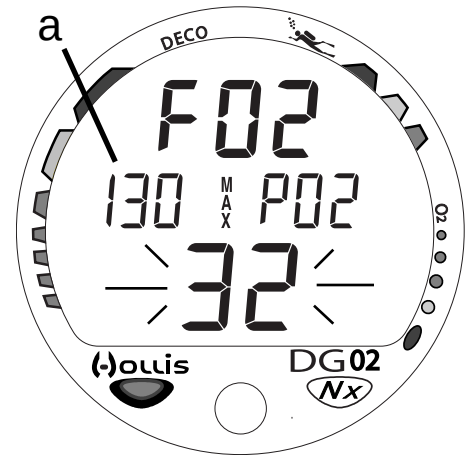


Fig. 20 - FO2 set for 32%
(130 feet allowed)

PC INTERFACE

PC Interface is not a setting, it is included in the Set menu for easy access when data in the DG02's memory is to be downloaded (copied) to the PC download software program for storage and viewing.

To download data -

- After having set and accepted FO2, the PC screen appears (Fig. 21).

--or--

- While the Surface Sequence is scrolling, depress the button for 4 seconds. The FO2 screen will appear, then the PC screen.
- Release the button when the PC screen appears.
- A 2 minute countdown timer will be displayed with the graphic PC and begin counting down from 119 to 0 seconds.
- Download is initiated by the external device requesting data transfer (i.e., the PC Interface program). Download must be initiated before the timer reaches 0.
- The unit reverts to Surface Mode after completion of the Download operation, or after 2 minutes if the button is not pressed to access the Set Units screen.

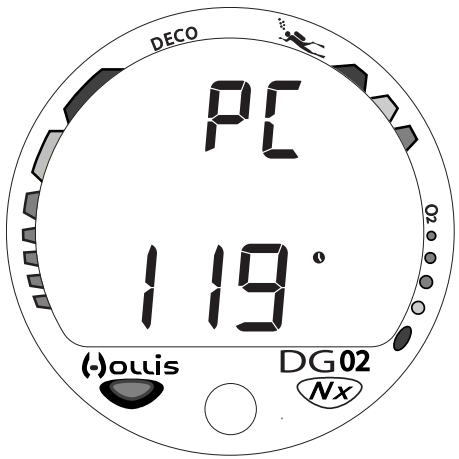


Fig. 21 - PC Interface

TO SET - UNITS OF MEASURE

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

- While the Surface Sequence is scrolling, or after having set FO2, depress the button until the Set Units screen appears with the Set Point flashing (Fig. 22), then release the button.
- Press and release the button (< 2 sec) to toggle between Imperial (FT and F) and Metric (M and C) Units.
- Depress the button for 2 seconds to accept the Set Point and access Set Hour Format.

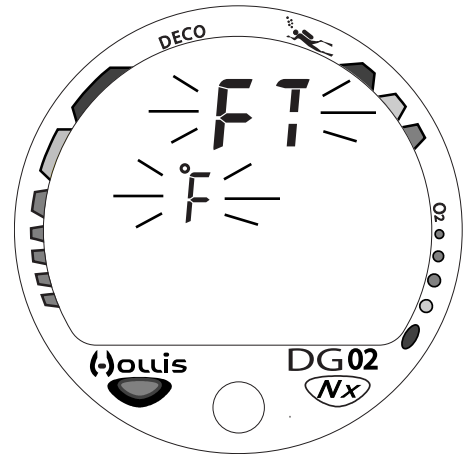


Fig. 22 - Set Units

TO SET - HOUR FORMAT

Factory set for 12 Hour (12: AM to 11: PM), the Hour Format can also be set for 24 Hour (0: to 23: hours).

- While the Surface Sequence is scrolling, depress the button until the Set Hour Format screen appears with the Set Point flashing (Fig. 23), then release the button; or when the screen appears after having set Units.
- Press and release the button (< 2 sec) to toggle between 12 and 24.
- Depress the button for 2 seconds to accept the Set Point and access Set Time.

Fig. 23 - Set Hour Format

TO SET - TIME

Set for factory local time, the Time can be set to values between 0:00 and 12:59 (AM/PM) or 0:00 and 23:59.

- While the Surface Sequence is scrolling, depress the button until the Set Time screen appears with the Hour digits flashing (Fig. 24), then release the button; or when the screen appears after having set Units.
- Press and release the button repeatedly (< 2 sec each time) to step upward through the Hour Set Point in increments of 1 Hour per press/release of the button.
- Depress the button for 2 seconds to accept the Hour Set Point, the Minutes digits flash.
- Press and release the button repeatedly (< 2 sec each time) to step upward through the Minute Set Points in increments of 1 Minute per press/release of the button.
- Depress the button for 2 seconds to accept the Minute Set Point and access Set Date.

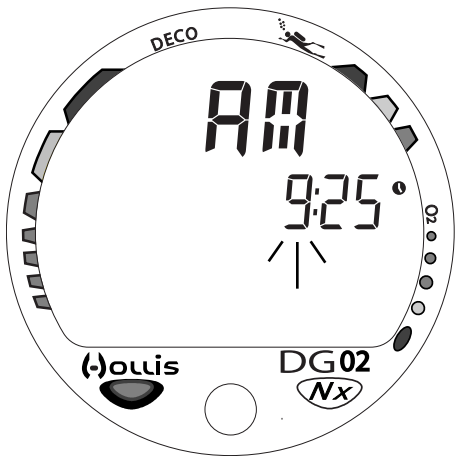


Fig. 24 - Set Time

TO SET - DATE

Factory set for the factory local Date, the Date can be set to values between 01/01/2008 and 12/31/2051.

- After having set and accepted the Time, the Set Date screen appears, or while the Surface Sequence is scrolling, depress the button until it appears with the graphic dAY and Year digits flashing (Fig. 25).
- Press and release the button repeatedly (< 2 sec each time) to step upward through the Year Set Points in increments of 1 Year per press/release of the button.
- Depress the button for 2 seconds to accept the Year Set Point, the Month digits flash.
- Press and release the button repeatedly (< 2 sec each time) to step upward through the Month Set Points in increments of 1 Month per press/release of the button.
- Depress the button for 2 seconds to accept the Month Set Point, the Day digits flash.
- Press and release the button repeatedly (< 2 sec each time) to step upward through the Day Set Points in increments of 1 Day per press/release of the button.
- Depress the button for 2 seconds to accept the Date Set Point and access Set PO2 Alarm.

Fig. 25 - Set Date

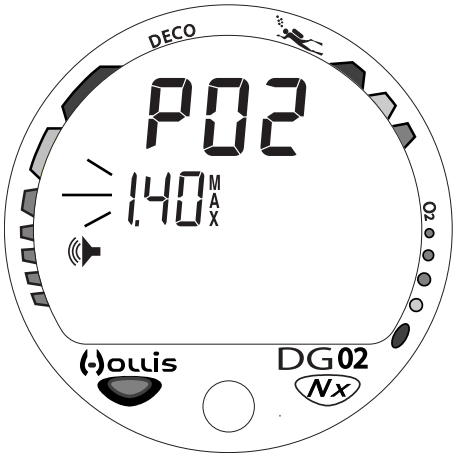


Fig. 26 - Set PO2 Alarm

TO SET - PO2 ALARM

Factory set for 1.60 (ATA), the PO2 Alarm can be set to values between 1.20 and 1.60 (ATA) in increments of .10 (ATA).

- While the Surface Sequence is scrolling, depress the button until the Set PO2 screen appears with the Set Point flashing (Fig. 26), then release the button; or when the screen appears after having set Date.
- Press and release the button repeatedly (< 2 sec each time) to step upward through the Set Points in increments of .10 (ATA) per press/release of the button.
- Depress the button for 2 seconds to accept the Set Point and access Set FO2 Default.

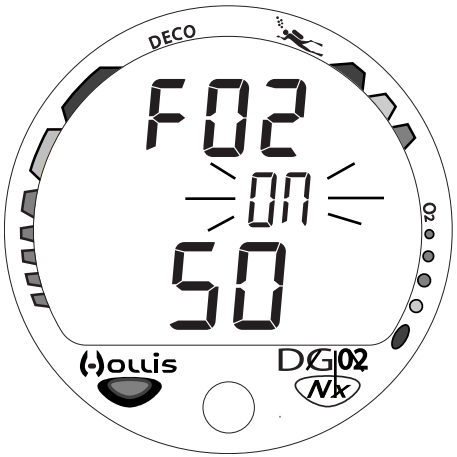


Fig. 27 - Set FO2 Default

TO SET - FO2 50% DEFAULT

Factory set ON, the FO2 50% Default can be set OFF. Refer to page 17 for information relating to this feature.

- While the Surface Sequence is scrolling, depress the button until the Set FO2 50 screen appears with the Set Point flashing (Fig. 27), then release the button; or when the screen appears after having set PO2 Alarm.
- Press and release the button (< 2 sec) to toggle between ON and OFF.
- Depress the button for 2 seconds to accept the Set Point and access Set Digital Gauge Mode.

TO SET - DIGITAL GAUGE MODE

Factory set OFF, Digital Gauge Mode can also be set ON. Refer to page 50 for more information relating to this feature.

- While the Surface Sequence is scrolling, depress the button until the Set Digital Gauge Mode screen appears with the Set Point flashing (Fig. 28), then release the button; or when the screen appears after having set FO2 50% Default.
- Press and release the button (< 2 sec) to toggle between ON and OFF.
- Depress the button for 2 seconds to accept the Set Point and access Set Wet Activation.

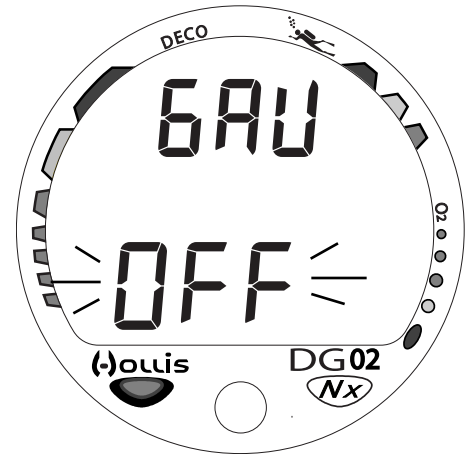


Fig. 28 - Set Digital Gauge

TO SET - WET ACTIVATION

Factory set ON, Wet Activation can also be set for OFF (disabled) to prevent inadvertent activation during travel or storage. When set On, the DG02 will automatically Activate and enter Dive Mode upon immersion in water.

- While the Surface Sequence is scrolling, depress the button until the Set Wet Activation screen appears with the Set Point flashing (Fig. 29), then release the button; or when the screen appears after having set Digital Gauge Mode.
- Press and release the button (< 2 sec) to toggle between ON and OFF.
- Depress the button for 2 seconds to accept the Set Point and access Set Deep Stop.

Fig. 29 - Set Wet Activation

TO SET - DEEP STOP

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.

- While the Surface Sequence is scrolling, depress the button until the Set Deep Stop screen appears with the graphic dS, and Set Point flashing (Fig. 30), then release the button; or when the screen appears after having set Wet Activation.
- Press and release the button (< 2 sec) to toggle between ON and OFF.
- Depress the button for 2 seconds to accept the Set Point and revert to Surface Mode.

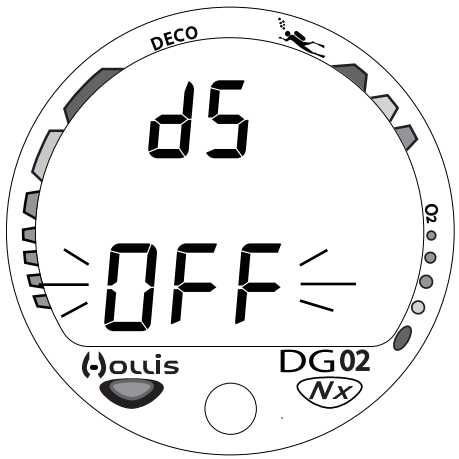


Fig. 30 - Set Deep Stop

PLAN and DIVE MODES

PRE DIVE PLANNING SEQUENCE™

The Pre Dive Planning Sequence (PDPS), which appears after Surface Mode prior to the first dive of a new activation period, provides a sequence of theoretical dive times available for depths ranging from 30 FT (9 M) to 190 FT (57 M) in 10 FT (3 M) increments.

No decompression times (limits), or NDLs, are only displayed for depths where there is at least 3 minutes of theoretical dive time available at the depth, taking into account a descent rate of 60 FPM (18 MPM).

The PDPS should be reviewed prior to every dive to help you plan your dive as required to avoid exceeding no decompression or oxygen exposure limits.

For repetitive dives, the PDPS indicates adjusted dive times that are available for the next dive, based on residual nitrogen or oxygen accumulation (whichever is in control) following the last dive and surface interval. It appears after the SAT screen in the scrolling Surface Sequence (SURF > FLY > SAT > PDPS).

⚠ WARNING: The available dive times provided are only predictions, depending on cylinder size and air consumption rate, you may have less time available than indicated because of those and other factors.

Depth FT (M)		NDL hr:min	
30	(9)	4:20	(4:43)
40	(12)	2:17	(2:24)
50	(15)	1:21	(1:25)
60	(18)	:57	(:59)
70	(21)	:40	(:41)
80	(24)	:30	(:32)
90	(27)	:24	(:25)
100	(30)	:19	(:20)
110	(33)	:16	(:17)
120	(36)	:13	(:14)
130	(39)	:11	(:11)
140	(42)	:09	(:09)
150	(45)	:08	(:08)
160	(48)	:07	(:07)
170	(51)	:07	(:06)
180	(54)	:06	(:06)
190	(57)	:05	(:05)

NDLs at Sea Level for an Air Dive (no dive made yet)

- With each Depth displayed by the PDPS, you will see either predicted NDLs based upon your previous dive profiles (if calculated to be nitrogen controlled), or predicted oxygen tolerance limits (OTLs) based upon either a single dive exposure or your 24 hour accumulation of oxygen (if calculated to be oxygen controlled).
- The Max Depth allowed for a PO2 level of 1.60 (ATA) for the FO2 set will also be displayed.
- Depths greater than the Max Depth that can be achieved with a PO2 of 1.60 ATA will not be displayed.
- If the TLBG is displayed (Fig. 31A), that next dive is calculated to be controlled by nitrogen loading.
- If the O2BG is displayed (Fig. 31B), it is calculated to be controlled by oxygen loading.

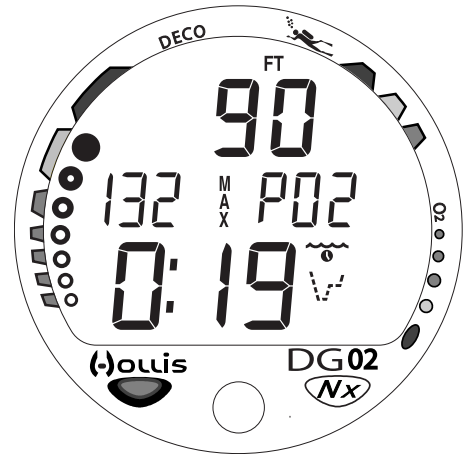


Fig. 31A - Nitrogen Control

NOTE: The DG02 will store O2 calculations for up to 10 dives conducted during a 24 hour period. If the O2 limit (100% = 300 OTU) has been exceeded for that day (24 hour period), all segments of the O2BG will be displayed flashing.

Depth/Time values will not then appear until the O2BG recedes to 4 segments (i.e., your daily O2 dosage decreases an amount equivalent to the amount accumulated during the latest dive completed).

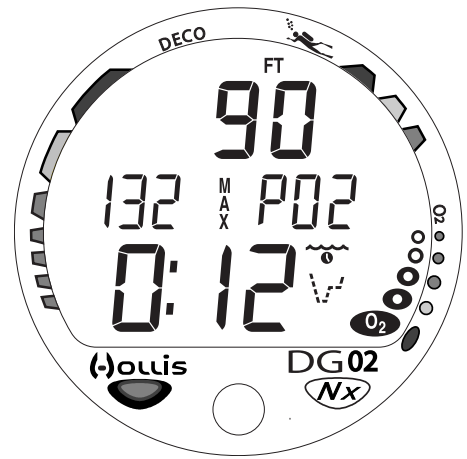


Fig. 31B - Oxygen Control

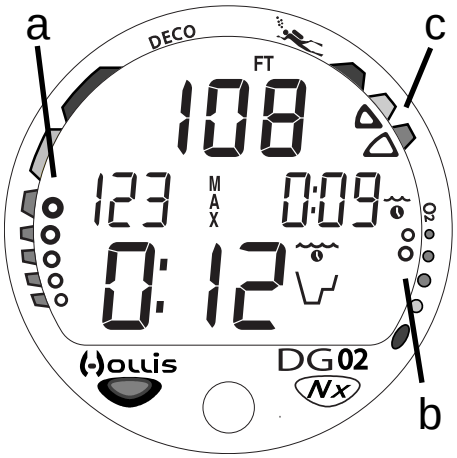


Fig. 32 - Bar Graphs

TISSUE LOADING BAR GRAPH (TLBG) (Fig. 32a)

As your Depth and Elapsed Dive Time increase, the TLBG will add segments to represent the absorption of nitrogen.

While ascending to shallower depths, the number of segments displayed will begin to recede, offering a graphic representation of your multilevel diving capability.

OXYGEN ACCUMULATION BAR GRAPH (O2BG) (Fig. 32b)

If FO2 was set for Nitrox (a numerical value), the O2BG will add segments to represent oxygen accumulation for that dive, or 24 hour period, whichever amount is greater.

VARIABLE ASCENT RATE INDICATOR (VARI) (Fig. 32c)

The VARI shows how fast you are ascending. When you exceed the maximum recommended ascent rate for the depth you are at (refer to page 10), it will enter the Too Fast zone (Fig. 33) and you will be alerted by the TOO FAST icon (Fig. 33a), all segments of the VARI flashing, an Audible alarm, and the red LED Warning Indicator. The warnings will stop when your Ascent Rate is slowed.

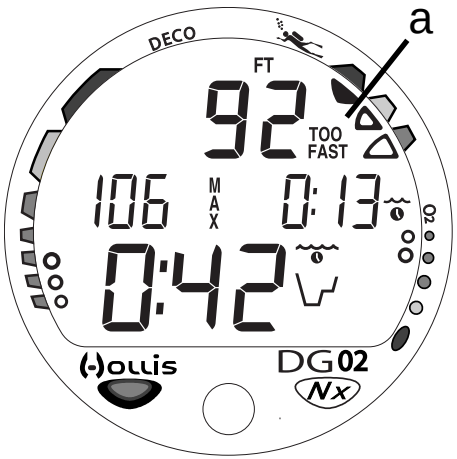


Fig. 33 - Ascent Too Fast

CONTROL OF DISPLAYS

During No Decompression conditions, multiple displays of information are available. There is a Main Display of important information relevant to the specific condition and Alternate Displays which automatically revert to the Main Display.

- To activate the Backlight during dives, depress the button for 2 seconds. The display will be illuminated 10 seconds.
- To access Alternate Displays, press/release the button (< 2 seconds). They will revert to the Main after 5 seconds unless the button is pressed to access other Alternate Displays.

NO DECOMPRESSION DIVE MODE

The DG02 will enter the Dive Mode when you descend to 5 FT (1.5 M) for 5 seconds.

No Deco Main Display (Fig. 34)

Information includes Current Depth with FT (or M) icon (a), Max Depth with MAX icon (b), Elapsed Dive Time with wave/clock icon (c), Dive Time Remaining with wave/clock/profile Mode icon (d), and applicable bar graphs.

- Press and release the button 1 time (< 2 seconds) to access Alternate Display #1.

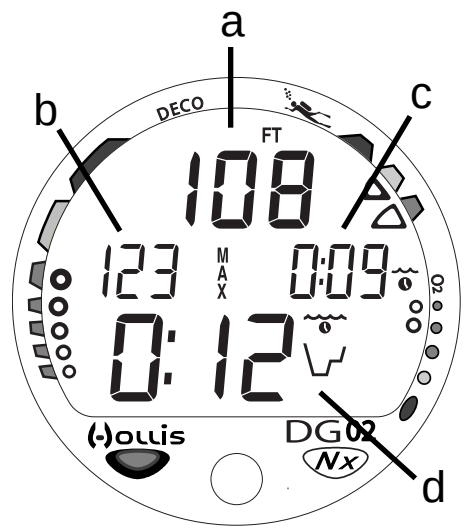


Fig. 34 - No Deco Main

Fig. 35 - No Deco Alt #1

No Deco Alternate Display #1 (Fig. 35)

Information includes Current Depth with icon, Temperature with degrees icon and graphic F (or C), Time of Day with clock icon, Dive Time Remaining with icon, and bar graphs.

- Press and release the button 1 time (< 2 seconds) to access Alternate Display #2.
- Operation will revert to the Main after 5 seconds unless the button is pressed.

No Deco Alternate Display #2 (Fig. 36)

Information includes Current Depth with icon, PO2 value (x.xx ATA) with graphic PO2, Dive Time Remaining with icon, and bar graphs.

- Press and release the button 1 time (< 2 seconds) to access the Deep Stop Preview screen (if available).
- Operation will revert to the Main after 5 seconds unless the button is pressed, or if no Deep Stop Preview screen is available.

Fig. 36 - No Deco Alt #2

During No Deco dives deeper than 80 FT (24 M), a Deep Stop is triggered after which a Preview screen can be accessed while 10 FT (3 M) deeper than the calculated Stop Depth. When the feature is set OFF, the Preview screen will not be available.

No Deco Deep Stop Preview screen (Fig. 37)

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. The screen will not be available for display once you ascend 10 FT (3 M) above the calculated Stop Depth.

Display information includes Current Depth with FT (or M) icon (a), Stop Depth (b), Stop Time (min:sec) with clock icon (c), graphic dSP (d) meaning Deep Stop Preview, and applicable bar graphs.

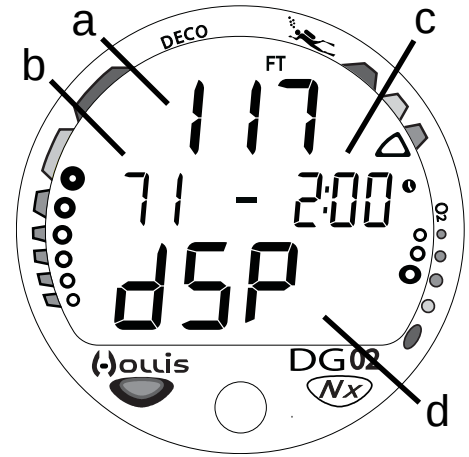


Fig. 37 - Deep Stop Preview

NO DECO DEEP STOP

Upon ascending to within 10 FT (3 M) below the calculated Deep Stop, a Deep Stop Main screen will automatically appear displaying the recommended Stop Depth (1/2 the calculated Max Depth) with a 2 minute Countdown Timer that counts down from 2:00 to 0:00 (min:sec), these replace Max Depth and Elapsed Dive Time on the Main screen (Fig. 38).

Press/release the button (< 2 sec) to access Alternate Display #1 that displays Max Depth and Elapsed Dive Time, press it again to view Alternate Display #2 (similar to No Deco Alt #1, figure 35, page 36); then, press it again to view Alternate Display #3 (similar to No Deco Alt #2, figure 36, page 36). Alternates revert to the Main after 5 seconds unless the button is pressed.

Fig. 38 - Deep Stop Main

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

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

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.

NO DECO SAFETY STOP (Fig. 39)

Upon ascending to 20 FT (6 M) on No Deco dives in which depths exceeded 30 FT (9 M), a Safety Stop Main screen will automatically appear displaying the recommended Stop Depth as 15 FT (or 4.5 M) with a 3 minute Countdown Timer that counts down from 3:00 to 0:00 (min:sec), these replace Max Depth and Elapsed Dive Time on the Main screen.

Fig. 39 - No Deco Safety Stop

Press/release the button (< 2 sec) to access Alternate Display #1 that displays Max Depth and Elapsed Dive Time, press it again to view Alternate Display #2 (similar to No Deco Alt #1, figure 35, page 36); then, press it again to view Alternate Display #3 (similar to No Deco Alt #2, figure 36, page 36). Alternates revert to the Main after 5 seconds unless the button is pressed.

NOTE: Although recommended, the Safety Stop is not required and has no penalty if it is ignored.

DECOMPRESSION

The DG02 is designed to help you by providing a representation of how close you are to entering decompression. Decompression Dive Mode activates when theoretical No Decompression time/depth limits are exceeded.

Upon entering Decompression (Fig. 40), the Mode icon will change from No Deco to Deco, the Audible Alarm will sound and the red LED Warning Indicator will flash for 10 seconds.

- The UP Arrow/Deco Bar icons will flash if you are greater than 10 FT (3 M) deeper than the Required Stop Depth.
- Once you are within 10 FT (3 M) of, and below, the required Stop Depth, both Arrows and the Bar appear solid.

Fig. 40 - Entry into Deco

Total Ascent Time (TAT)

TAT (Fig. 41a) includes Times required at all Deco Stops and vertical Ascent Time calculated at 60 FPM (18 MPM) for depths deeper than 60 FT (18 M), and 30 FPM (9 MPM) for depths of 60 FT (18 M) and shallower.

Managing Decompression Stops

To fulfill your decompression obligation, you should make a safe controlled ascent to a depth slightly deeper (Fig. 41b) than, or equal to, the Required Deco Stop Depth indicated (Fig. 41c) and decompress for the Stop Time indicated (Fig. 41d).

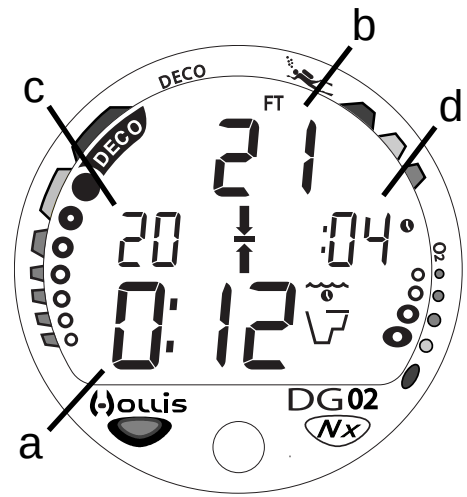


Fig. 41 - Deco Stop Main

Fig. 42 - Deco Stop Main

The amount of decompression Credit Time that you receive is dependent on Depth, with slightly less Credit given the deeper you are. You should stay slightly deeper than the Required Stop Depth indicated until the next shallower Stop Depth appears. Then, you can slowly ascend to that Stop Depth.

- To activate the Backlight while viewing any screen, depress the button for 2 seconds.

Deco Main Display (Fig. 42)

Display information includes Current Depth with FT (or M) icon, Stop Depth, Up and Down Arrows with Deco Bar icons, Stop Time (min:sec) with clock icon, TAT with Deco Mode icon (wave/clock/stop bar/profile), and applicable bar graphs.

- Press and release the button 1 time (< 2 seconds) to access Alternate Display #1.

Fig. 43 - Deco Stop Alt #1

Deco Alternate Display #1 (Fig. 43)

Information includes Current Depth with icon, Max Depth with icon, Elapsed Dive Time with icon, Total Ascent Time with icon, and the applicable bar graphs.

- Press and release the button 1 time (< 2 seconds) to access Alternate Display #2.
- Operation will revert to the Main after 5 seconds unless the button is pressed.

Deco Alternate Display #2 (Fig. 44)

Information includes Current Depth with icon, Temperature with icon and graphic, Time of Day with icon, Total Ascent Time with icon, and the applicable bar graphs.

- Press and release the button 1 time (< 2 seconds) to access Alternate Display #2.
- Operation will revert to the Main after 5 seconds unless the button is pressed.

Fig. 44 - Deco Stop Alt #2

Deco Alternate Display #3 (Fig. 45)

Information includes Current Depth with icon, PO2 (x.xx ATA) with graphic PO2, Total Ascent Time with icon, and the applicable bar graphs.

- Operation will revert to the Main after 5 seconds or if the button is pressed.

VIOLATION MODES

While in Violation Modes, the Alternate Displays previously described for Deco can be accessed and the Backlight can be activated using the button.

- Upon entry into Violation Modes, the Audible Alarm will sound and the red LED will flash for 10 seconds.
- Displays will automatically revert to the Main after 5 seconds unless the button is pressed to view another display of information.

Fig. 45 - Deco Stop Alt #3

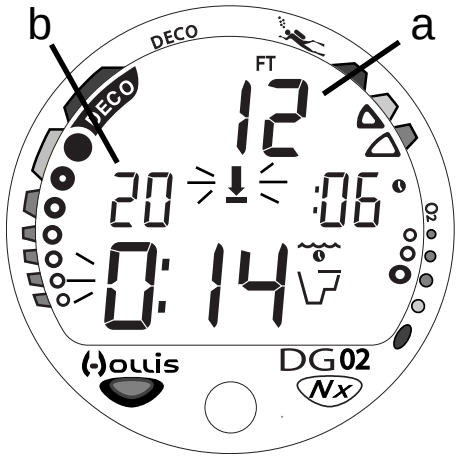


Fig. 46 - CV Main

Conditional Violation (CV)

If you ascend shallower (Fig. 46a) than a Deco Stop Depth displayed (Fig. 46b), the Down Arrow, Deco Bar, and Total Ascent Time will flash until you descend below the Stop Depth. Also displayed will be Current Depth and applicable bar graphs. The Audible Alarm will sound and the red LED will flash as a warning for 10 seconds.

If you descend below the required Stop Depth before 5 minutes have elapsed, operation will continue in Deco Mode. In this case, no off gassing Credit will be given, and for each minute above the ceiling $1^{1}/_{2}$ minutes of Penalty Time will be added to Required Stop Time.

The added Penalty (decompression) Time will have to be worked off first, before obtaining off gassing credit. Once the Penalty Time is worked off, and off gassing Credit begins, required decompression Stop Depths and Time will decrease toward zero, then the TLBG will recede into the No Deco Zone and operation will revert to No Deco Mode.

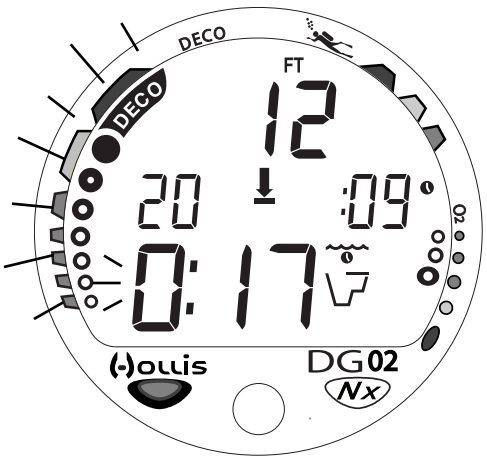


Fig. 47 - DV 1 Main

Delayed Violation #1 (DV 1) (Fig. 47)

If you remain above a displayed Deco Stop Depth for more than 5 minutes, the TLBG and TAT will flash until you descend below the Stop Depth. This is a continuation of Conditional Violation.

Delayed Violation #2 (DV 2) (Fig. 48)

The DG02 cannot calculate decompression times for Stop Depths much greater than 60 FT (18 M) and offers no indication of how much time spent underwater would result in the need for a greater Stop Depth.

If your Decompression obligation requires a Stop Depth between 60 FT (18 M) and 70 FT (21 M), the full TLBG will flash.

You must ascend to just deeper than, and stay as close as possible to 60 FT (18 M) without causing the TAT display to flash. When the Stop Depth indicates 50 FT (15 M), etc., you can ascend to those depths and continue decompressing.

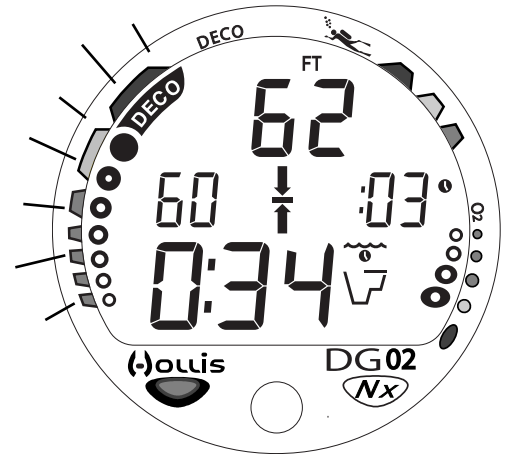


Fig. 48 - DV 2 Main

Delayed Violation #3 (DV 3) (Fig. 49)

If you descend deeper than 330 FT (99.9 M), the loaded segments of the TLBG will flash, and the Current Depth and Max Depth displays will only indicate 3 dashes (- - -).

Upon ascending above 330 FT (99.9 M), the Current Depth display will be restored, however, Max Depth will only display 3 dashes for the remainder of that dive. The Log for that dive will display 3 dashes as the Max Depth achieved.

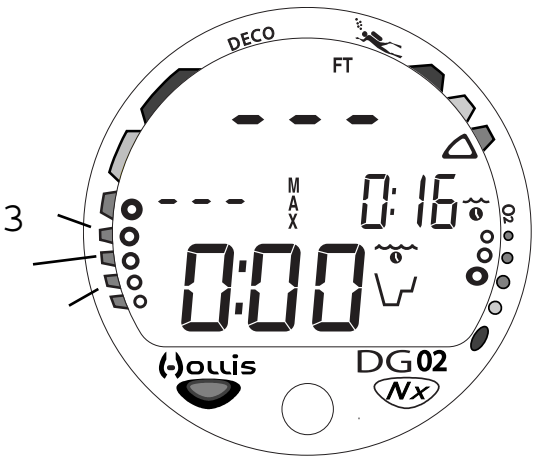


Fig. 49 - DV 3 Main

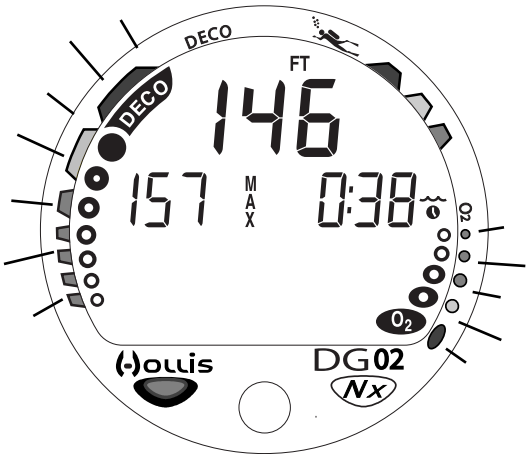


Fig. 50 - VGM (during dive and first 5 min on surface)

Violation Gauge Mode (VGM)

During a Dive, if a Deco Stop depth much greater than 60 FT (18 M) is required, an Immediate Violation Mode will be entered. This situation would be preceded by entering DV #2.

The DG02 would then operate with limited functions in Violation Gauge Mode (VGM) during the remainder of that dive and for 24 hours after surfacing. VGM turns the DG02 into a digital instrument without any decompression or oxygen monitoring functions. Only Current Depth, Max Depth, Elapsed Dive Time, and the VARI will be displayed (Fig. 50). The TLBG and O2BG will both flash as a warning of this condition.

The DG02 will also enter VGM 5 minutes after reaching the surface from a dive in which a Delayed Violation occurred.

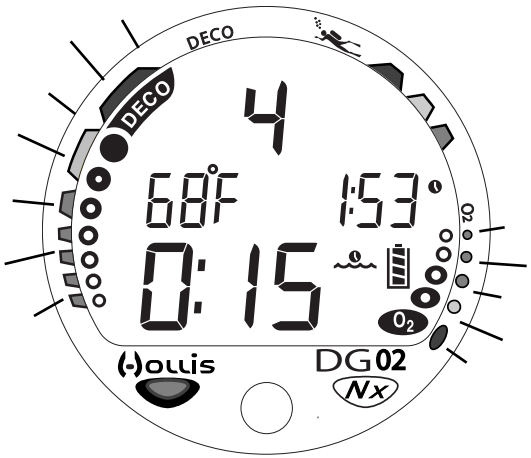


Fig. 51 - VGM (after 5 min on surface)

On the surface, VGM displays the Dive Number, Temperature, Time of Day, Surface Interval, and TLBG and O2BG flashing (Fig. 51). It does not allow the FO2, Plan, Time to Fly, and Desaturate features/screens.

The countdown timer that appears when you try to access Time to Fly does not represent Time to Fly. It is only provided to inform you of the time remaining before normal operation can resume with full features and functions.

HIGH PO2

When partial pressure of oxygen (PO2 or PPO2) becomes equal to, or greater than, 0.20 ATA less than the PO2 Alarm Set Point; the Audible Alarm will sound with the red LED flashing, and the current PO2 value, graphic PO2, O2 segment of the O2BG, and UP Arrow icon will appear on the Main Display as a warning until PO2 decreases. Current Depth and Dive Time Remaining will still be displayed (Fig. 52).

Fig. 52 - PO2 Warning

If PO2 continues to increase, the value displayed will increase toward a maximum value of 5.50 ATA in increments of .01 ATA. When it reaches the PO2 Alarm Set Point, the Audible Alarm will sound and the PO2 value, graphic PO2, O2 segment of the O2BG, and UP Arrow will flash as a warning until PO2 decreases (Fig. 53).

- Press/release the button momentarily (< 2 sec) to view 2 Alternate Displays similar to those previously described.
- They will revert to the Main after 5 seconds.
- Depress the button for 2 seconds to activate the Backlight.

Fig. 53 - PO2 Alarm

HIGH O2

The O2BG represents either O2 accumulated during that Nitrox dive, or during the repetitive Nitrox dives you conduct during that 24 hour period, whichever of the two is greater at that time.

The Caution Zone of the O2BG offers a convenient way to consistently monitor how close you are coming to the limits of oxygen exposure. Use it as a visual reference to place a wider margin of protection between you and the Limits of O2.

If the theoretical amount of O2 accumulated equals, or exceeds, the limit for a single exposure, or the exposure limit for a 24 hour period, O2 Dive Time Remaining becomes zero (0:00) and the O2BG will display all 5 segments flashing (Fig. 5). The Audible Alarm will sound with the red LED flashing, and the UP Arrow icon will flash until O2 decreases below the limit.

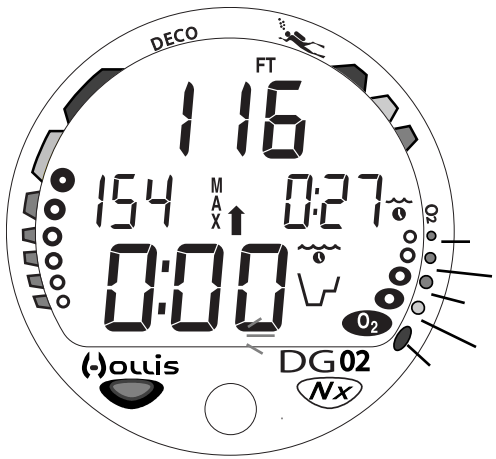


Fig. 54 - High O2

- Press/release the button (< 2 sec) to view 2 Alternate Displays similar to those previously described.
- They will revert to the Main after 5 seconds.
- Depress the button for 2 seconds to activate the Backlight.

DIGITAL GAUGE MODE (DGM)

When DGM is set for ON, the DG02 will operate as a Digital Depth Gauge/Timer without performing any nitrogen and oxygen calculations.

While in this mode, the range of the Current and Max Depth displays is extended to 399 FT (120 M) to accommodate activities involving diving beyond the normal depth limit of the unit. Elapsed Dive Time will also be displayed and the VARI will be displayed during ascents (Fig. 55).

Fig. 55 - DGM Main

- Press/release the button (< 2 sec) to view an Alternate Display showing Temperature and Time (Fig. 56).
- It will revert to the Main Display after 5 seconds.
- Depress the button for 2 seconds to activate the Backlight.

Fig. 56 - DGM Alternate

UNEXPECTED LOSS OF DISPLAYED INFORMATION

If your DG02 stops working for any reason, it is important that you have anticipated this possibility and are prepared for it. **This is an important reason for not pushing the No Deco and O2 Limits, and a critical reason to avoid entering Decompression.**

If you dive in situations where your trip would be ruined or your Safety would be jeopardized by losing the use of your DG02, a backup instrument system is highly recommended.

△ **REMINDER: When the Water Activation feature is set OFF, the DG02 must be manually activated or it will not enter Dive Mode upon descent.**

WARNINGS:

- **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 DG02 are intended for use 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 DG02 provide any implied approval or consent from HOLLIS for individuals to exceed the defined limits of recreational dive profiles, as agreed on by all internationally recognized training agencies.**

POST DIVE MODES

Fig. 57 - Transition Period

POST DIVE SURFACE MODE

When you ascend to 2 FT (0.6 M) for 1 second, the DG02 will enter Surface Mode and begin counting your surface interval.

TRANSITION PERIOD

The first 10 minutes is, in affect, a Transition Period during which time the following information is displayed (Fig. 57):

- Dive No (during that activation period), or graphic H2O if the module is wet
- Temperature with icon and graphic
- Time of Day with icon
- Surface Interval time with colon and icon flashing
- Battery icon
- TLBG and O2BG (if Nitrox)

Fig. 58 - Log Mode
(during Transition Period)

During the Transition Period, the Log for that dive can be viewed. No other modes (e.g., Plan, Fly, Desat, Set, PC) are accessible.

To view the Log (Fig. 58), press/release the button (< 2 sec).

Press/release of the button (< 2 sec) will also activate the Back-light for 10 seconds.

Log Data will not be stored in the unit's memory until the 10 minute Transition Period on the surface is completed.

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

Fig. 59 - Surface Mode (after 10 minutes)

AFTER THE TRANSITION PERIOD (THE FIRST 2 HOURS)

Once 10 minutes have elapsed, the Surface Mode icon and Surface Interval colon stop flashing (Fig. 59) indicating that the Dive and Transition Period are completed. A subsequent descent would then be considered a new dive.

For the remainder of the first 2 hours after surfacing, the Surface Sequence will scroll displaying the Surface Mode, Fly, Sat, and Plan screens, and you will have full access to Log and Set modes.

Press/release the button (< 2 sec) to activate the Backlight.

Time to Fly/Desaturate

The Time to Fly and Desat Timers begin counting down 10 minutes after surfacing from a dive (after the Transition Period).

The FLY countdown (Fig. 60) always begins at 23:50 (hr:min).

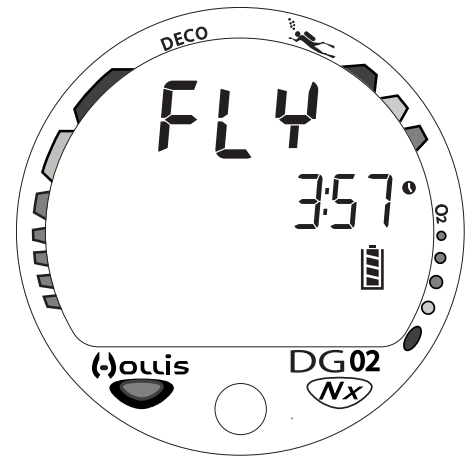


Fig. 60 - Time to Fly

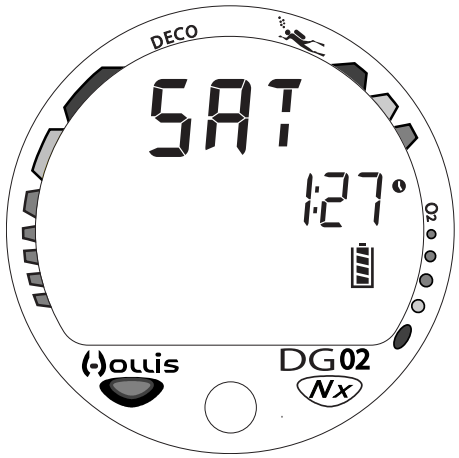


Fig. 61 - Desat Time

The Desat countdown usually begins at some lower time (Fig. 60) with 23:50 being the maximum.

If a Violation occurred during the dive a single dash (-) will appear instead of the letters FLY. The Desat time screen will not be displayed.

The Time to Fly counter is provided to assist you with deciding when enough surface time has elapsed to fly (or travel to higher elevations).

- After a surface interval of 12 hours, you may choose to fly (or travel to higher elevations), provided that your dive profile(s) did not enter decompression.

- If your diving involved decompression or a repetitive, multi day profile, it is strongly recommended that you wait a full 24 hours after your last dive to add a greater degree of protection.

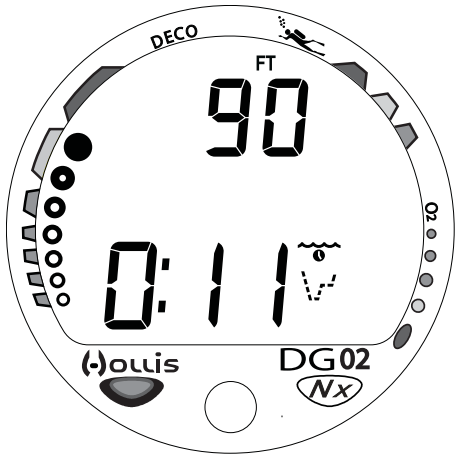


Fig. 62 - Plan Adjusted

Pre Dive Planning Sequence (PDPS)

After a dive, the PDPS provides adjusted NDLs (Fig. 62) based on residual nitrogen calculated to be remaining from that dive and previous dives in the same series.

Log Mode

The DG02 will store up to 24 dives in its Log for viewing.

Each dive has 3 Log screens >> Preview, Data, and O2 (only if a Nitrox dive).

Once the Log is full (24 dives), each subsequent dive will then overwrite the oldest dive stored in the Log. It is therefore suggested that you transfer the Log's data to your log book at the end of each day of diving, or Download it to the PC Interface program file.

Log data will not be lost when the battery is removed/replaced, however, factory service and calibration will delete the data.

The first dive conducted each time the unit is Activated will be #1, therefore there may be multiple #1 dives in the Log (differentiated by date conducted).

Dives are displayed in a reverse sequence that starts with the dive most recently recorded, back to the oldest one stored. The most recent dive will always be the first shown in the sequence.

To access Log Mode -

- Press/release the button (< 2 sec) while the unit is scrolling through the Surface Sequence.
- The Log Preview screen (Fig. 63) of the most recent dive conducted will appear displaying the Log icon, Dive #, Date of the dive (month.day), and Time of Day the dive started.
- Press/release the button again to view the Data screen.

Fig. 63 - Log Preview

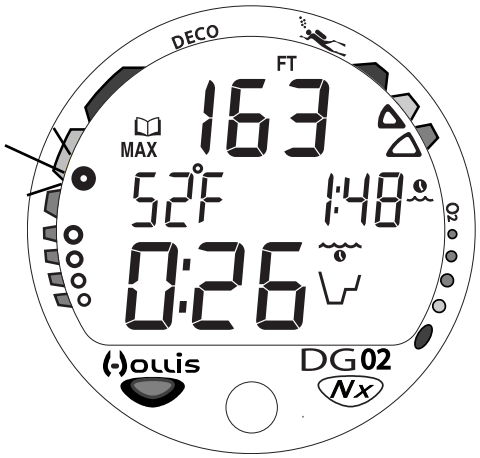


Fig. 64 - Log Dive Data

Dive Data information includes (Fig. 64) -

- Log icon
- Max Depth, reached during the dive, with icons
- Temperature, minimum during the dive, with icon
- Surface Interval (hr:min), prior to that dive, with icon
- Elapsed Dive Time (hr:min) with icon
- VARI, showing the max ascent rate maintained for 4 consecutive seconds during the dive
- TLBG, showing nitrogen loading at the time you surfaced at the end of the dive, and the segment that reflects the maximum loading during the dive flashing.
- Press the Button momentarily to view the third screen.

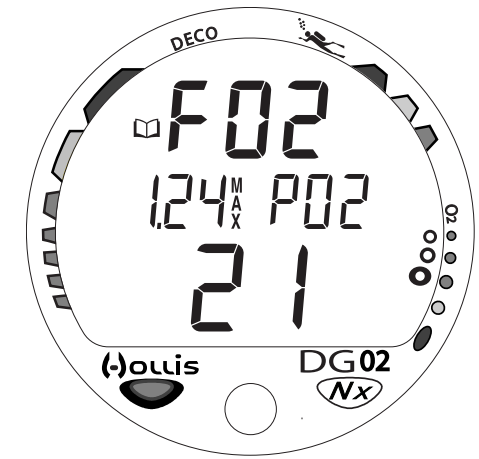


Fig. 65 - Log O2 Data

O2 Data information includes (Fig. 65) -

- Log icon
- Graphic FO2 (at top) and FO2 Set Point (at bottom)
- Max PO2 level, reached during the dive, with MAX icon and graphic PO2
- O2BG, showing O2 accumulated at the time you surfaced at the end of the dive.

> To access the Preview screen of the previous dive's Log, press/release the button (< 2 sec).

> To return to the Surface Sequence at any time while in Log Mode, depress the button for 4 seconds, releasing it when Surface Mode appears.

Operation will automatically revert to the Surface Sequence after 2 minutes if the button is not pressed to view another screen.

AFTER THE FIRST 2 HOURS

Two hours after the last dive, the Surface Sequence will no longer be displayed. The Fly and Desat screens will be displayed alternately for 3 seconds each until they count down to 0:00 or another dive is made. Usually the Desat countdown will reach 0:00 before 24 hours elapse in which case only the Fly screen will be displayed.

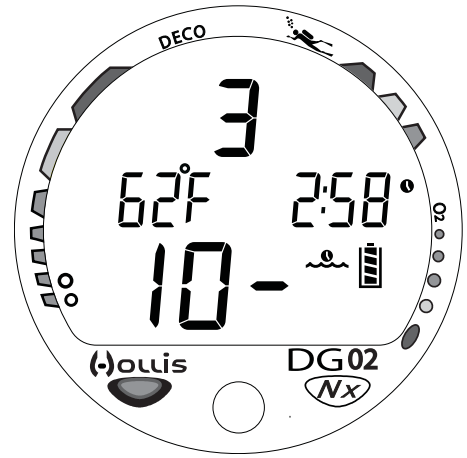


Fig. 66 - Surface Mode
(SI > 10 hr)

To access other modes or enter settings -

- Press/release the button to reactivate the Surface Sequence.
- Operation will again revert to the Fly and Desat screens after 2 hours, if the button is not pressed.
- Surface Interval times greater than 9:59 (hr:min) will be displayed only as Hours 10-, 11-, 12-, etc. (Fig. 66)

WET CONTACTS

If the graphic H2O is displayed on the Surface (Fig. 67), Fly, or Desat screen, it is an indication that the wet activation contacts are still wet and the unit must be rinsed in fresh water and thoroughly dried or it won't turn off when it should.

Fig. 67 - Unit Wet

DOWNLOADING DATA TO A PC

Using special linking hardware, dive data can be downloaded (copied) from your DG02 to an IBM compatible PC program running on a Windows® operating system. Compatibility requirements and instructions are provided with the optional download package that is available from your Authorized HOLLIS Dealer. The software program provides tabular and graphic profile data sampled throughout the dives.

The Interface Cable will be connected to the Data Port located on the side of the DG02 housing and a PC USB port.

Prior to attempting to download data from your DG02, refer to the instructions provided for the download package.

Refer to page 24 of this manual for instructions regarding access to PC Interface (Fig. 68).

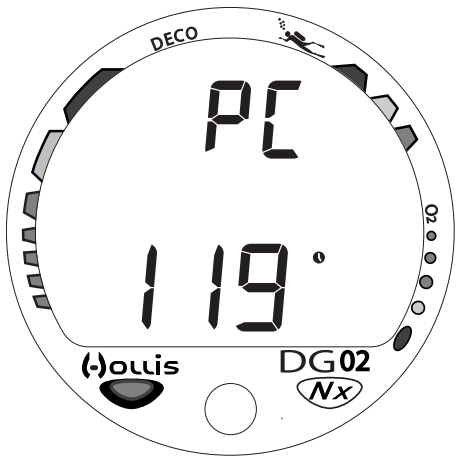


Fig. 68 - PC Interface

NOTE: Ensure that the download product that you acquire is compatible with the DG02 and the PC equipment that you will be using.

WARNING:

- **Never participate in sharing or swapping of a dive computer. Doing so may result in injury or death.**
- **The DG02 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 DG02, due to the personal information it provides.**

CARE AND CLEANING

Protect your DG02 from shock, excessive temperatures, chemical attack, and tampering. Protect the Lens against scratches with an Instrument Lens Protector. Small scratches will naturally disappear underwater.

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

- Soak and rinse the DG02 in fresh water at the end of each day of diving, and check to ensure that the areas around the low pressure (Depth) sensor (Fig. 69a), PC Interface Port (Fig. 69b), and Buttons are free of debris or obstructions.
- To dissolve salt crystals, soak the unit in a bath consisting of 50% white vinegar and 50% fresh lukewarm water.
- After removal from the bath, place the unit under gently running fresh water and towel dry before storing.
- Transport your unit cool, dry, and protected.

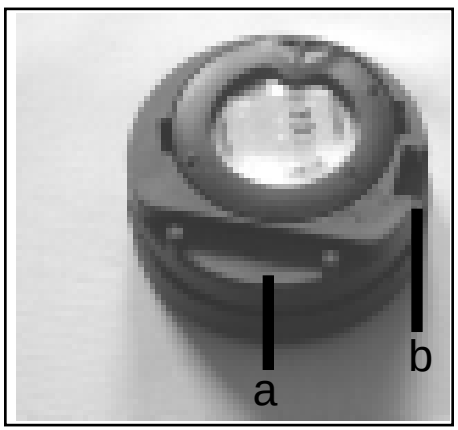


Fig. 69 - Case Back

⚠ WARNING: Never force any object through any slots or holes of the Housing. Doing so may damage the Depth Sensor, possibly resulting in erroneous Depth readings.

WARNING: If a Low Battery Condition is indicated prior to a dive, DO NOT attempt to dive with the DG02 until the Battery is replaced.

INSPECTIONS AND SERVICE

Your DG02 should be inspected annually by an Authorized HOLLIS Service Technician who will perform a factory prescribed function check and inspection for damage or wear.

It is recommended that you continue to have this inspection performed every year to ensure it is working properly.

WARNING: If you are in doubt about the accuracy of your DG02's Depth readings, DO NOT attempt to dive with it until it has been inspected by an Authorized HOLLIS Service Technician.

It is possible to damage the Depth Sensor of the DG02 if it is not pressure tested properly. Ensure that the Service Technician adheres to the following Warning.

WARNING: Ensure that the DG02 is never pressure tested in an air environment. Doing so may damage the Depth Sensor, possibly resulting in erroneous Depth readings.

To Obtain Service

- Take your DG02 to an Authorized HOLLIS Service Technician.

MODULE REMOVAL FROM BOOT

If the Module 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.

If the Module 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.

⚠ CAUTION: The procedure that follows must be closely adhered to. Damage due to improper Battery replacement is not covered by the 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.

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).

△ NOTE: If the old Battery can be removed and the new one inserted within 8 seconds, nitrogen/oxygen calculations and settings will be retained for repetitive dives.

Battery Hatch Removal

- Locate the Battery Compartment on the back of the Module.
- While applying steady inward pressure on the center of the Battery Hatch, rotate the Hatch Retaining Ring 10 degrees clockwise using a flat blade screwdriver (Fig. 70) or a Battery Hatch Tool.
- Lift the Hatch Ring up and away from the Housing, or turn the Module over to allow the Ring to drop out into your hand. Remove the Battery Hatch.

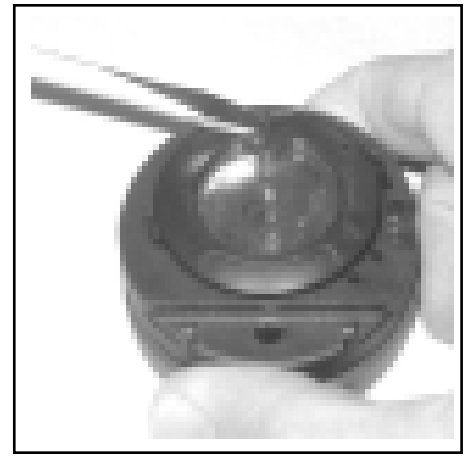


Fig. 70 - Ring Removal

Battery Removal

- Remove the Retaining Bar located across the lower portion of the Battery (Fig. 71a).
- Remove the Hatch O-ring. DO NOT use tools
- Using care not to damage the Battery Contacts (Fig. 71b/c), slide the Battery up and out of the Battery Compartment.

Inspection

- Closely check all of the sealing surfaces for any signs of damage that might impair proper sealing.
- Inspect the Button, 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'.

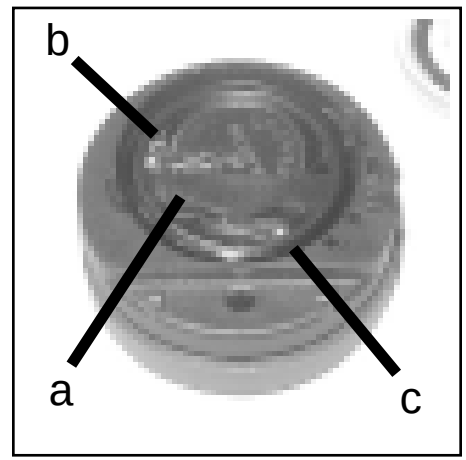


Fig. 71 - Hatch Removed

Fig. 72 -Inserting Battery

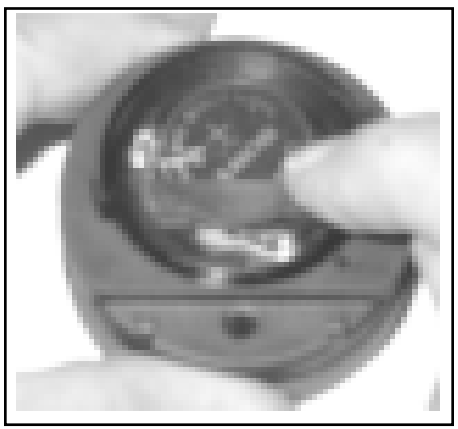


Fig. 73 - Inserting Retaining Bar

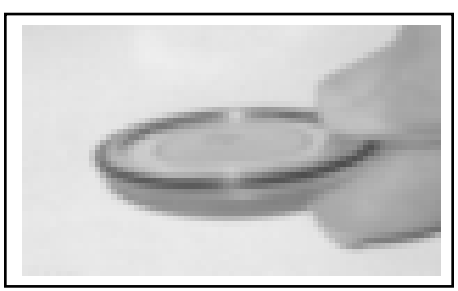


Fig. 74 - O-ring Orientation

⚠ WARNING: If damage or corrosion is found, return your DG02 to an Authorized HOLLIS 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. 72).
- Orient the Retaining Bar across the lower portion of the Battery and carefully push it down into position (Fig. 73).

Battery Hatch and Hatch Retaining Ring Installation

- Replace the Hatch O-ring with a new one which must be a genuine HOLLIS part that can be purchased from an Authorized HOLLIS 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 (Fig. 74). Ensure that it is evenly seated.
- Slide the Hatch Retaining Ring, top portion first (small opening), onto your thumb.
- 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. 75), then tighten it 5 more degrees by turning it counter clockwise using the Battery Hatch Tool (Fig. 76).
- While tightening 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. 76a)

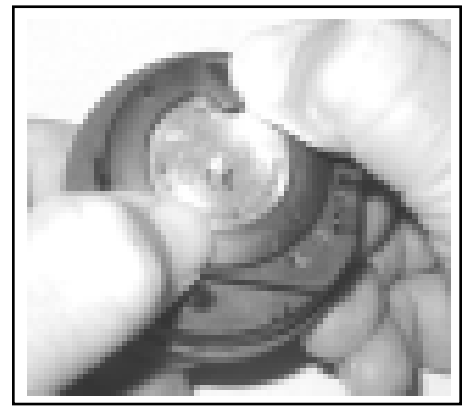


Fig. 75 -Engaging the Retaining Ring Tabs

Inspection

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

WARNING: If there are any portions of the display missing or appearing dim, or if a Low Battery condition is indicated, return your DG02 to an Authorized HOLLIS Dealer for a complete evaluation before attempting to use it.

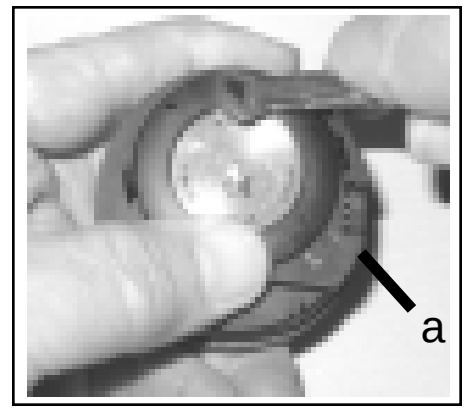


Fig. 76 -Tightening the Retaining Ring

RETURNING THE MODULE TO BOOT

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

WARNINGS:

- **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.**
- **If any portions of the display are missing or appear dim, or a Low Battery Condition is indicated after Battery replacement, return your DG02 to an Authorized HOLLIS Dealer for a complete evaluation before attempting to use it.**

RESET FEATURE

The DG02 is configured with a RESET feature that allows data to be cleared, including Nitrogen/O2 calculations and Log Mode entries.

WARNING: Reset after a dive and subsequent use for a repetitive dive conducted by the same diver could result in serious injury to or death.

RESET PROCEDURE

- While the Surface Sequence is scrolling, press/release the button (< 2 sec) to access the Log Mode displaying the Preview screen of the most recent dive.
- Press/release the button again (< 2 sec) to access the Log Data screen of the most recent dive.
- Depress and hold the button for more than 4 seconds while the Log Data screen is being displayed to access the Clear (Reset) screen. The graphics **CLR** and **iD** will be displayed with the Key Code xxxx, the first 2 digits flashing (Fig. 77).
- If necessary to change the first 2 digits, press and release the button repeatedly to advance to the correct number.
- Press the button for more than 2 seconds to save the first 2 digit number and advance to the second 2 digits, flashing.
- If necessary to change the second 2 digits, press and release the button repeatedly to advance to the correct number.
- Once the proper Key Code has been entered (1122), pressing the button for more than 2 seconds will shut down the unit (i.e., resetting it). If an incorrect Key Code number has been entered, the unit will revert to the Surface Sequence, resuming previous operation(s).

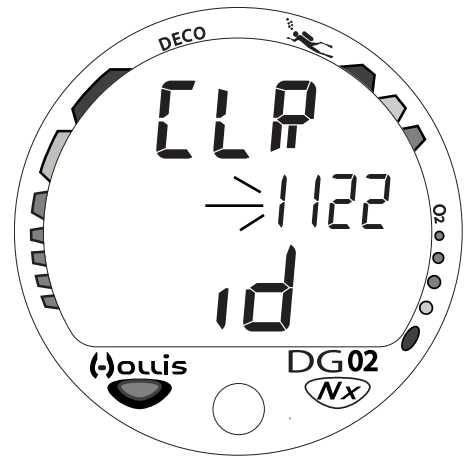


Fig. 77 - Reset (Clear)

ALTITUDE COMPENSATION

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 DG02 automatically compensates for decreased ambient pressures for Altitudes between 3,001 and 14,000 feet (916 and 4,270 meters). It's program contains reduces No Deco and O2 limits to add a larger zone of caution.

The DG02 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 limits at additional intervals of 1,000 feet (305 meters). Therefore, when returning to lower Altitudes, diving should not be conducted until the unit automatically clears of any residual nitrogen and oxygen loading and resets to operate at the new lower Altitude.

WARNING:

- **The DG02 will not sense ambient pressures or provide Altitude compensation when it is wet. <u>DO NOT dive at any different Altitude until the unit shuts off and is reactivated</u> 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.**

SPECIFICATIONS

CAN BE USED AS
- Air Computer
- Nitrox Computer
- Digital Depth Gauge/Timer

DIVE COMPUTER PERFORMANCE
- Buhlmann ZHL-16c based Pelagic Z+ algorithm
- No Deco limits closely follow PADI RDP
- Decompression in agreement with Buhlmann ZHL-16c and French MN90
- No Deco Deep Stops - Morroni, Bennett
- Deco Stops (not recommended) - Blatteau, Gerth, Gutvik
- Altitude - Buhlmann, IANTD, RDP (Cross)
- Altitude corrections and O2 limits based on NOAA tables

SURFACE MODES
- Activation/Diagnostic
- Serial Number
- Surface
- Time to Fly
- Time to Desat
- Plan
- Log
- Reset (clear)

SET MENU
- Set FO2 (Air, 21 to 50%)
- PC (to download data)
- Set Units (Imperial/Metric)
- Set Hour Format (12/24)
- Set Time of Day
- Set Date
- Set PO2 Alarm (1.20 to 1.60 ATA)
- Set FO2 50% Default (On/Off)
- Set Digital Gauge Mode (On/Off)
- Set Wet Activation (On/Off)
- Set Deep Stop (On/Off)

DIVE MODES
- No Deco Dive
  - Deep Stop
  - Safety Stop
- Deco
- Violation (Conditional, Delayed, & Gauge)
- High PO2
- High O2

SPECIFICATIONS (CONTINUED)

DISPLAY RANGE/RESOLUTION

Numeric Displays:	Range:	Resolution:
• Dive Number	0 - 24	1
• Depth	0 - 399 FT (0 - 120 M)	1 FT (.1 M / 1 M > 99.9 M)
• Maximum Depth	399 FT (120 M)	1 FT (.1 M / 1 M > 99.9 M)
• FO2 Set Point	Air, 21 - 50 %	1 %
• PO2 Value	0.00 - 5.50 ATA	.01 ATA
• Dive Time Remaining	0:00 - 9:59 hr:min	1 minute
• Total Ascent Time	0:00 - 9:59 hr:min	1 minute
• Deco Stop Time	0:00 - 9:59 hr:min	1 minute
• Deep Stop Time	0:00 - 2:00 min:sec	1 second
• Safety Stop Time	0:00 - 3:00 min:sec	1 second
• Elapsed Dive Time	0:00 - 9:59 hr:min	1 minute
• Surface Time	0:00 - 9:59 hr:min	1 minute
	(> 9:59 hr:min SI will be displayed as Hours only 10-, 11-, 12-, etc.)	
• Log Surface Interval	0:00 - 25:59 hr:min	1 minute
• Time to Fly	23:50 - 0:00 hr:min*	1 minute
	(* starting 10 min after the dive)	
• Time to Desat	23:50 (maximum) - 0:00 hr:min*	1 minute
	(* starting 10 min. after the dive)	
• Temperature	0 to 99°F (-9 to 60°C)	1°

Special Displays:	Occurrence
• Diagnostic Display	After Manual Activation
• Serial Number Display	After Diagnostics (if the Button is held depressed)
• Out of Range (- - -)	>330 feet (>99.9 meters)
• Gauge Mode Countdown Timer	23:50 to 0:00 hr:min (after violation)
• Clear (Reset)	Upon access (use caution before clearing)

SPECIFICATIONS (CONTINUED)

BAR GRAPHS

TLBG:	segments	**O2BG:**	segments
• No Decompression	1 - 5	• Normal	1 - 3
• No Deco Caution	6/7	• Caution	4
• Deco Warning	8 (all)	• Danger	5 (all)

VARI:	<= 60 FT (18 M)			> 60 FT (18 M)		
	segments	FPM	MPM	segments	FPM	MPM
	0	0 - 10	0 - 3	0	0 - 20	0 - 6
• Normal rate	1	11 - 25	3.5 - 7.5	1	21 - 50	6.5 - 15
• Caution rate	2	26 - 30	8 - 9	2	51 - 60	15.5 - 18
• Too Fast rate	3	> 30	> 9	3	> 60	> 18

OPERATIONAL PERFORMANCE

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

Dive Counter:
- Displays Dives #1 to 24, 0 if no dive made yet.
- Resets to Dive #1, upon reactivation after having shut off.

Dive Log Mode:
- Stores 24 most recent dives in memory for viewing
- After 24 dives, adds 25th dive in memory and deletes the first dive

Altitude:
- Operational from sea level to 14,000 feet (4,270 meters) elevation
- Samples Ambient Pressure every 30 minutes when not activated, when manually activated, and every 30 minutes while activated. Does not sample Ambient Pressure while it is wet.

SPECIFICATIONS (CONTINUED)

OPERATIONAL PERFORMANCE (continued)

Power:

• Battery	1 - 3 vdc, type CR2450 Lithium battery
• Shelf life	Up to 5 years
• Replacement	User replaceable (annual recommended)
• Life expectancy	100 dive hours (if 1 - 1 hour dive per dive day) to over 300 dive hours (if 3 - 1 hour dives per dive day)

Battery icon:	segments displayed	estimated power remaining
	all	26 to 100% (good)
	1	25% or less (replace)

Activation:

- Manual - push button
- Automatic - by immersion in water (if set ON)
- H2O graphic indicates Wet Contacts are bridged (unit must be dried prior to transport or storage)
- 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 wet).
- Does not feature a manual shut off.

Setting FO2:

- Automatically set for 'Air' upon activation
- Remains set for Air unless an FO2 numerical value is set
- 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 ON. If the FO2 Default is OFF, the value will remain at the value set for that activation period.

SPECIFICATIONS (CONTINUED)

Operating Temperature:

- The DG02 will operate in almost any temperature diving environment in the world, between 32 °F and 140 °F (0 and 60 °C). At extremely low temperatures, the LCD may become sluggish, but this will not affect it's accuracy. If stored or transported in extremely low temperature areas (below freezing), you should warm the module and its battery with body heat before diving.

ACCESSORIES (optional items available from your Authorized HOLLIS Dealer):

- Lens Guard - covers lens face, prevents scratches
- PC Interface package
- Battery Kit - includes 1 battery, 1 battery hatch o-ring, silicone grease

WARNINGS:

- **The DG02 is intended for use by 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 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 DG02 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 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.**

WARNINGS:

- **Making decompression dives without the proper preparation and training will place you in an unnecessarily dangerous situation.**
- **Existing data for making planned decompression dives is extremely limited, and virtually non-existent for repetitive decompression diving.**
- **Decompression diving greatly increases your risk of decompression sickness.**
- **Special training, equipment, and support are necessary for diving deeper than the maximum recommended sport diving depth limit(s).**
- **Read and understand this owner's manual completely before diving with the DG02.**
- **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 HOLLIS Dealer before you dive with this product.**

PELAGIC Z+ ALGORITHM >> 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	3:17	2:30	2:21	2:14	2:08	2:02	1:57	1:52	1:47	1:39	1:34	1:29
40	1:49	1:21	1:15	1:11	1:08	1:05	1:02	1:00	0:57	0:55	0:53	0:51
50	1:05	0:53	0:51	0:49	0:47	0:44	0:42	0:39	0:37	0:35	0:34	0:33
60	0:48	0:37	0:35	0:33	0:32	0:30	0:28	0:26	0:24	0:23	0:22	0:21
70	0:35	0:26	0:24	0:23	0:21	0:20	0:19	0:18	0:17	0:16	0:16	0:14
80	0:26	0:19	0:18	0:17	0:16	0:15	0:14	0:13	0:12	0:11	0:11	0:10
90	0:19	0:15	0:14	0:13	0:12	0:11	0:10	0:10	0:09	0:09	0:08	0:08
100	0:16	0:11	0:10	0:10	0:09	0:09	0:08	0:08	0:07	0:07	0:07	0:07
110	0:12	0:09	0:08	0:08	0:08	0:07	0:07	0:07	0:06	0:06	0:06	0:05
120	0:10	0:08	0:07	0:07	0:07	0:06	0:06	0:06	0:05	0:05	0:05	0:05
130	0:08	0:07	0:06	0:06	0:06	0:05	0:05	0:05	0:05	0:05	0:04	0:04
140	0:07	0:06	0:05	0:05	0:05	0:05	0:05	0:04	0:04	0:04	0:04	0:04
150	0:06	0:05	0:05	0:05	0:05	0:04	0:04	0:04	0:04	0:04	0:04	0:03
160	0:06	0:05	0:05	0:04	0:04	0:04	0:04	0:04	0:04	0:03	0:03	0:03
170	0:05	0:04	0:04	0:04	0:04	0:04	0:03	0:03	0:03	0:03	0:03	0:03
180	0:05	0:04	0:04	0:04	0:03	0:03	0:03	0:03	0:03	0:03	0:03	0:03
190	0:04	0:04	0:04	0:03	0:03	0:03	0:03	0:03	0:03	0:03	0:03	0:00

PELAGIC Z+ ALGORITHM >> 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	3:37	2:41	2:31	2:23	2:16	2:10	2:04	1:59	1:54	1:50	1:43	1:37
12	1:55	1:27	1:21	1:15	1:12	1:08	1:05	1:03	1:00	0:58	0:55	0:54
15	1:08	0:55	0:53	0:51	0:49	0:47	0:44	0:42	0:39	0:37	0:36	0:34
18	0:50	0:39	0:37	0:35	0:33	0:32	0:30	0:28	0:26	0:24	0:23	0:22
21	0:36	0:28	0:26	0:24	0:23	0:21	0:20	0:19	0:18	0:17	0:16	0:16
24	0:27	0:20	0:19	0:18	0:17	0:16	0:15	0:14	0:13	0:12	0:11	0:11
27	0:20	0:16	0:15	0:13	0:12	0:11	0:11	0:10	0:09	0:09	0:09	0:08
30	0:16	0:12	0:11	0:10	0:09	0:09	0:09	0:08	0:08	0:07	0:07	0:07
33	0:13	0:09	0:09	0:08	0:08	0:07	0:07	0:07	0:07	0:06	0:06	0:06
36	0:10	0:08	0:07	0:07	0:07	0:06	0:06	0:06	0:05	0:05	0:05	0:05
39	0:09	0:07	0:06	0:06	0:06	0:06	0:05	0:05	0:05	0:05	0:05	0:04
42	0:08	0:06	0:06	0:05	0:05	0:05	0:05	0:05	0:04	0:04	0:04	0:04
45	0:06	0:05	0:05	0:05	0:05	0:04	0:04	0:04	0:04	0:04	0:04	0:04
48	0:06	0:05	0:05	0:04	0:04	0:04	0:04	0:04	0:04	0:03	0:03	0:03
51	0:05	0:04	0:04	0:04	0:04	0:04	0:04	0:03	0:03	0:03	0:03	0:03
54	0:05	0:04	0:04	0:04	0:04	0:03	0:03	0:03	0:03	0:03	0:03	0:03
57	0:05	0:04	0:04	0:03	0:03	0:03	0:03	0:03	0:03	0:03	0:03	0:03

SERVICE RECORD

Serial Number _____

Date of purchase _____

Purchased from _____

Below to be filled in by an Authorized HOLLIS Dealer:

Date	Service Performed	Dealer / Technician

DG02 was developed by -

Pelagic Pressure Systems/2002 Design

2002 Davis Street
San Leandro, CA 94577
USA

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