



*DataMax Pro*<sup>TM</sup>

*owner's guide*

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DataMax Pro Owner's Guide, Doc. No. 12-1871

## **TRADEMARK NOTICE**

Oceanic, the Oceanic logo, Diving Essentials Redefined, DataMax, Graphic Diver Interface, Tissue Loading Bar Graph, Pre Dive Planning Sequence, and Variable Ascent Rate Indicator are all registered and unregistered trademarks of Oceanic. All rights are reserved.

## **PATENT NOTICE**

U.S. Patents have been issued, or applied for, to protect the following design features: Graphic Diver Interface, Pre Dive Planning Sequence, Air Time Remaining, Data Sensing and Processing Device (U.S. Patent no. 4,882,678), Tissue Loading Bar Graph (U.S. Patent no. 4,882,687), and Variable Ascent Rate Indicator Bar Graph (U.S. Patent no. 5,156,055).

## **LIMITED TWO-YEAR WARRANTY**

For details, refer to the Product Warranty Registration Card provided by your Authorized Oceanic Dealer.

R5

## **DECOMPRESSION MODEL**

The programs within the DataMax Pro simulate the absorption of nitrogen into the body by using a mathematical model. This model is a way to apply a limited set of data to a large range of experiences. The DataMax Pro dive computer model is based upon the latest research and experiments in decompression theory. Still, using the DataMax Pro, 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, it even varies from day to day. No machine can predict how your body will react to a particular dive profile.

The DataMax Pro is intended for use by divers who have successfully completed a nationally recognized course in scuba diving. It must not be used by untrained persons who may not have knowledge of the potential risks and hazards of scuba diving. You must obtain proper training before using the DataMax Pro if you have not already done so. You also must read this owner's guide completely before diving with the DataMax Pro.

Good diving practices dictate that you plan all of your dives utilizing appropriate dive tables together with this computer which is designed to aid you in both planning and execution of your dives.

*\* The blank Oceanic DiveLog in the reference section may be duplicated for personal use only, not for resale.*

**Read and understand the contents of this manual completely before using the DataMax Pro.**



**WARNING: As with all underwater life support equipment, improper use or misuse of this product can cause serious injury or death. Read and understand this owner's guide completely before diving. Conduct your dives in such a manner so as to insure that you continuously check the computer's proper function.**



**WARNING: This computer is not intended for COMMERCIAL use. It is intended solely for recreational use.**

**This computer should NOT be utilized for any competitive square wave diving, as it is intended solely for recreational use in a multi-level diving environment.**

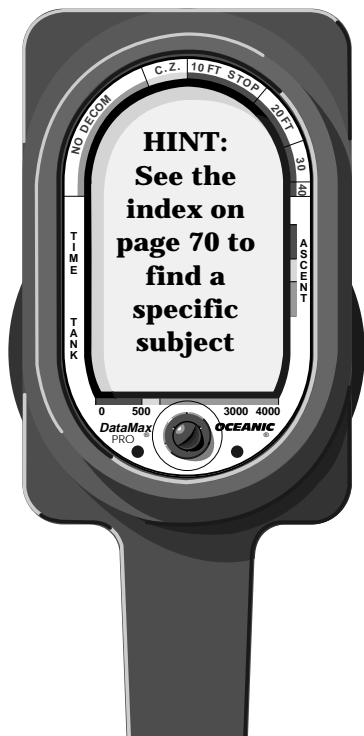
**If you don't understand the contents of this manual and need assistance in learning how to use this computer, you should seek training from your Authorized Oceanic Dealer.**



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



Pay special attention to items marked with this symbol



## CONTENTS

<b>I. THE DATAMAX PRO IS EASY TO USE .....</b>	<b>1</b>
Introduction .....	2
<b>II. DETAILED OPERATION GUIDE .....</b>	<b>9</b>
Operational Modes .....	10
Informational Displays .....	18
<b>III. HANDLING THE EXTREMES .....</b>	<b>29</b>
Maximum depth .....	30
Emergency decompression .....	31
Violation modes .....	32
Conditional violation .....	32
Permanent violations .....	34
Gauge mode .....	37
Caution Zone .....	38
What if your computer quits? .....	38
Operating temperature .....	39
Night diving/sharing .....	40
<b>IV. CARE &amp; MAINTENANCE .....</b>	<b>43</b>
Before the dive .....	44
During/after the dive .....	45
Annual inspections .....	46
Obtaining factory service .....	47
Low battery display .....	48
Battery replacement procedure .....	49
Flooded battery compartment .....	51
Regulator installation .....	52
<b>V. REFERENCE .....</b>	<b>53</b>
Multiple tissue tracking .....	54
No-decompression limits .....	56
Maximum No-D dive profile .....	57
Specifications .....	60
Quiz .....	62
Oceanic DiveLog .....	64
Glossary .....	66
Index .....	70
Annual Inspection Record .....	73-74

*THE  
DATAMAX PRO  
IS  
EASY TO USE*

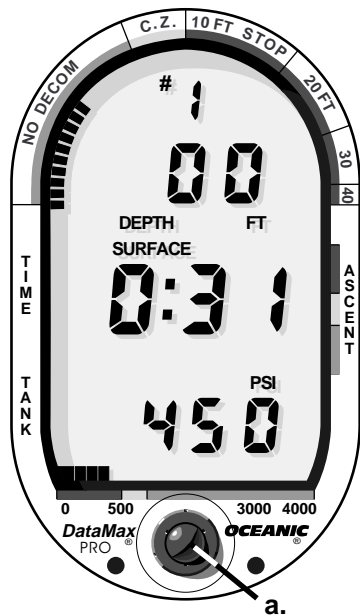


Fig. 1 – Surface Mode

## INTRODUCTION

The DataMax Pro was designed to be extremely easy to use and understand. This owner's guide is divided into five sections designed to make it easy to learn how to use the "Pro." The first two sections will show you how the Pro performs in most typical diving situations. Section three shows how it will perform under extreme conditions like deep or decompression diving. Sections four and five present care & maintenance procedures and reference material. Start here to begin learning about the DataMax Pro.

## REGULATOR ATTACHMENT

Because the DataMax Pro is an "Air-Integrated" diving computer, it must be attached to your regulator before you attempt to operate or use it. It is best that this installation be performed by an Authorized Oceanic Dealer at the time of purchase. If this is not possible, refer to the instructions for this procedure on page 52.

## ACTIVATING THE DISPLAY

After installing the Pro onto your regulator, connect to a full scuba cylinder. Turn on the tank valve to pressurize the system and activate the computer by pressing the button under its display (Fig. 1a). Once the Pro goes through a diagnostic check, it will enter "Surface Mode."



**WARNING - Be sure to inspect your DataMax Pro prior to every dive, checking for any signs of the entrance of moisture, damage to the button membrane, or damage to the LCD display, and its general operation. If these or other signs of damage are found, return the unit to an Authorized Oceanic Dealer or Oceanic Parts & Service. DO NOT attempt to use until it has received factory service.**

## PLANNING YOUR DIVE

Surface mode shows how many dives you have made, your depth, your surface interval, computed residual nitrogen, and tank pressure. Once a minute, it alternates with another display called the “Pre Dive Planning Sequence” (Fig. 2). When planning your next dive, the Pre Dive Planning Sequence provides adjusted no-decompression limits based upon previous dives made. The PDPS shows depths from 30 to 160 feet in ten foot intervals and the available no-decompression time for each. This makes dive planning extremely simple because you know exactly how much time you can spend at each depth.

## MAKING A DIVE

Once you descend below five feet, the DataMax Pro changes to “No-decompression Dive Mode” (Fig 3). This mode displays dive number, tank pressure, nitrogen loading, ascent rate and dive time remaining. Dive time remaining is really two displays in one. It shows the lesser of air time or no-

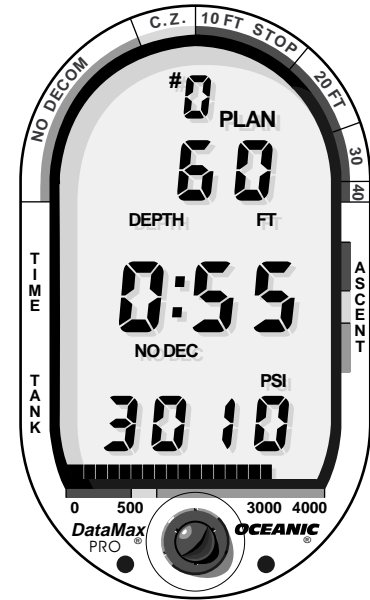


Fig. 2 – Pre Dive Planning Sequence

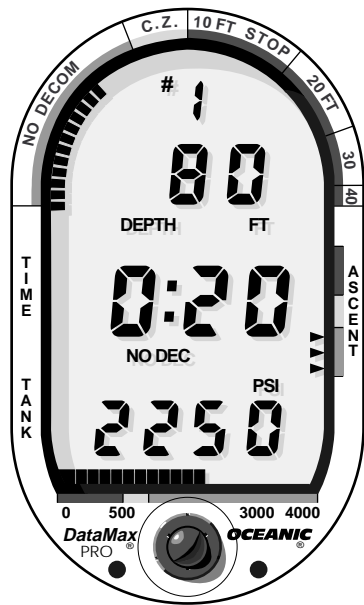


Fig. 3 – No-Decompression Dive Mode

decompression time remaining. This display is based upon a comparison of your personal breathing rate and no-decompression status as monitored at all times throughout the dive.

An “Alternate Dive Mode” replaces the No-decompression Dive Mode every 15 seconds to display bottom time and maximum depth. This information is displayed for two seconds before switching back to the NO DEC value.

### USING THE “GRAPHIC DIVER INTERFACE”

To make it easy to check your dive status on the DataMax Pro, a color-coded system of graphic displays is used. This “Graphic Diver Interface” is made up of three bar graphs that have green, yellow and red markers to indicate normal, caution, and danger zones respectively. The three graphs display tank pressure, ascent rate, and nitrogen loading.

When underwater, you can make quick status checks by glancing at the three bar graphs and making sure that all are “in the green.” With one quick glance you can make sure you’re not getting too close to the no-decompression limit, ascending too fast, or getting low on air.

### AUDIBLE ALARM

Just in case you aren’t looking at the display when you need to be, an “Audible Alarm” will alert you when you are approaching or entering a dangerous situation. The Audible Alarm is accompanied by a part of the display that flashes, showing you what the alarm is all about.



## ASCENDING TO THE SURFACE

A graphic representation of nitrogen absorption can be seen in the “Tissue Loading Bar Graph” (Fig 4a). This green, yellow, red bar graph shows how close you are to the no-decompression limit. It “fills-up” with segments as your depth and bottom time increase. Upon ascent to shallower depths, the Tissue Loading Bar Graph will begin to recede, giving a visual representation of nitrogen off-gassing. The TLBG also provides a way to easily manage decompression by indicating three “ceiling” depths. This is discussed fully in the “Handling the Extremes” section beginning page 30.

When rising towards the surface, the “Variable Ascent Rate Indicator” (Fig. 4b) shows how fast you are ascending. The VARI will alert you with a flashing display and audible alarm if you enter the red zone, indicating that you have exceeded the prescribed maximum ascent rate and must slow down.

**If you have not entered decompression, a safety stop made between 15-20 feet is strongly recommended as a standard procedure before completing your ascent.** Many divers do this to provide a wider zone of caution from the no-decompression limit. The Tissue Loading Bar Graph gives a visual representation of just how close you came to the no-decompression limit. The yellow “Caution Zone” (Fig. 4c) provides a further visual indication of close proximity to decompression. This Caution Zone portion of the TLBG allows you to make a decision regarding safety stop duration or necessity. **While you cannot provide a guarantee against the occurrence of decompression sickness, you may choose your own personal zone of caution based upon your individual age, physique,**

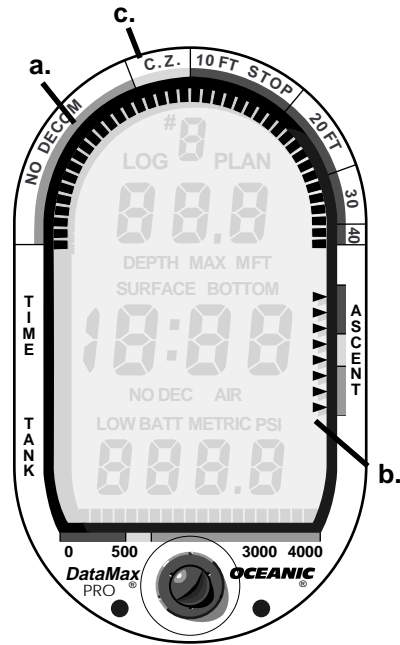


Fig. 4 – Tissue Loading Bar Graph and Variable Ascent Rate Indicator

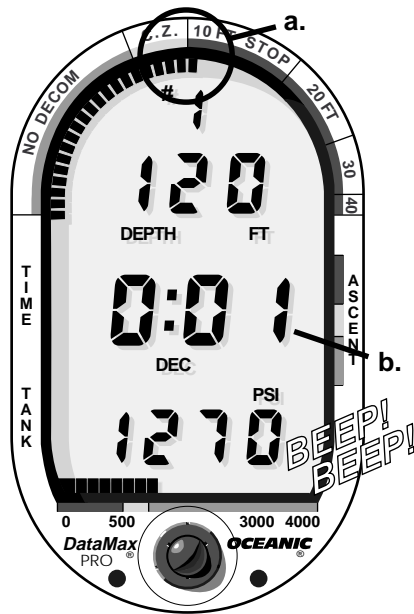


Fig. 5 – Decompression Dive Mode

**excessive weight, training, experience, etc., to reduce the statistical risk.**

### EMERGENCY DECOMPRESSION

If your depth or bottom time is such that the Tissue Loading Bar Graph enters the red zone, the DataMax Pro will sound one double beep and switch to “Decompression Dive Mode.” At this point, the TLBG will indicate a decompression “ceiling” (Fig. 5a) that the diver must stay below or risk decompression sickness. Dive Time Remaining (Fig. 5b) will display the total time needed to exit decompression. You must stay a few feet below the TLBG indicated ceiling depth until the bar graph recedes into the yellow Caution Zone before ascending any further.

### PLANNING FOR THE NEXT DIVE

After reaching three feet upon ascent, the Surface Mode will display once again. It alternates with the PDPS and will show adjusted no-decompression limits based on the nitrogen absorbed during your last dive. The longer the surface interval, the more dive time available in the PDPS.

### IT’S REALLY JUST THAT SIMPLE!

The DataMax Pro is designed to help you stay out of trouble with a minimum of effort reading the displays. The Graphic Diver Interface eliminates any confusion from looking at too many numbers. Just “keep it in the green” and you’ll greatly reduce your exposure to decompression sickness.



**Warning: Using the DataMax Pro, just as using the U.S. Navy (or other) No-decompression Tables, is no guarantee of avoiding decompression sickness, i.e. "the bends".**

## OTHER SPECIAL FEATURES

The DataMax Pro also helps you log your dives, dive at high altitudes, and know when the minimum allowable surface time has elapsed to be able to fly, according to UHMS guidelines. These special features are described on the following pages.

## LOGGING YOUR DIVES

Immediately after a dive, various information is stored in the DataMax Pro's memory that can be accessed in the "Dive Log Mode." Recalling this information gives you a chance to record it in your log book. Up to nine dives are stored and can be accessed by pressing the activation button (Fig. 6a).

Dive Log Mode will automatically scroll through all dives for the most recent day of diving displaying dive number, maximum depth, bottom time, and maximum ascent rate (Fig. 6). It also displays the end-of-dive tissue loading that is handy when making decisions about future dive plans (Fig. 6b). Surface interval replaces Bottom Time in a secondary dive log screen that immediately follows the primary screen.

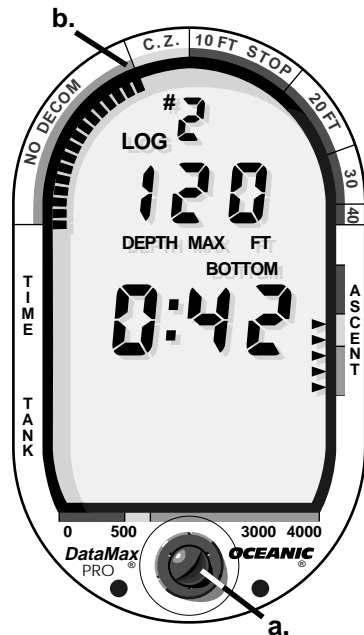


Fig. 6 – Dive Log Mode  
Primary Screen

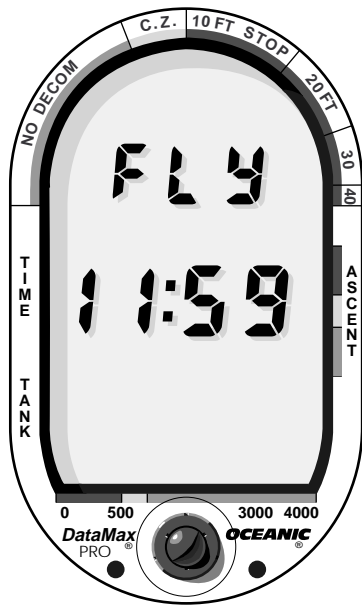


Fig. 7 – Time To Fly Mode

## ALTITUDE DIVING

The DataMax Pro automatically compensates for decreased ambient pressure when activated at high altitudes up to 14,000 feet. Its program contains a high altitude algorithm that reduces no-decompression limits to add a larger zone of caution. Whenever it is activated above 4,000 feet, it will automatically recalibrate itself to measure depth in feet of fresh water.

## KNOWING WHEN TO FLY

Due to the present lack of a complete dataset derived from actual human testing, there are different recommendations cited by various scientific organizations for the amount of time a diver should wait before flying after diving. The DataMax Pro follows one of the more conservative of these, cited by Divers Alert Network (DAN); that divers wait at least twelve hours before flying in pressurized commercial aircraft, and at least 24 or more if making repetitive multi-day or decompression dives. The DataMax Pro easily tracks how much surface time has elapsed with the *Time to Fly* display (Fig. 7).

This display begins a twenty hour countdown starting four hours after a dive. After the timer reaches zero, twenty-four hours have elapsed. **Consistent with your training and own good sense, you may choose when to fly according to the type of diving you have done after consulting your DataMax Pro to determine the amount of surface time that has elapsed.** To learn more about flying after diving and DAN's guidelines, see page 28.

*DETAILED  
OPERATIONS  
GUIDE*

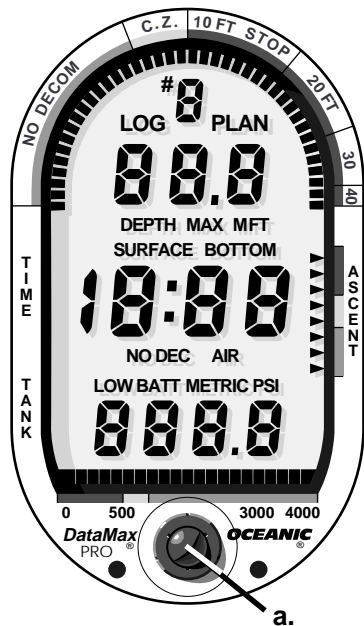


Fig. 8 – Diagnostic Mode

## OPERATIONAL MODES

The DataMax Pro operates in ten different modes. The visual difference between modes is very evident depending on when you look at the display. Mode Labels identify the various displays eliminating confusion.

### 1. DIAGNOSTIC MODE/ACTIVATION

The Diagnostic Mode displays immediately following activation. After pressing and releasing the activation button (Fig. 8a), Diagnostic Mode will display all “eights” followed by “dashes” and then a countdown from 9 to 0. It will then signal a successful diagnostic check with a single “beep” and enter Surface Mode. During the countdown, the Pro checks its display functions and battery voltage to ensure everything is working correctly. Pressurizing the regulator system completes the activation procedure.



**WARNING:** Never activate the DataMax Pro, or turn on your tank valve, if the computer is underwater. This may result in inaccurate depth and no-decompression time displays. Activation is not possible deeper than ten feet underwater.

If two hours elapse after activation without making a dive, the Pro will deactivate to save battery power. Be sure to check your computer before entering the water to ensure it doesn't need reactivation.

During Diagnostic Mode, the DataMax Pro measures its own battery voltage level. If there is not enough battery power to complete a day of diving, the DataMax Pro will either deactivate itself or not activate at all.



**WARNING:** If the words "LOW BATT" appear immediately after activation, Oceanic strongly recommends that you DO NOT dive until you have obtained battery replacement - especially if you are starting out on a multi-day dive trip. The voltage level can drop quickly when the batteries experience a sudden temperature change. (See battery replacement procedure on page 49.)

## 2. SURFACE MODE

Surface Mode immediately follows Diagnostic Mode after initial activation (Fig 9). It also appears after a dive when you ascend shallower than 3 feet. Surface Mode is identified by the Mode Label "SURFACE" immediately above the Surface Time display. Information available in Surface Mode is Dive #, Depth, Surface Time, Tank Pressure, plus Tank Pressure and Tissue Loading Bar Graphs.

## 3. PRE DIVE PLANNING SEQUENCE (PDPS) MODE

One minute after activation, or immediately after a dive, the PDPS will appear (Fig. 10). The PDPS displays the Mode Label "PLAN" at the top of the LCD. This mode automatically scrolls through depths from 30 to 160 feet, in ten foot increments, showing predicted no-decompression dive times

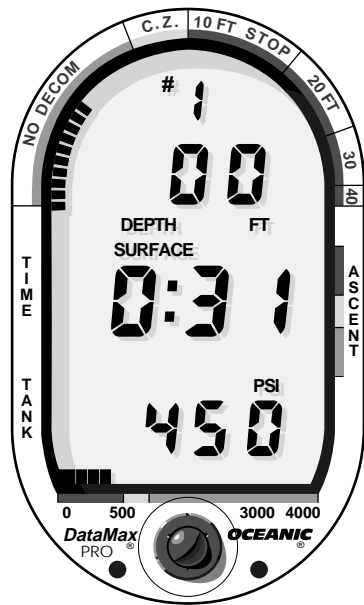


Fig. 9 – Surface Mode

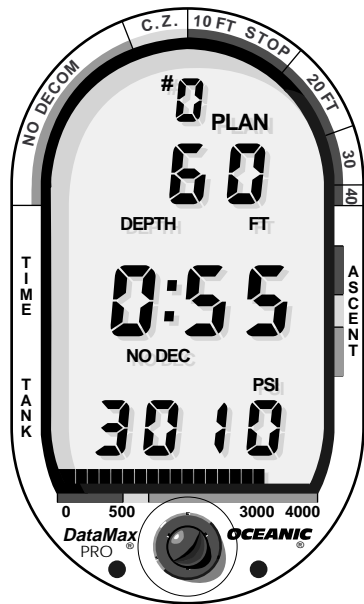


Fig. 10 – Pre Dive Planning Sequence

based upon the diver’s previous dive profiles. The PDPS automatically replaces Surface Mode once each minute. The information displayed is Previous Dive #, Depth, No-decompression Dive Time, Tank Pressure, and the Tank Pressure Bar Graph.



**WARNING:** The PDPS predicts only no-decompression times for subsequent dives. Depending on tank size and air consumption, you may have *less time available* than shown on the PDPS because of air or other limitations.

PDPS no-decompression times are displayed up to depths where there is less than one minute available. This takes into account a descent rate of 75 feet per minute. Before a “clean” dive (no dives in 24 hours) the PDPS no-decompression limits are those found on page 56 in the Reference section.

#### 4. NO-DECOMPRESSION DIVE MODE

No-decompression Dive Mode appears when the diver descends deeper than five feet (Fig. 11). It can be recognized by the “AIR” or “NO DEC” Mode Label under the Dive Time Remaining display. No-decompression Dive Mode numerically displays Dive #, Depth, Tank Pressure, and NO DEC or AIR Dive Time Remaining (whichever is less). The Graphic Diver Interface is also active, displaying the TLBG, VARI, and Tank Pressure Bar Graph.



## 5. ALTERNATE DIVE MODE

Displays of Maximum Depth and Bottom Time are not considered important enough to require constant display on the LCD, so a multiplexing “Alternate Dive Mode” is used. No-decompression Dive Mode is replaced every 15 seconds with Alternate Dive Mode for two seconds (Fig. 12). Alternate Dive Mode displays Dive #, Maximum Depth (noted by Mode Labels “DEPTH MAX FT”, and elapsed Bottom Time (Mode Label “BOTTOM”). You can easily tell when you are viewing the Alternate Dive Mode because the Graphic Diver Interface bar graphs disappear.

## 6. DECOMPRESSION DIVE MODE

The DataMax Pro will allow you to avoid, or easily manage, decompression. Before explaining further, read the following warning.



**WARNING - Oceanic recommends the application of responsible diving practices and does not recommend decompression diving or diving deeper than 130 feet. As these practices, among other things, will greatly increase your risk of decompression sickness.**

The Decompression Dive Mode activates when the TLBG enters a red decompression zone (Fig. 13a). When this occurs, the No-decompression

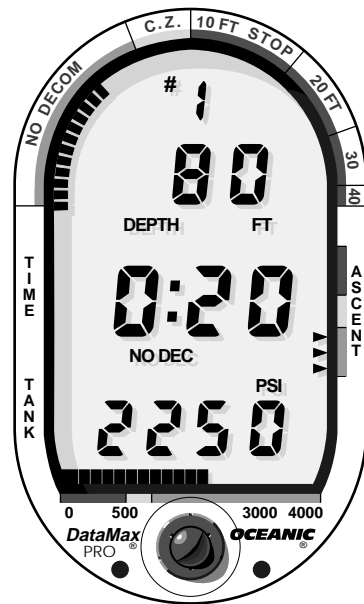


Fig. 11 – No-decompression Dive Mode

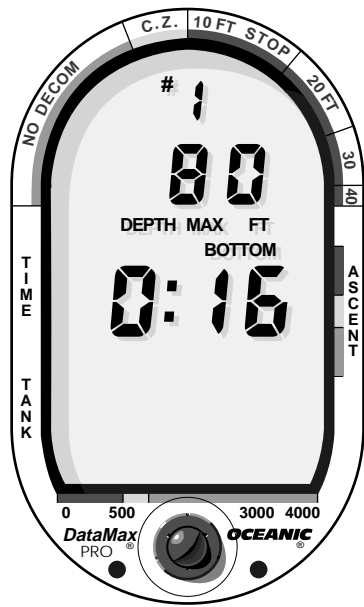


Fig. 12 – Alternate Dive Mode

time display also reaches zero and switches to Decompression time (Fig. 13b). The Mode Label changes from “NO DEC” to “DEC” under the Dive Time Remaining display. Decompression Dive Mode numerically displays Dive #, Depth, Total Decompression Time, and Tank Pressure. Besides continuing to display the Tank Pressure and VARI bar graphs, the Graphic Diver Interface displays the TLBG, that now act as a Decompression “ceiling” indicator. Decompression time displays the total number of minutes required at all ceilings combined. The TLBG displays the ceiling depth that you must stay below.

When the Audible Alarm alerts you of entry into decompression, you must immediately change the focus of your dive to getting back to the surface. Upon hearing the alarm and seeing the TLBG enter the 10 FT. STOP zone, you should immediately go to a depth slightly deeper than or equal to 10 feet. The amount of decompression credit time you receive is dependent on depth, with slightly less credit given the deeper you are.

Still, you must never ascend shallower than your decompression ceiling. Doing so will place the DataMax Pro into a Conditional Violation Mode, and **greatly increase your risk of decompression sickness.** Often while coping with surge and swell, it is difficult to stay at a chosen depth. To ensure that you do not enter a violation mode you should stay close to, but not shallower than, the decompression ceiling depth. If the DataMax Pro requires a 10, 20 or 30 foot decompression ceiling, you should stay deeper than the depth indicated until the TLBG recedes into the next shallower zone. When that occurs, you can ascend to, but not shallower than, the new ceiling.

Once you have performed the required decompression, the DataMax Pro will switch to No-decompression Dive Mode allowing additional time underwater. Though more time may be available, you must spend a portion of this time continuing to decompress at a safety stop deeper than or equal to 10 feet. This will let the TLBG recede further into the yellow Caution Zone or green No Decom zone. During a dive in which you entered decompression, you must focus on reducing your tissue loading as much as possible - by spending as much time as you can at your final safety stop and on the surface - before your next dive.

## 7. VIOLATION MODES

The DataMax Pro enters one of three different Violation Modes when you exceed its ability to predict an ascent procedure. These modes are explained fully in the “Handling the Extremes” section beginning page 30.

## 8. GAUGE MODE

If the DataMax Pro enters a Violation Mode, it will operate only in Gauge Mode on subsequent dives. The DataMax Pro removes the displays that no longer provide correct information because of the violation (see page 37).

## 9. DIVE LOG MODE

Dive Log Mode can be accessed on the surface by pressing the button on the front of the DataMax Pro (Fig. 14a). Pressing and releasing the button

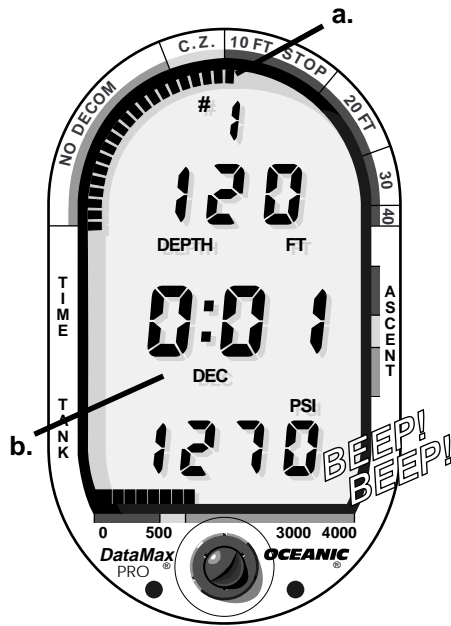


Fig. 13 – Decompression Dive Mode

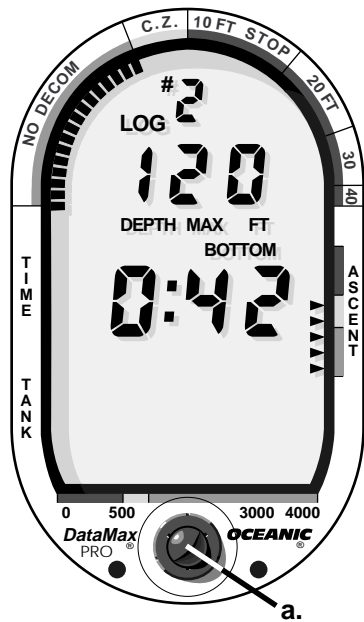


Fig. 14 – Dive Log Mode  
Primary Screen

will start the Automatic Dive Log Sequence. This mode displays information of up to nine dives from your most recent day of diving. Dive Log Mode will retain this information indefinitely until descent past five feet on your next dive after twelve hours, or until the battery is removed - in either case, the log's memory of previous dives will be cleared. Dive Log Mode can be recognized by the Mode Label “LOG” in the top of the display. This mode has a multiplexing display with each logged dive having two “screens.”

The first screen will display Dive #, Maximum Depth (noted by Mode Labels “DEPTH MAX FT”), and total Bottom Time (underneath the Mode Label “BOTTOM”). It will also show the TLBG reading that was recorded at the end of the dive, and the maximum ascent rate value reached in the VARI.

In the second screen, the Surface Interval between the indicated dive and the previous one replaces the bottom time display. If the dive shown in the log display was the only one of the day, Surface Time will represent the time between initial activation and the beginning of the first dive.

The Dive Log Mode recalls dives from the last recorded to the first, so your first dive will always be the last shown in the log sequence. When accessing Dive Log Mode, you can choose to either press and release, or press and hold, the button on the face of the DataMax Pro. Pressing and releasing the button initiates the Automatic Dive Log Sequence. This sequence will scroll through previous dives showing each “screen” for about four seconds.

Pressing and holding the button will freeze the information on the display giving you a chance to write it down in your logbook (A sample

logbook page is provided on page 65 of this guide that can be photo duplicated for this purpose). Releasing and then holding the button again will display the secondary log screen of the currently displayed dive. Releasing and holding the button still again will display the next earlier dive, and so on.

**⚠ NOTE: Depressing the button for more than six seconds when viewing the secondary Dive Log screen of the *most recent* dive will activate the Audible Alarm Access Mode (see page 26).**

#### 10. TIME TO FLY MODE

**The longer you wait to fly after diving, as you should be aware from your own training, the more you will reduce your exposure to decompression sickness.** The Time To Fly Mode begins displaying four hours after the last dive has ended to assist you with deciding when enough surface time has elapsed to fly. It is part of the Pre Dive Planning Sequence and shows the word “FLY” with a countdown timer below that starts at 20 hours (Fig. 16).

Twelve hours after the last dive, the Dive Counter resets to zero and the PDPS stops automatically scrolling. Time to Fly Mode now displays continuously, counting down from the remaining twelve hours to zero. After a surface interval of 12 hours, you may choose to fly, provided that your dive profile(s) did not enter decompression. (See page 27 for more information about flying after diving and DAN's guidelines.)

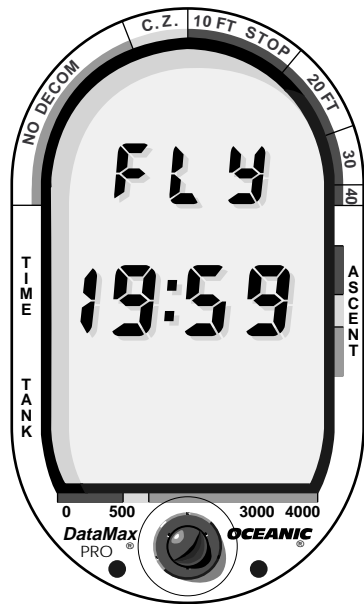


Fig. 16 – Time to Fly Mode

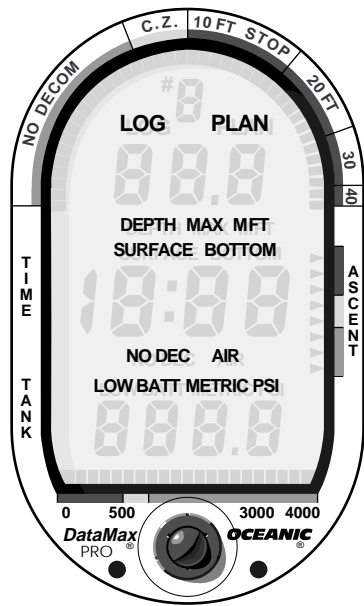


Fig. 17 – Mode Labels



**WARNING:** If your diving could be considered as decompression or repetitive, multi-day, it is strongly recommended that you wait the full 24 hours after your last dive to add a greater degree of protection.



**WARNING:** During the remaining 12 hours, the unit is in a countdown mode only and must be reactivated before it can be used for another dive.

### TELLING THE DIFFERENT MODES APART

The DataMax Pro's ten different modes are easy to tell apart. Each is clearly marked with Mode Labels (Fig. 17) and all occur at different times. Unless you routinely dive to the extremes, you will rarely see the Decompression Dive, Violation, or Gauge Modes. The Diagnostic and Dive Log Modes occur only upon request by pressing the activation button. Therefore, the only modes you will see underwater are No-decompression and Alternate Dive. Above water you will view the Pre Dive Planning Sequence, Surface, and Time to Fly Modes. Become familiar with all ten modes so that you understand exactly what the DataMax Pro is trying to tell you.

### INFORMATIONAL DISPLAYS

Each DataMax Pro display represents a unique piece of information. The

following section describes each display in detail.

### Depth Display

The Uppermost portion of the LCD (Fig. 18a) contains a Dive Number Indicator and the Depth Displays. Depending on the mode that is active, you may see Depth or Maximum Depth displayed in this area. These displays indicate depth from 0 to 249 feet in one foot increments (or 0 to 76 meters in .5 meter increments for the metric version).

### Time Display

Located in the middle of the LCD (Fig. 18b), the Time Displays represent AIR or NO DEC Dive Time Remaining, Bottom, or Surface Times. The various time displays are in hour:minute format, i.e. 1:06= one hour and six minutes (not 106 minutes!). The colon that separates the hour and minute display blinks once per second only when the display is in “real-time.” Elapsed Surface Time and Bottom Time are real-time displays. Dive Time Remaining is a calculated projection of time and uses a solid (non-blinking) colon. This helps you tell the different time displays apart.

### Tank Pressure Display

The tank pressure display resides on the lowermost portion of the LCD (Fig. 18c) and shows how much air is in your tank up to 4,000 psig to the nearest 10 psi (or .5 kg/cm<sup>2</sup> in the metric version).

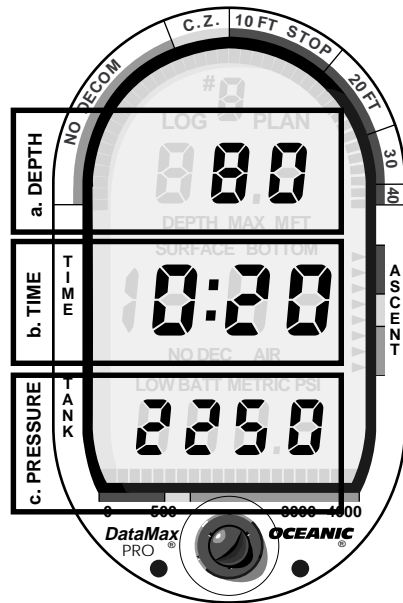


Fig. 18 – Display layout

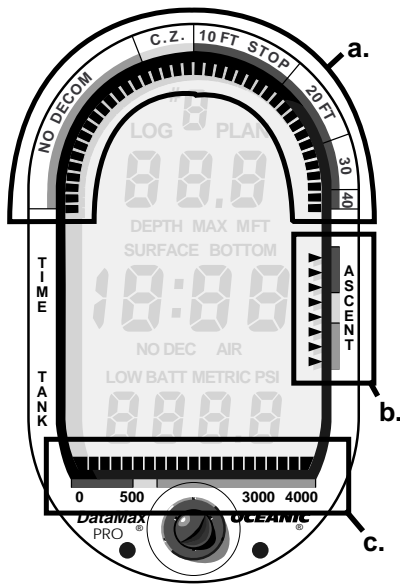


Fig. 19 – Graphic Diver Interface

## GRAPHIC DIVER INTERFACE™

Three different bar graphs are located around the perimeter of the DataMax Pro LCD (Fig. 19a). They are color coded green, yellow, and red to denote normal, caution and danger zones, respectively. The Graphic Diver Interface allows you to make quick status checks underwater on your no-decompression status, ascent rate, and tank pressure. By keeping these bar graphs “in the green” at all times, you’ll greatly reduce your exposure to decompression sickness. A detailed description of each graph follows.

### Tissue Loading Bar Graph™- TLBG

The semicircular graph found at the top of the display is the TLBG. It monitors twelve different compartments simultaneously and displays the one that is highest. The TLBG is divided into three main sections; green No Decom zone, yellow Caution Zone (C.Z.), and red decompression zone. The red decompression zone is further divided into three decompression “ceiling” zones of 10, 20, 30, and 40 feet. By referring to the TLBG, you can see a visual representation of nitrogen absorption and use it to avoid, or easily manage, decompression.



**WARNING: Oceanic advocates responsible diving practices consistent with your level of formal training and experience, and does not recommend decompression diving or diving below 130 feet.**



### **Variable Ascent Rate Indicator™- VARI**

The VARI occupies the right middle of the DataMax Pro display (Fig. 19b). The purpose of the VARI is to assist the diver in preventing too rapid an ascent by providing a visual and audible indication of ascent speed. The bar graph is made up of eight triangular segments and is analogous to an ascent rate speedometer. There are various speed “zones” that are color-coded green, yellow, and red. The actual speeds that the VARI segments represent are listed on page 60. An Audible Alarm and flashing VARI segments alert the diver of an ascent rate that has exceeded 60 feet per minute (red VARI zone). The VARI currently holds a U.S. Patent No. 4,882,687.

### **Tank Pressure Bar Graph**

The bar graph at the bottom of the LCD allows the diver to get a quick visual indication of remaining tank pressure (Fig. 19c). The segments above the green, yellow, and red zones represent different amounts of pressure per each segment. The green zone segments represent 250 psig each (18 kg/cm<sup>2</sup> for metric version), the yellow zone 200 psig each (14 kg/cm<sup>2</sup>), and the red zone 100 psig each (7 kg/cm<sup>2</sup>). This makes the bar graph more responsive as tank pressure recedes. A numeric display of tank pressure to the nearest 10 psig (.5 kg/cm<sup>2</sup>) resides above the bar graph.

### **DIVE TIME REMAINING DISPLAY**

One of the most important pieces of information on the DataMax Pro is the patented\* Dive Time Remaining display. To display Dive Time Remain-



Fig. 20 – Air Time Remaining

ing the DataMax Pro constantly monitors two critical pieces of information; no-decompression status and air consumption. The Dive Time Remaining display shows whichever is more important to you at any particular moment in time; the least amount of either AIR or NO DECOM Dive Time.

It does the diver little good to know that he or she has 20 minutes of no-decompression time remaining if they only have 10 minutes of air time in reserve. Conversely, if the diver has 20 minutes of air remaining, more pertinent information would be that he or she has only 10 minutes left of no-decompression time. This is why the unique Dive Time Remaining display was granted U.S. Patent No. 4,586,136. It presents a clear concise display uncluttered with less-important, and easily misunderstood, information.

### Air Time Remaining

As part of the Dive Time Remaining display, Air Time will appear only when it is less than No-decompression Time. Air Time Remaining is calculated using a patented\* algorithm that measures tank pressure once each second. It then calculates Air Time Remaining based upon an average of how much air was used each second over ninety seconds. It also takes into account how depth affects the diver's air consumption. This responsiveness is what makes the Air Time Remaining display so unique. The air samples are taken frequently enough to let the display react to changes in breathing rate, but not so often that it appears erratic or confusing.

A good example of when this responsiveness becomes useful is when a buddy starts breathing from your octopus, or when you suddenly find your-

self swimming up current. Constantly updated with new information, the DataMax Pro gives an accurate prediction of Air Time Remaining within 90 seconds of any change in breathing rate. The Air Time Remaining display also provides a reserve of 300 psig after reaching the surface. A zero ATR display shows that the diver must now begin their ascent (assuming a 60 ft./min. ascent rate) to reach the surface with 300 psig of air.

For example, a diver may have 800 psi of air and still be registering zero (0:00) Air Time Remaining depending on their breathing rate and depth. The deeper a diver descends and the heavier their breathing rate, the earlier the Air Time Remaining display will reach zero. This occurs because the DataMax Pro takes depth, breathing, and ascent into account.

### No-Decompression Time Remaining

No-decompression Time 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, known as the no-decompression limit, will be considered the controlling compartment for that depth. Its resulting value will be displayed in the No decompression Time Remaining display (Fig. 21a) and the Tissue Loading Bar Graph.

The no-decompression algorithm is based upon Haldane’s theory using maximum allowable nitrogen levels developed by Merrill Spencer. Repetitive diving control is based upon experiments designed and conducted by Dr. Ray

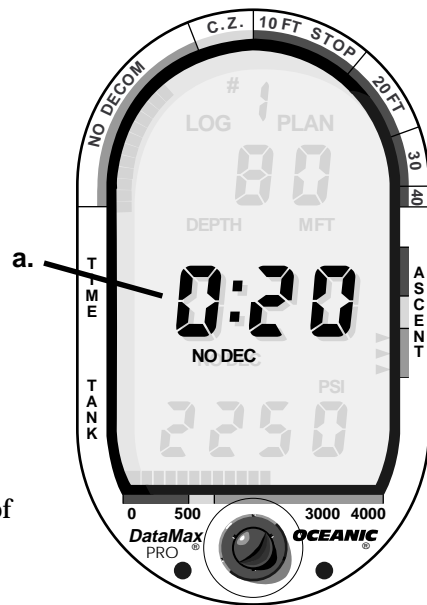


Fig. 21 – No-decompression dive time remaining

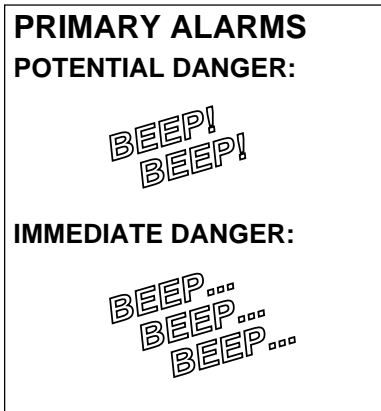


Fig. 22a – Primary audible alarms alert you to impending danger

Rogers and Dr. Michael Powell in 1987. Diving Science and Technology® (DSAT), a corporate affiliate of PADI®, commissioned these experiments and now uses the findings in the Recreational Dive Planner™ distributed by PADI.

One advantage of using the DataMax Pro is its ability to model many tissue compartments simultaneously. It constantly updates No decompression Time as the controlling tissue changes with different depths. You always have a current prediction of remaining no-decompression time regardless of which compartment of the twelve is in control.

### **AUDIBLE ALARM**

The Pro alerts you when you are approaching dangerous situations with an Audible Alarm. The Audible Alarm makes one of two primary alarms, a Double Beep and One Beep per Second, to eliminate confusion (Fig. 22a). There are also two secondary alarms that mark major transition points (Fig. 22b).

### **PRIMARY DATAMAX PRO ALARMS**

#### **Potential Danger – One Double Beep**

During situations that may pose potential danger, one Double Beep emanates from the DataMax Pro. These situations are as follows:

- Entry into decompression.
- Reaching five minutes of AIR dive time remaining.
- AIR time remaining is within five minutes of required decompression time.

#### **Immediate Danger – continuous One Beep per Second**

When the DataMax Pro senses immediate danger to the diver, it emits One Beep per Second until one of the following situations is corrected:

- Conditional violation
- Ascent rate that exceeds 60 feet per minute (VARI red zone)
- Air Time Remaining equals required decompression time
- Air Time Remaining equals zero (0:00)

## **SECONDARY DATAMAX PRO ALARMS**

### **Permanent Violations – Single Long Beep**

If you enter a Delayed or Immediate Violation Mode, a Single Long Beep will be emitted. This will only occur if one of two Violation rules are broken:

- Depth is shallower than the decompression ceiling for more than 5 minutes
- Required decompression exceeds a thirty foot ceiling

### **Transition – Short Beep**

Just to show that a command has been accepted, the DataMax Pro will emit a Short Beep when you use the activation button as follows:

- During initial activation
- When recalling the Dive Log
- Turning the Audible Alarm on or off

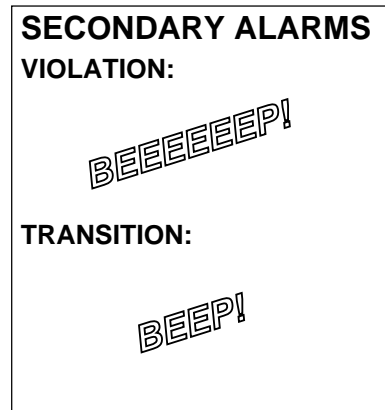


Fig. 22b – Secondary audible alarms mark major and minor events

## TURNING OFF THE AUDIBLE ALARM

A special Access Mode allows you to turn the Audible Alarm on or off. You can enter this mode by first accessing Dive Log Mode. After Dive Log Mode displays a primary screen for the most recent dive, the secondary screen for that same dive appears. During this secondary screen, press and hold the activation button for at least six seconds to enter the Access Mode.

Keep holding the activation button and watch the display. You will see a scrolling display of the words “ON” and “OFF” every three seconds. Which-ever command is displayed when you release the activation button will be issued to the DataMax Pro. If you release during display of the word “ON”, the Audible Alarm will be accompanied by one “Beep.” Release during display of the word “OFF” will result in a “Double Beep.” Ten minutes after a dive another command “EA” is displayed along with ON and OFF. Release during the “EA” command will enter an External Access Mode used during manufacture to calibrate the computer. The EA mode is not user accessible.



**WARNING: Turning off the audible alarm disables an important tool for preventing decompression sickness or low air emergencies. Oceanic does not recommend the disablement of the audible alarm for any purpose.**

## ALTITUDE DIVING

The mathematical model within the DataMax Pro accounts for the reduced no-decompression time available at higher elevations based on NOAA (National Oceanic and Atmospheric Administration) guidelines. When diving in high altitude lakes or rivers (from 4,000 to 14,000 feet), the DataMax Pro will automatically adjust to these conditions providing corrected depth and reduced no-decompression times. Over 4,000 feet, depth calibration is automatically changed to read in feet of freshwater rather than feet of seawater.



**WARNING: Until it has shut itself off, you must not use the DataMax Pro at a different altitude than the altitude where it was originally activated. Doing so will result in an error equal to the difference in barometric pressure, and possibly a false dive mode.**

## FLYING AFTER DIVING

In 1990 the Undersea and Hyperbaric Medical Society 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 tanks 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 ft. The only two exceptions to this recommendation are:

- 1) If a diver had less than 2 hours total accumulated dive time in the last 48

\* excerpted from "The UHMS Flying After Diving Workshop"

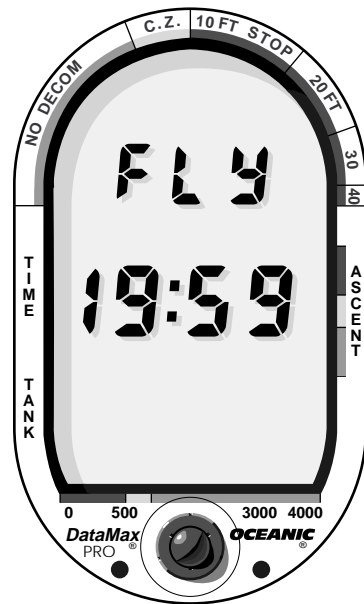


Fig. 23 – Time to Fly countdown

- hours, then a 12 hour surface interval before flying is recommended.
- 2) Following any dive that required a decompression stop, flying should be delayed for at least 24 hours, and if possible, for 48 hours.

Since the 1990 UHMS guidelines were introduced, data from the Diver's Alert Network (DAN) was introduced that resulted in DAN's position\* that "A minimum surface interval of only 12 hours would be required in order to be reasonably assured a diver will remain symptom free upon ascent to altitude in a commercial jet airliner (altitude up to 8,000 ft.). Divers who plan to make daily, multiple dives for several days, or make dives that require decompression stops, should take special precautions and wait for an extended surface interval beyond 12 hours before flight." Both the UHMS and DAN agree that, "There can never be a flying after diving rule that is guaranteed to prevent decompression sickness completely. Rather, there can be a guideline that represents the best estimate for a conservative . . . surface interval for the vast majority of divers. There will always be an occasional diver whose physiological makeup or special diving circumstances will result in the bends."

The Time to Fly display provides a way to choose your own degree of protection by providing two twelve-hour countdowns after the dive. The first display begins four hours after the dive and is shown in the PDPS, displaying the word "FLY" with a countdown from 20 to 12 hours. After 12 hours, the dive counter resets to zero and Surface Mode is shut down. A continuously displayed countdown timer now begins from 12 hours to 0. Because the Pro provides two 12 hour countdowns, you can choose whether to fly after twelve hours of surface interval or wait additional time to add greater protection.

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



# *HANDLING THE EXTREMES*

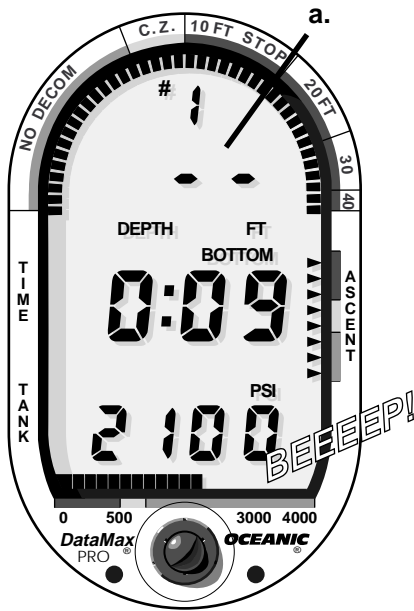


Fig. 24 – Out of Range display

## HANDLING THE EXTREMES DATAMAX PRO MAXIMUM DEPTH

The maximum depth the DataMax Pro will display is 249 feet. If you exceed that depth, the Depth, Max Depth, and Dive Log readouts will display “— —” signifying that you descended out-of-range (Fig. 24a). For that dive, you will not see a numeric depth display over 249 feet or a Max Depth indication other than the double dashes.

Although the DataMax Pro will withstand the pressures found at 249 feet, the depth that you can still use all its features is much shallower. Before going further, read this warning:



**WARNING: The maximum recommended sport diving limit is 130 feet. Any deeper dive should be avoided. Special training and equipment are necessary for this type of diving. Oceanic does not advocate diving to depths below 130 feet, or decompression diving.**

On a first “clean” dive, the DataMax Pro will allow 7 minutes at 160 feet. A clean dive is one where there is no residual nitrogen from previous dives. The DataMax Pro will continue to calculate residual nitrogen for up to 24 hours although the dive counter resets to zero after 12 hours. Depending on your descent rate, 7 minutes at 160 feet can be a very short amount of time.

It is much more practical to stay within the 11 minutes of no-decompression time allowed at 130 feet. If you exceed 160 feet, watch the Pro closely because you will enter decompression rapidly. The Tissue Loading Bar Graph will alert you when entering decompression by entering the red zone (Fig. 25) and changing dive time remaining from NDC to DEC. The Audible Alarm (when activated) will also alert you when entering decompression with a Double Beep.

### EMERGENCY DECOMPRESSION

After entering decompression (especially at deeper depths) the Tissue Loading Bar Graph may “fill” the 10, 20, 30 and 40 FT STOP decompression zones rapidly. Once you’ve entered decompression, it is imperative that you ascend toward the required decompression ceiling immediately. **If you continue the dive at a greater depth, your exposure to decompression sickness will increase, and you risk entering violation mode and losing information needed to properly ascend.**

Whether at 160 feet on a first dive, or 60 feet on a third dive, it is possible to quickly enter decompression if you’re not careful. Decompression is to be avoided because you cannot ascend directly to the surface without potentially dire consequences. If your equipment failed, requiring you to surface immediately, you would risk decompression sickness. Your buddy would be unable to lend assistance without also risking decompression sickness. **Decompression diving requires special training and equipment to do properly, for these reasons decompression sport diving should be avoided.**

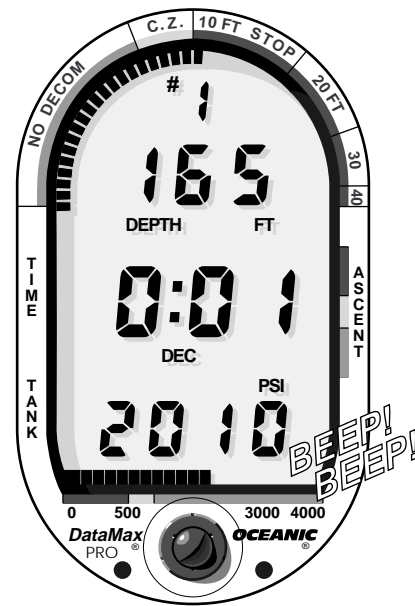


Fig. 25 – Decompression warning

## VIOLATION MODES



**WARNING: If you exceed certain limits, the DataMax Pro will not be able to tell you how to get back to the surface. These situations will make the Pro enter violation mode and must be avoided at all costs. They push decompression theory to the limits and can result in loss of some DataMax Pro functions for 24 hours after the last dive of a day in which a violation occurred.**

There are three different types of Violation Modes that the DataMax Pro can enter depending on the situation. They are termed “Conditional Violation Mode,” “Delayed Violation Mode,” and “Immediate Violation Mode.” It is important to understand how each of these modes function and how to carry out decompression procedures in the event you encounter one.

### CONDITIONAL VIOLATION MODE

Before a situation that will ultimately result in loss of nitrogen monitoring functions, the DataMax Pro will enter a Conditional Violation Mode. This alerts you to the possibility of losing decompression management abilities. If properly handled, the Conditional Violation Mode will not only assist you in getting back to the surface, but will also allow continued use of the DataMax Pro.

## Conditional Violation – Ascending Shallower than Decompression Ceiling

The DataMax Pro will enter a Conditional Violation Mode if you ascend shallower than the decompression ceiling indicated by the Tissue Loading Bar Graph (Fig. 26). A momentary rise above the ceiling, such as with a surge or swell, will cause this to happen. Therefore you should stay slightly deeper than the exact ceiling depth, watching the Pro closely when managing decompression. The DataMax Pro will alert you of a Conditional Violation with an Audible Alarm of One Beep per Second until you descend below the required decompression ceiling.

Once the DataMax Pro enters a Conditional Violation Mode, no off-gassing credit will be given. For every minute in Conditional Violation Mode, 1-1/2 minutes of penalty time is added to decompression stop time for greater protection.

If shallower than the required decompression ceiling for up to five minutes the Pro will still be in Conditional Violation Mode. After five minutes, it will enter Delayed Violation Mode (see next section). But, if the Conditional Violation is corrected before five minutes have elapsed (meaning you descend below the ceiling depth), the DataMax Pro will continue to function as if no violation had occurred. In this case, 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

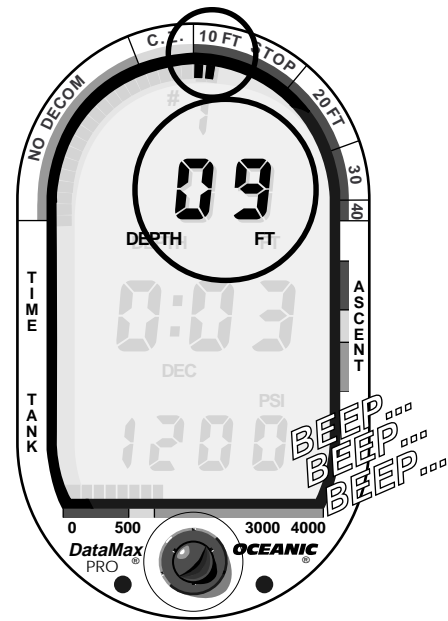


Fig. 26 – Depth less than required ceiling causes a Conditional Violation



Fig. 27 – Delayed Violation Mode

begins, the Tissue Loading Bar Graph will recede towards the Caution Zone. Upon entry into the Caution Zone the Pro will revert to No Decom Mode.

## PERMANENT VIOLATION MODES

If you exceed the restrictions of a Conditional Violation Mode, one of two Permanent Violation Modes will be entered; “Delayed Violation Mode” or “Immediate Violation Mode.” Either of these Permanent Violation Modes will result in loss of some computer functions for 24 hours after the last dive.

## DELAYED VIOLATION MODE

When the DataMax Pro enters Delayed Violation Mode, it retains the capacity to tell you how to get back to the surface. Delayed Violation Mode will be encountered in either of the following decompression situations:

### Delayed Violation #1 -

#### Requiring a Decompression Ceiling Greater than 40 Feet

If the necessary decompression requires a ceiling depth deeper than 40 feet, a Delayed Violation mode will be entered. Once a diver enters this mode, the Audible Alarm will emit One Long Beep and the Tissue Loading Bar Graph will flash (Fig. 27). In this situation, the amount of decompression time needed to get back to the surface will still be displayed numerically in the Decompression Time display. To get back to the surface, you must ascend to just deeper than **40 feet** staying as close to 40 feet as possible without causing the DEC Time display to flash. The DEC digits may flash at

depths slightly deeper than 40 feet in some situations. If this happens, descend to the shallowest depth below 40 feet where the flashing stops.

After waiting until the Tissue Loading Bar Graph recedes into the 30 foot zone, you can then ascend to not less than 30 feet and continue decompressing. After more time, the bar graph will recede into the 20 and then 10 foot zones after which the diver can ascend to less than 20 or 10 feet respectively. After DEC Time reaches zero and the Tissue Loading Bar Graph recedes into the yellow Caution Zone (C.Z.), you can surface. **However, to add a greater margin of protection, Oceanic strongly recommends that you wait until the segments are well within the green No Decom zone, unless a low air condition requires you to surface.** Five minutes after reaching the surface, the Pro will enter the Immediate Violation Mode and will then revert to Gauge Mode (see page 37).

## **Delayed Violation #2 -**

### **Spending More than 5 Minutes Above Decompression Ceiling**

If you stay above the decompression ceiling for more than five minutes, you will enter Delayed Violation Mode. If you descend back beneath the ceiling after this five minute time window, it is still possible to get back to the surface with the assistance of the DataMax Pro. As previously described, you would then need to follow the ceiling toward the surface as the Tissue Loading Bar Graph recedes toward the Caution Zone. Upon reaching zero decompression time remaining, you should continue decompressing until the bar





## GAUGE MODE

The DataMax Pro will operate with limited functions in what is called “Gauge Mode” up to 24 hours after a dive in which any Immediate or Delayed Violation Mode was entered. Gauge Mode turns the DataMax Pro into a digital instrument console without any decompression monitoring functions. Figure 29a illustrates the changes effected in Gauge Mode.

When in Gauge Mode underwater, the DataMax Pro flashes the TLBG. Dive Time Remaining will be replaced by Bottom Time (Fig. 29b). You will see the Mode Label “BOTTOM” immediately above the central time display and the omission of the AIR, NO DEC, or DEC labels beneath. The colon separating hours and minutes will also start blinking once per second indicating a “real time” display. If the DataMax Pro changes to Gauge Mode while underwater, you have entered an Immediate Violation Mode. Be sure to read the Violation section thoroughly beginning on page 32.

Above water, Gauge Mode is indicated by the lack of a PDPS or Time to Fly display. Twelve hours after surfacing, a countdown timer with “triple dash” display will inform you of the number of hours remaining before normal operation can resume (see Fig. 29c on next page).

## AIR TIME REMAINING DURING DECOMPRESSION

One of the primary reasons that Oceanic recommends strongly against entering decompression is that it is almost impossible to ensure that you will have the amount of air needed to perform the required decompression at the

a.

FUNCTION	STD. MODES	GAUGE MODE
<i>underwater displays</i>		
Air Time	Yes	No
No decom time	Yes	No
Decom Time	Yes	No
Tissue Bar Graph	Yes	No
All other displays	Yes	Yes
<i>surface displays</i>		
Surface Time	Yes	Yes
Dive Log	Yes	Yes
PDPS	Yes	No
Time to Fly	Yes	No

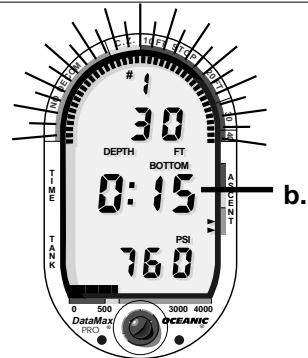


Fig. 29 – Gauge Mode

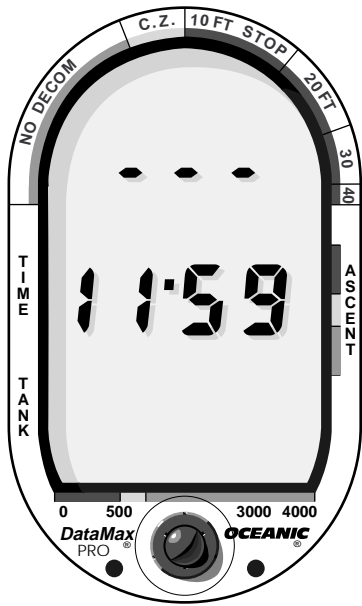


Fig. 29c – Triple Dash Display

end of a dive. Since Air Time is replaced by Decompression Time when decompression diving, you cannot rely on this feature, so a different method of alerting you to a low air situation is used instead.

When Air Time Remaining is within five minutes of required Decompression Time, the tank pressure numerals will flash and a Double Beep will sound. This alert means that five minutes of air is all that remains for you to perform the required decompression. This feature takes into account your current tank pressure, breathing rate and depth for an extremely accurate prediction of when the alert should start.

After the initial five minutes has elapsed and remaining air time equals required decompression time, the Audible Alarm will beep Once Per Second signaling the need for immediate ascent to the decompression ceiling. In this manner, the DataMax Pro can help you track their required decompression and remaining air time simultaneously. This is one of the unique features encompassed by the Air Time Remaining display (U.S. Patent No. 4,586,136).

### CAUTION ZONE – C.Z.

When you learned how to dive, you were taught not to get too close to the No-decompression limits. The Caution Zone (C.Z.) offers you a way to consistently monitor how close you are coming to the no-decompression limit. Oceanic suggests **always leaving the water with the Tissue Loading Bar Graph in the low yellow Caution or green No Decom zone.**



**WARNING: Never exit the water with the TLBG in the red decompression zone. Doing so greatly increases the risk of decompression sickness, and may result in injury or death.**

A diver's metabolism varies from person to person, and even from day to day. If you are feeling slightly less than 100%, or you are in less than perfect physical shape, use the Caution Zone as a visual reference to place a wider margin of protection between you and the no-decompression limit.

### **WHAT TO DO IF YOUR DIVE COMPUTER QUILTS WORKING**

Because a dive computer is an electronic, battery powered instrument, the possibility that it may quit working unexpectedly is very real - even with new, highest quality batteries. While no-decompression diving, if you find that any major piece of equipment is not working, you must abort the dive immediately and surface slowly in a controlled manner. If your dive computer quits for any reason, it is important that you have anticipated this possibility and are prepared for it. This is an important reason to avoid pushing your dive profiles to the limit, in order to allow a safety margin. If you ever extend your dive profiles to the maximum limit, Oceanic advises you to bring additional backup instruments with you on your dives, and to log each dive profile during every surface interval.

Consider the cost to benefit ratio. No other piece of diving equipment gives you additional dive time like a dive computer. It is now possible to dive





Fig. 30 – Operating temperature range

easier, and longer, because of these technological marvels. Yet, as with all new technology - especially high-tech products used in harsh environments - unforeseen things happen. If you do not prepare for the unknown, you might be sorry later. Who would want to drive a car without a spare tire, for instance? An analog, or digital, backup system or use of standard air tables is highly recommended.

### OPERATING TEMPERATURE

The DataMax Pro will operate in almost any temperature diving environment in the world - between 32° to 140° degrees Fahrenheit (0° to 60° Celsius). You may notice the liquid crystal display becoming sluggish at extremely low temperatures. This is normal and will not affect the computer's accuracy. If stored or transported in extremely low temperature areas (below freezing), you should warm with body heat before diving.

Even though the "Pro" will operate in a wide range of temperatures, it is possible to damage the electronics if left exposed to direct sunlight, or in a hot confined space (like a car trunk). After the dive, cover the DataMax Pro and keep it out of the sun. If inadvertently left in the direct view of the sun the LCD display may become totally black. If this occurs, immediately immerse the DataMax Pro in water. The display should recover its normal appearance after a few minutes. Damage from excess heat, or cold, is not covered under the DataMax Pro two-year limited warranty.

## NIGHT DIVING WITH THE DATAMAX PRO

The DataMax Pro uses a high contrast liquid crystal display with large numerals for easy readability in low light conditions. However, the display is not internally illuminated for night diving because of the excessive power consumption that would be required. This means that on night dives, in caves, or any other low light situation you must use your dive light to illuminate the display. If your dive light were to fail, you might be unable to read information about your dive on the DataMax Pro. Oceanic recommends that you carry a chemical lightstick (Fig. 31) on all low light dives or a backup dive light, in case of primary light failure.

## SHARING THE DATAMAX PRO

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

The DataMax Pro provides information based upon a diver's personal dive profile and breathing rate 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. Certainly, Air Time Remaining would not pertain to the second diver at all. Since only the lesser of AIR or NO DEC Dive Time

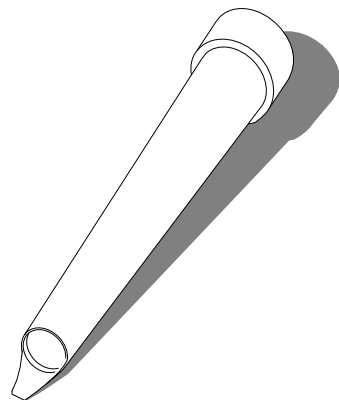


Fig. 31 – Cyalume™ chemical lightstick

Remaining is displayed at one time, the second diver's no-decompression information may not even be displayed when needed.

#### **A FINAL WORD OF CAUTION**

**Although the DataMax Pro represents the latest in user-friendly dive computer technology, it cannot force you to understand how to use it. Before diving with the Pro, be sure you thoroughly understand its functions and displays. Take the quiz on pages 62 and 63 to test your knowledge. Call your local Authorized Oceanic Sales and Service Center if you have a question. Above all remember, technology is not a replacement for training, experience, and common sense!**

*CARE  
and  
MAINTENANCE*

## CARE AND MAINTENANCE

The DataMax Pro is a sensitive electronic instrument. Although it has been designed to survive the rigors of diving, it still must be handled carefully to protect from shock, excessive heat, chemical attack, and tampering.

The DataMax Pro is protected by an outer rubber boot that, along with the hose, can be cleaned and protected periodically by application of a silicone milk available in dive stores. The internal housing is made of an impact resistant resin that is extremely shock resistant but can be susceptible to chemical attack and scratches. If the gauge face becomes scratched Oceanic can replace it, although small scratches will naturally disappear underwater.



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

## BEFORE THE DIVE

After attaching the DataMax Pro, be careful not to leave it lying on a boat deck where it might be damaged. Many dive computers (and dive trips) are ruined by encounters between carelessly tossed computers and weight belts or tanks. If the DataMax Pro is attached to a tank in a rack, tuck the computer into a BC pocket, or between the BC waistband and the bladder. Keep it off the deck and protected from undue shock. Better yet, attach a



DataLink (Fig. 32) high-pressure quick disconnect between your computer and first stage. This allows you to remove the DataMax Pro and keep it nearby when recording dives in your log book or planning the next dive.

### DURING THE DIVE

Keep the DataMax Pro protected from abuse underwater by using the console retainers on your B.C. If you let it hang freely, expect scratches to cover the display face after only a few dives. You also may damage delicate corals or marine life while jarring sensitive electronic components.

### AFTER THE DIVE

Soak the DataMax Pro in fresh water after each dive. If possible, use lukewarm water to dissolve any salt crystals. Salt deposits can also be dissolved using a slightly acidic vinegar/water bath. After removal from a fresh water bath, place the DataMax Pro under gently running water. Be sure to flush any holes or slots on the rear of the boot. Towel dry the computer before storing. Transport the DataMax Pro cool, dry, and protected.



**WARNING: Never, under any circumstances, poke any object through any slots or holes on the rear of the DataMax Pro. Doing so may damage the depth sensor possibly resulting in erroneous depth and/or dive time remaining displays.**

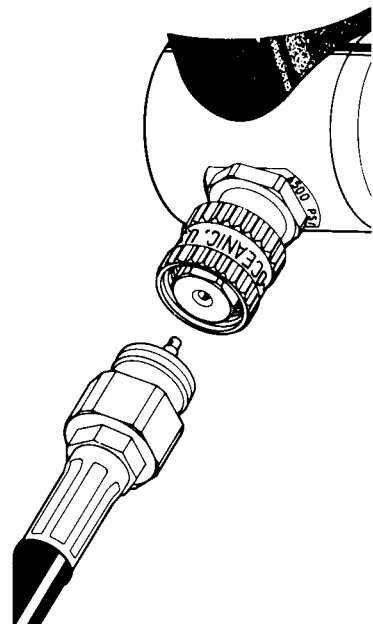


Fig. 32 – DataLink high pressure quick disconnect

#### **OCEANIC CORPORATE H.Q., USA**

San Leandro, California

Tel: 510-562-0500; Fax: 510-569-5404

#### **OCEANIC HAWAII**

Ewa Beach, Hawaii

Tel: 808-682-5488; Fax: 808-682-1068

#### **OCEANIC EUROPE**

Pomezia, Italy

Tel: 39-6-910-4148; Fax: 39-6-910-4163

#### **OCEANIC SW, LTD**

Devon, England

Tel: 44-884-84-0001; Fax: 44-884-84-1770

#### **OCEANIC DIVING AUSTRALIA PTY LTD**

Sorrento, Victoria, Australia

Tel: 61-59-84-4770; Fax: 61-59-84-4307

#### **OCEANIC ASIA PACIFIC PTE LTD**

Singapore

Tel: 65-779-3853; Fax: 65-779-3945

Fig. 33 – Oceanic International

### **ANNUAL DEALER INSPECTIONS & FACTORY SERVICE**

Like all Oceanic instrumentation, the DataMax Pro should be inspected annually by an Authorized Oceanic Dealer. They will perform a depth factory prescribed function check, and routine inspection for damage or wear. To keep the two-year limited warranty in effect, this annual inspection must be done within thirty days of the date of purchase, one year after purchase. Oceanic recommends that you continue to have this inspection done even after the warranty period has expired to ensure your DataMax Pro is working properly. A convenient service record is provided in the rear of this owner's manual. This should be signed by the service technician after each annual inspection has been completed. The cost of this service is not covered under the terms of the two-year limited warranty. Be sure also to record any factory services that are performed as well.



**WARNING: If you are in doubt about the accuracy of your DataMax Pro's depth readings, DO NOT attempt to dive with it until it has been inspected by an Authorized Oceanic Service facility (Fig. 33).**



**WARNING: Never pressure test the DataMax Pro in an air environment. Doing so may damage the depth sensor; possibly resulting in erroneous depth or time readings.**

## HOW TO OBTAIN SERVICE

You can obtain service for your DataMax Pro by returning it to the Authorized Oceanic Dealer where it was purchased. If one is not nearby, or you need service a local Service Center cannot provide, you can have them send it directly to Oceanic as follows.

1. Remove DataMax Pro from the regulator, and be sure to remove all accessories.
2. Package carefully using a cushioning material.
3. Authorized Oceanic Dealers should use an Oceanic Product Return Form.
4. Include a legible note with specific reason for return, your name, address, daytime phone number, serial number, and copy of original sales receipt.
5. Send prepaid and insured to the nearest Oceanic facility.
6. If you have any questions regarding DataMax Pro service, call Oceanic Customer Service Department. Please allow two to four weeks for service not counting travel time to and from Oceanic when estimating your “down” time.

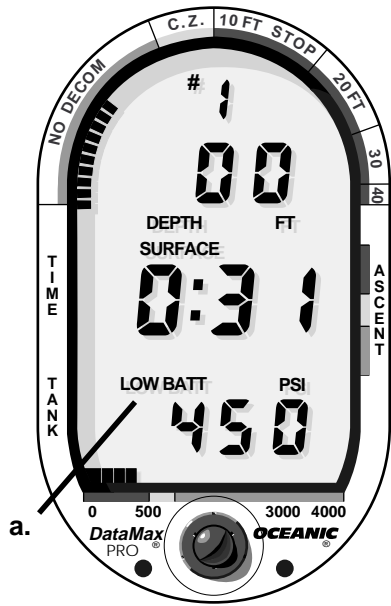


Fig. 34 - Low Batt display

## LOW BATT DISPLAY

The LOW BATT display on the DataMax Pro LCD alerts you to the impending need for a battery change (Fig. 34a). Usually, the Pro will only activate if there is enough battery power to complete one full day of diving. The remaining battery life may be suddenly shortened by a sudden change in temperature, however, and it is therefore advised that you DO NOT attempt to dive when a LOW BATT display is present. Furthermore, Oceanic strongly recommends that you replace the batteries with new prior to any extended, multi-day dive trip.

To replace your DataMax Pro's batteries, Oceanic recommends that you bring it to your Authorized Oceanic Dealer, where you may also obtain an annual inspection - even if your DataMax Pro is not yet due for one. Whenever it is necessary to replace your own batteries, however, you may do so by following the procedure outlined on the next page.



**WARNING: Damage from improper battery replacement is not covered under the DataMax Pro's limited 2-year warranty. Follow directions exactly.**

## DATAMAX PRO BATTERY REPLACEMENT PROCEDURES

### Preliminaries:

- Purge regulator system of air.
- Remove the regulator assembly from the tank.
- It is not necessary to detach the DataMax Pro from the regulator.

### Removing the boot:

- Grasp DataMax Pro with both hands, palms on front sides, fingers on the rear of the console, and thumbs in top left and right corners.
- Carefully push the top left and right corners over the top corners of the module while pressing from behind with your fingers.
- Slide the boot down (but not off) the hose

### Opening the battery door:

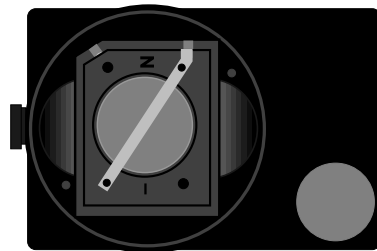
- Unscrew the knurled ring counter-clockwise, using your hands only. Lift off the battery cover plate.
- Closely examine the threads of the knurled ring and the module for any signs of damage that might impair proper threading. If found, return your DataMax Pro to your Authorized Oceanic Dealer, and DO NOT attempt to use it until it has received factory service.

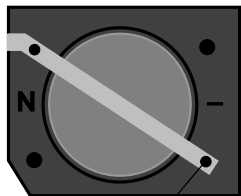
### Battery case removal:

- Grasp the battery case that contains the coin cell batteries with your thumb and forefinger, lifting the end with two square corners out first.
- Closely examine the metal contacts inside the battery compartment and the metal contact strips on both sides of the battery case for any signs of stress (bending) or breakage, and any signs of corrosion that may indicate the entrance of moisture. If found, return the DataMax Pro to your Authorized Oceanic Dealer, and DO NOT attempt to use it until it has received factory service.

### Replacing the coin cell batteries in the battery case:

- The negative side of the battery case is identified with the letter N and - symbol. The positive side with the letter P and + symbol.





Remove this screw 'only'

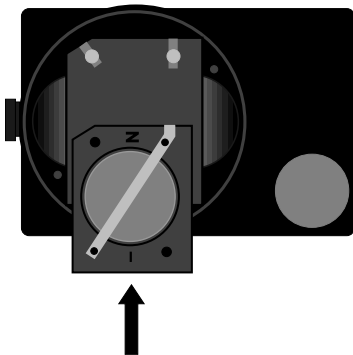


Fig. 35 – Battery Case Installation

- Using a small philips screwdriver, remove the screw that secures the metal 'negative' contact strip to the portion of the case that shows the negative (-) symbol. DO NOT loosen or remove any other screws.
- Carefully lift that end of the contact strip just enough to slide one battery at a time out of the center of the case.
- Discard the batteries in a proper receptacle.
- Carefully slide one new battery at a time into the center cavity of the case.
- Place the batteries on top of each other oriented so both positive sides face the positive side of the case.
- Lower the contact strip into place and secure with the screw removed. DO NOT attempt to use any other type of screw as a substitute.

Installing the battery case in the DataMax Pro:

- Orient the assembled battery case so that you are holding it between your 'right' thumb and forefinger with the negative side facing up. Ensure the angled corner is on the left (thumb) side.
- Place the angled-corner end of the battery case up against the contacts located in the battery compartment.
- Carefully lower the back end of the battery case into the compartment.

Cleaning and lubricating the o-ring:

- Remove the o-ring by placing thumbs at the 3 and 9 o'clock positions on the face of the o-ring. DO NOT use tools to remove.
- Press both thumbs toward the 12 o'clock position creating a slight bulge in the o-ring.
- Grasp the bulge and lift the o-ring out of the recessed groove.
- Closely examine the o-ring groove of the caseback for any signs of damage that may impair proper sealing. If found, return your DataMax Pro to your Authorized Oceanic Dealer and DO NOT attempt to use it until it has received factory service.
- Lightly lubricate the o-ring with silicone grease spreading it thoroughly between your thumb and forefinger. Wipe off any excess lubricant.

- Clean the o-ring groove with a cotton swab. Ensure that it is free of any fibers, and install the o-ring being careful not to twist it during installation.

Installing the battery door:

- Place battery cover plate over the battery compartment, inserting the half moon shaped alignment sections of the cover into the half moon shaped cavities in the battery compartment. The yellow decal should be toward the hose end of the module caseback.
- Place the knurled ring on top of the threads of the caseback.
- Slowly turn the knurled ring backward (counter-clockwise) until it seats evenly onto the first thread.
- Using care not to cross the threads, turn the ring clockwise until it is secure. DO NOT overtighten or use tools to tighten.

Testing (**do not reinstall the boot yet**):

- Attach regulator/DataMax Pro assembly to a tank and pressurize the system.
- Activate the DataMax Pro by pressing button.
- Observe that the diagnostic mode clears.

Boot installation:

- Slide the boot up the hose to the bottom of the module. Roll boot inside out.
- Slide the boot up further over the hose fitting, and roll the boot over the module, adjusting as necessary until it fits into place.

## FLOODED BATTERY COMPARTMENT

If water was found in the compartment, discard the batteries and determine the cause of flooding. The only cause you can attempt to fix yourself is improper installation of the o-ring. If the o-ring did not stay in the groove, check for o-ring damage, replace or reinstall, and follow the remainder of battery replacement procedures. If it was damaged (nicks, cuts, divots, etc.), discard it and replace it with a new DataMax Pro battery compartment o-ring.

Before replacing o-ring and batteries, flush battery compartment with fresh water and dab with tissue paper until completely dry. Allow to air dry overnight or blow dry with a hair dryer (set at 'no heat'). Damage to battery contacts or o-ring, even if you follow this procedure exactly,

is not covered under warranty. For any other cause of flooding, return the DataMax Pro to your Authorized Oceanic Dealer for factory service.

## REGULATOR INSTALLATION INSTRUCTIONS

The DataMax Pro is an air integrated dive computer that requires attachment to your regulator system. If possible, have this done by your Authorized Oceanic Dealer. If this isn't possible, follow these directions:



**CAUTION: Installing the DataMax Pro improperly to your regulator may damage the dive computer, regulator, or both. Oceanic strongly recommends that installation should be done by an Authorized Oceanic Dealer.**

Remove your current console, or port plug, from the regulator port marked "HP" with the proper wrench or hex key. Put a small dab of silicone grease on the o-ring and threads of the DataMax Pro hose end. Thread and hand tighten the DataMax Pro hose into regulator body until it stops. Tighten just over hand tight with a 5/8" open-end wrench. Attach regulator to a full scuba tank to test connection. Open valve slowly while holding the DataMax Pro away from your face. After the initial "whoosh" of air entering the hose, listen for the sound of escaping air at either end of the DataMax Pro hose. If possible, immerse the tank, regulator, and DataMax Pro underwater and look for bubbles. If you do not hear, or see, any air escaping the system is ready for use. If any air leak is seen or heard, take the system to an Oceanic Authorized Dealer for repair.



# *REFERENCE*

## DISPLAY AS SEEN BY DIVER

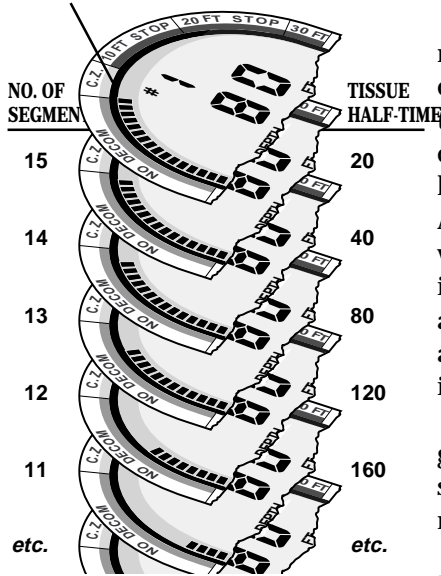


Fig. 36 – Think of the 12 tissues as overlaid clear displays showing only the maximum bar graph reading reached

## MULTIPLE TISSUE TRACKING

The DataMax Pro tracks twelve tissue compartments with half-times ranging from 5 to 480 minutes. The Tissue Loading Bar Graph always displays the controlling compartment that is the only one important at that time. Think of the Tissue Loading Bar Graph as twelve separate transparent displays laid on top of one another (Fig. 36). The tissue compartment that has filled up fastest is the only one the viewer can see from the top. At any particular point, one tissue compartment may be absorbing nitrogen, while another that was previously higher may be off-gassing. Figure 37 illustrates the point at which one compartment “hands over” control to another at a different depth. Though two tissues were controlling the diver at different depths, the Tissue Loading Bar Graph remains the same because it displays only the highest loading of the 12 compartments.

As time goes on, or you reach a new depth, there may be sufficient off-gassing of the tissue compartments to reduce the number of all bar graph segments. After the dive, the Tissue Loading Bar Graph reading that was recorded at the end of the dive is recorded in the Dive Log.

## REPETITIVE DECOMPRESSION DIVING

The decompression model used by the DataMax Pro is based on the no-decompression multi-level repetitive dive schedules successfully tested by Dr. Ray Rogers and Dr. Michael Powell. These tests did not include repetitive

dives deeper than 90 feet or decompression dives. DataMax Pro decompression predictions are therefore based on U.S. Navy theory due to the present unavailability of statistical data. Therefore, pay special attention to the following warnings.

**⚠ WARNING: Oceanic advocates responsible diving practices and does not recommend decompression diving or diving below 130 feet. The decompression capabilities of the DataMax Pro are intended strictly for emergency use. Decompression diving is inherently hazardous and greatly increases your risk of decompression sickness - even when performed according to the computer's calculations. In the event that you must make an emergency decompression dive, you must not make another dive for at least 24 (twenty-four) hours.**

**⚠ WARNING: Using the DataMax Pro, just as using the U.S. Navy (or other) No-decompression Tables, is no guarantee against of avoiding decompression sickness, i.e. “the bends.”**

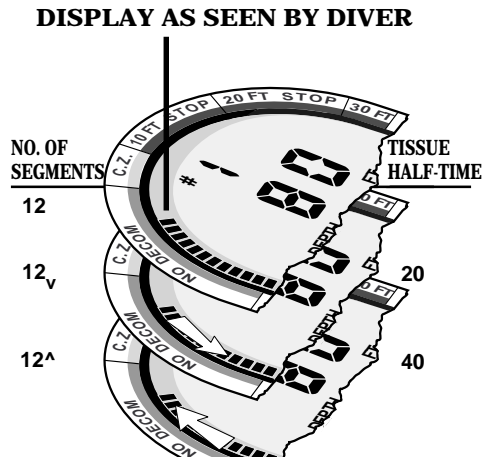


Fig. 37 – As one tissue recedes, another increases with the maximum reading being the only one displayed

Depth feet	DataMax Pro-E mins.	U.S. Navy mins.
30	260	--
35	--	310
40	136	200
50	78	100
60	55	60
70	40	50
80	31	40
90	25	30
100	20	25
110	17	20
120	13	15
130	11	10
140	9	10
150	8	5
160	7	5
170	--*	5
180	--*	5
190	--*	5

\* The Pre Dive Planning Sequence will not scroll past 160 feet, or when projected bottom /descent time is less than one minute.

Fig. 38 – No-decompression limits – DataMax Pro vs. U.S. Navy Tables

## NO DECOMPRESSION LIMITS

The no-decompression limits for the DataMax Pro are contrasted with the U.S. Navy limits at left (Fig. 38). You will notice that at all but two depths, the DataMax Pro provides less time than the U.S. Navy Tables. In those two cases, the times are within one minute. Though the DataMax Pro no-decompression limits may be less than the U.S. Navy, you will receive greatly increased allowable bottom times if you follow a multi-level dive profile.

## MAXIMUM NO-DECOMPRESSION DIVE PROFILE

Many people ask, “Just how deep can I go, and how long can I stay, with the DataMax Pro?” Of course the answer depends on many factors including air supply, previous dives made, etc. Assume for a minute that no previous dives were made, and that the diver had an unlimited air supply. Figure 39 on the next page shows the maximum no-decompression dive profile that is possible with the DataMax Pro on a first dive. In this test, the DataMax Pro was taken to a depth where the No-decompression Dive Time Remaining reached zero minutes. It then ascended to a depth that gave it one more minute of no-decompression time. When the no-decompression time reached zero at this new depth, the DataMax Pro was taken to the next shallower depth. This continued until 33 feet, where there was obviously more no-decompression time available than possible air time with even the largest scuba tank. A safety stop was added as a precaution to round out this simulated dive.

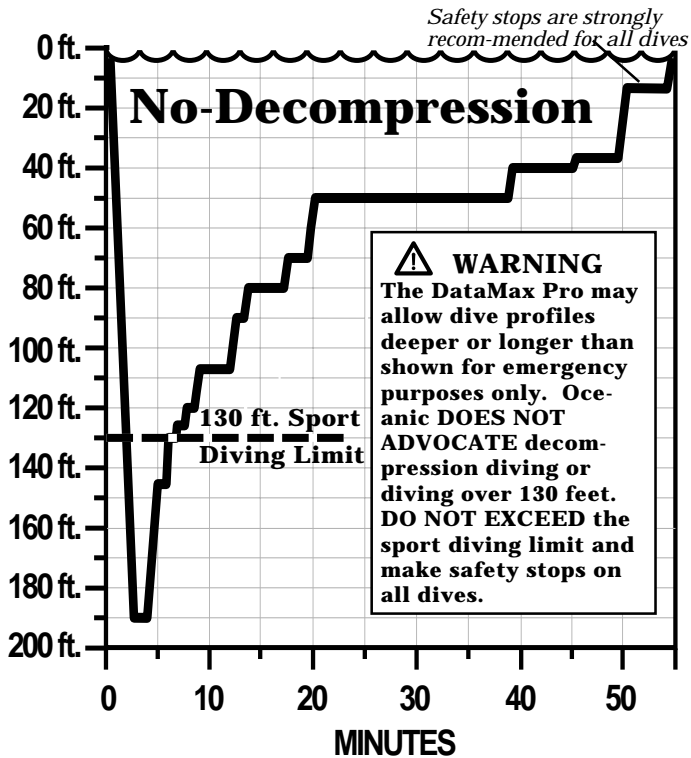


Fig. 39 – Maximum First Dive No-decompression Profile

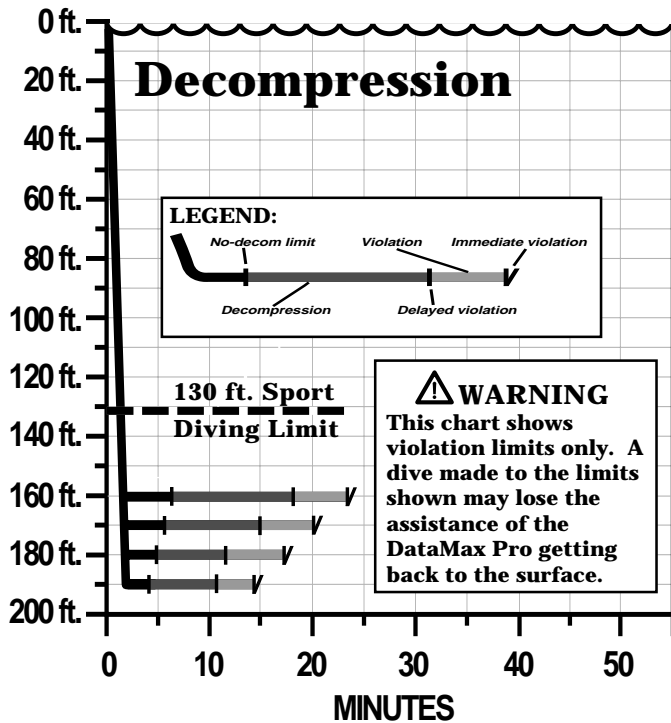


Fig. 40 – First Dive Decompression Violation Limits



## DECOMPRESSION VIOLATION LIMITS

As described on pages 32 - 38, the DataMax Pro has two permanent violation modes. If either of these modes are entered underwater, you will experience the loss of some computer functions. The two modes are termed *Delayed* and *Immediate* Violation Modes. Figure 40 shows a chart that details where permanent violation modes occur on an extreme an first dive profile between 160 and 190 feet. The chart is meant as a reference and not a suggestion for planning a dive.

It is possible to exceed the limits shown in Fig. 40 at much shallower depths, especially on repetitive dives. Watch the DataMax Pro closely to avoid entering decompression, or a violation mode.



**WARNING: Oceanic recommends that you follow the rules of responsible diving on every dive, strongly recommends against decompression diving, or diving below 130. ft.**

## CONCLUSION

The DataMax Pro will provide you with information to help plan your dives, make mid-dive decisions, and enjoy more fun time underwater. However, it is only an informational tool whose entire worth depends on using it correctly. The DataMax Pro can greatly add to your enjoyment of the underwater world. Learn how to use it. Use it wisely. And have fun with the DataMax Pro, your guide to the Oceanic frontier.

## NOTES

# SPECIFICATIONS

## NO-DECOMPRESSION MODEL

### Basis

- Modified Haldanean Algorithm
- 12 tissue compartments

### Data Base

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

### Performance

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

### Decompression Capabilities

- Decompression ceilings at 10, 20, & 30 feet (3, 6, & 9 meters)

### Altitude Algorithm

- Based on NOAA tables

## OPERATIONAL MODES & DISPLAY RANGE/RESOLUTION


### Modes

- Diagnostic/Activation Mode
- Surface Mode
- Pre Dive Planning Sequence Mode
- No-decompression Dive Mode
- Alternate Dive Mode
- Decompression Dive Mode
- Violation Modes (conditional, delayed, & immediate)
- Gauge Mode
- Dive Log Mode
- Time to Fly Mode

### Numeric Displays

	Range	Resolution
• Dive Number	0 – 9 dives	1 dive
• Depth	0 – 249 feet (0 – 76 meter)	1 foot (.5 meter)
• Maximum Depth	249 feet (76 meters)	1 foot (.5 meter)
• Air Time Remaining	0 – 9 hrs. 59 mins.	1 minute
• No-decompression Time	0 – 9 hrs. 59 mins.	1 minute
• Decompression Time	0 – 9 hrs. 59 mins.	1 minute
• Bottom Time	0 – 9 hrs. 59 mins.	1 minute
• Surface Time	0 – 11 hrs. 59 mins.	1 minute
• Dive Log Surface Interval	0 – 11 hrs. 59 mins.	1 minute
• Tank Pressure	0 – 4,000 psig	10 psig (.5 kg/cm <sup>2</sup> )

### Graphic Diver Interface

	Range	Resolution
• Tissue Loading Bar Graph		
No decompression (green)	16 segments	1 segment
Caution Zone (yellow)	4 segments	1 segment
Decompression (red)	20 segments	1 segment
• Tank Pressure Bar Graph		
Green zone	14 segments	250 psig
Yellow zone	2 segments	200 psig
Red zone	5 segments	100 psig
• Variable Ascent Rate Indicator		
	feet/min. (meters/min.)	
Red zone	121+ (37+)	
	91 – 120 (28 – 36)	
	61 – 90 (19 – 27)	
Yellow zone	51 – 60 (16 – 18)	
	41 – 50 (12 – 15)	
Green zone	31 – 40 (9 – 12)	
	21 – 30 (6 – 9)	
	11 – 20 (3 – 6)	



Special Displays	Occurrence
• Audible Alarm Access	On demand
• Diagnostic Display	Activation
• Out of Range	250+ feet
• Gauge Mode Countdown Timer	12 – 24 hours after violation

#### OPERATIONAL PERFORMANCE

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

#### Dive Counter

- Displays Dives 0 - 9 then recycles to 0 (and continues 0 - 9)
- Resets to Dive 0 twelve hours after last dive
- Cycles to next dive at 5 foot depth after 10 minute surface interval

#### Dive Log Mode

- Stores 9 dives indefinitely (until next dive or battery change)
- If more than 9 dives, stores latest dive in memory, deletes first dive
- Erases past dives upon next submersion past 5 feet after 12 hours

#### Altitude

- Altitude range 0 - 14,000 feet above sea level (0 - 4267 meters)
- Modes Full computer functions up to 14,000 feet

Recalibration to fresh water depth readings over 4,000 ft. elevation

#### CONSTRUCTION & MATERIALS

##### Materials

- Housing Glass-filled Nylon Resin
- Gauge Face Polycarbonate Resin
- Boot Natural Rubber/EPDM blend

- Hose Kevlar® braid, rubber coated \*\*
- Fittings Triple chrome plated brass
- Electronics Silicone Metal Oxide Semiconductors
- Weight 21.7 ounces
- Length 7 inches (without hose)
- Width 2-7/8 inches
- Depth 1-7/8 inches

#### Power

- Batteries Two 3 volt CR2450 lithium cells
- Life expectancy Approximately 2-1/2 years 50 dives/year\*
- Shelf life Up to five years depending on manufacturer and storage environment\*
- LOW BATT Replace immediately
- Replacement User-replaceable

#### Activation

- Needed before first dive only
- Battery Saver feature automatically shuts off gauge if no first dive in 120 minutes after initial activation. Reactivation required.
- DataMax Pro cannot be shut off manually (unless battery is removed)

#### Display Specifications

- Display Size 1.79" wide x 2.75" high
- Display type High contrast, custom liquid crystal
- Primary numeral height 0.44"
- Secondary numeral height 0.38"
- Tertiary numeral height 0.31"

\* Battery life may vary greatly depending upon age, usage, climate, etc.


\*\* Kevlar® is a trademark of DuPont Corporation

## DO YOU REALLY KNOW HOW TO USE THE DATAMAX PRO?

Test your knowledge of how to operate the DataMax Pro by checking true (T) or false (F) in pencil. Answers are found on the bottom of the next page and in the owner's guide on the pages listed in parentheses.

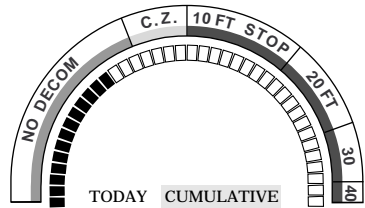
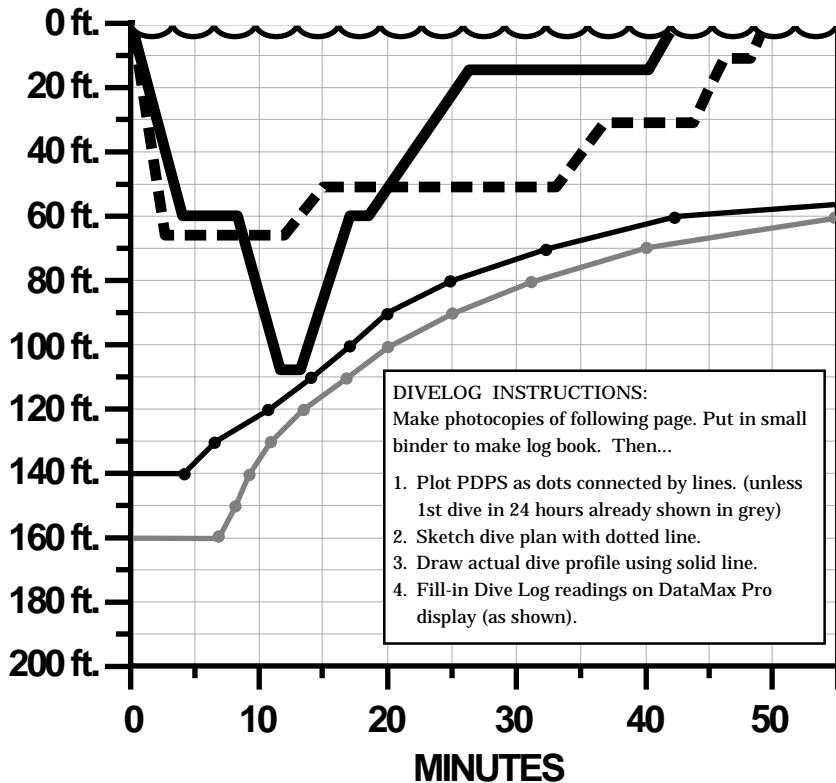
1. T F Your two-year warranty will be void if the registration card is not sent in. (pg. ii)
2. T F A flashing Tissue Loading Bar Graph means you have entered a Violation Mode. (pg. 32)
3. T F You can ascend shallower than your decompression ceiling for no more than 15 secs. (pg. 33)
4. T F An audible alarm of one beep per second alerts you to immediate danger. (pg. 24)
5. T F If the bar graphs are kept in the green zone, your exposure to DCS is minimized. (pg. 19)
6. T F Entering the TLBG red zone means you should decompress sometime later in the dive. (pg. 14)
7. T F It's okay to activate the DataMax Pro while underwater. (pg. 10)
8. T F The audible alarm warns you when you are ascending too fast. (pg. 20)
9. T F You should never let your ascent rate put the VARI bar graph into the red zone. (pg. 20)
10. T F The Dive Time displays either air and no-decompression time remaining. (pg. 21)
11. T F Your DataMax Pro doesn't need to be inspected annually by an Authorized Dealer. (pg. 46)
12. T F The DataMax Pro will compensate for diving at altitudes up to 14,000 feet elevation. (pg. 27)
13. T F Time to Fly mode displays a countdown 20 hours to 0 starting 4 hours after the dive. (pg. 17)
14. T F After activation, the Pro will shut down to save batteries after two hours with no dive. (pg. 10)
15. T F Any dive after a minimum of 24 hours surface interval will be numbered Dive #1. (pg. 11)
16. T F Surface mode shuts down after 12 hrs. but no-decom calculations continue for 24 hrs. (pg. 11)
17. T F Bottom time and maximum depth are not displayed underwater. (pg. 13)
18. T F Decompression Time displays total time required at all ceiling depths. (pg. 13)

19.  T  F Gauge Mode occurs after a permanent violation mode has been entered. (pg. 37)
20.  T  F The Dive Log display retains the last day's dives indefinitely until the next dive begins. (pg. 16)
21.  T  F You won't enter Violation mode if you require a decom ceiling greater than 30 feet. (pg. 34)
22.  T  F The PDPS always gives projected dive times to 160 feet. (pg. 12)
23.  T  F It's best to surface with the Tissue Loading Bar Graph in green, or low yellow, zones. (pg. 38)
24.  T  F A double beep from the audible alarm alerts you to potential danger. (pg. 24)
25.  T  F It's okay for two divers to share information from one DataMax Pro. (pg. 41)
26.  T  F The DataMax Pro LCD can be read at night without the aid of a dive light. (pg. 40)
27.  T  F The DataMax Pro should be periodically sprayed with a silicone aerosol. (pg. 44)
28.  T  F One long beep from the audible alarm signals entry into violation mode. (pg. 24)
29.  T  F You can change the DataMax Pro battery yourself. (pg. 49)
30.  T  F Battery removal erases memory of repetitive dives. (pg. 48)

 **NOTE: If you don't understand any part of this manual or how to operate the DataMax Pro, contact your local Authorized Oceanic Dealer before attempting to dive. Oceanic wants you to enjoy your DataMax Pro to the fullest. If you have any questions or comments, please call Oceanic at 1-510-562-0500. Thank you.**

Answers: 1.=T, 2.=T, 3.=F, 4.=T, 5.=T, 6.=F, 7.=F, 8.=T, 9.=T, 10.=T, 11.=F, 12.=T, 13.=T, 14.=T, 15.=F, 16.=T, 17.=F, 18.=T, 19.=T, 20.=T, 21.=F, 22.=F, 23.=T, 24.=T, 25.=F, 26.=F, 27.=F, 28.=T, 29.=T, 30.=T

# OCEANIC DiveLog Instructions



TODAY CUMULATIVE

2 84

Dive No. 2 84

Dive Site Dive Site Name

Location City, State or Country

Date Today's Date

Visibility Vis in feet or meters

Purpose Why you're there

Max Depth From Dive Log Mode

Bottom Time From Dive Log Mode

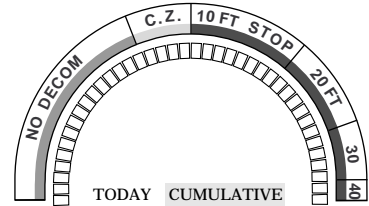
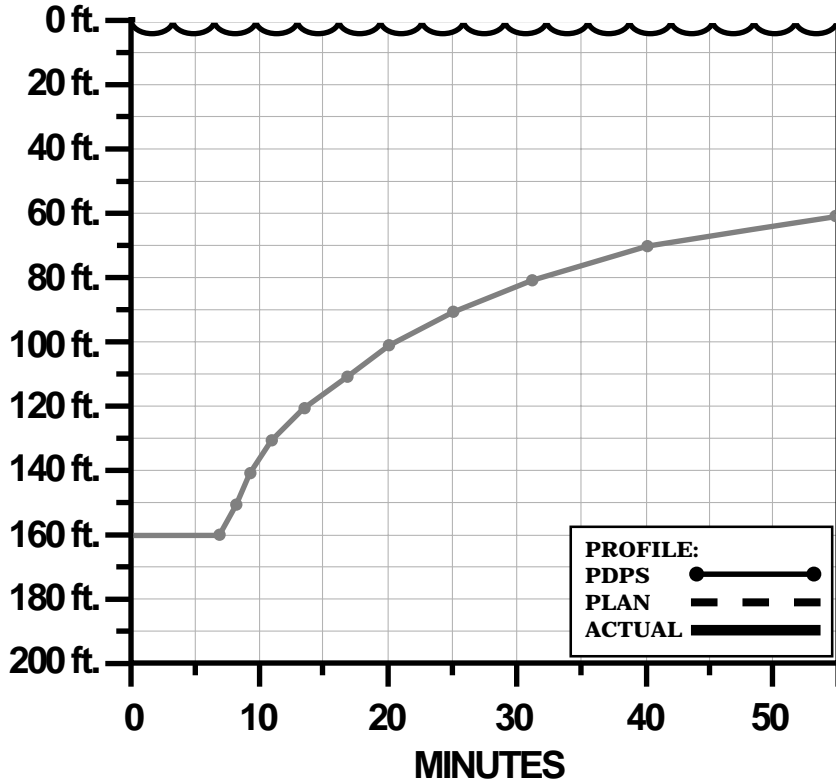
Rate Dive Site Your Personal Rating Scale

Buddy Your Buddy's Name

Buddy Cert. # Your Buddy's #



# OCEANIC DiveLog



Dive No. \_\_\_\_\_

Dive Site \_\_\_\_\_

Location \_\_\_\_\_

Date \_\_\_\_\_

Visibility \_\_\_\_\_

Purpose \_\_\_\_\_

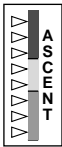
Max Depth \_\_\_\_\_

Bottom Time \_\_\_\_\_

Rate Dive Site \_\_\_\_\_

Buddy \_\_\_\_\_

Buddy Cert. # \_\_\_\_\_



## GLOSSARY

The following are diving terms that you should become familiar. Many definitions given below apply specifically to the DataMax Pro.

**Air Integrated Dive Computer** - A dive computer that monitors and displays tank pressure in addition to no-decompression information

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

**Altitude Dive** - A dive made at an elevation above sea level where a different set of no-decompression tables is used (4,000+ feet with the DataMax Pro)

**Air Time Remaining** - A display of remaining dive time based on a calculation of cylinder pressure, the diver's breathing rate and depth

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

**Audible Alarm** - A tone emitted by a dive computer that alerts the diver to potential danger

**Boot** - A protective rubber covering that surrounds an instrument console

**Bottom Time** - The total time spent underwater during a dive between 5 feet on initial descent to 3 feet on final ascent

**C.Z.** - Abbreviation for Caution Zone

**Caution Zone** - The yellow section of the Tissue Loading Bar Graph that gives a visual warning of a diver's proximity to decompression

**Ceiling** - See decompression ceiling

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

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

**DCS** - Abbreviation for decompression sickness, i.e., “the bends”

**DEC** - Abbreviation for Decompression

**Decompression Ceiling** - The shallowest depth a diver may reach upon ascent without risking decompression sickness (also see TLBG)

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

**Depth Sensor** - an electro-mechanical device that converts water pressure into an electrical signal, that is converted to a visual depth display

**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 Time Remaining** - A display of the time before a diver must surface based on no-decompression status or tank pressure

**Graphic Diver Interface™** - A feature of Oceanic dive computers. Easily understandable color coded bar graphs that indicate diver status; green = normal, yellow = caution, red = danger.

**“J” Cell** - The 6 volt alkaline battery used in the DataMax Pro

**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

**Modular Dive Computer** - A dive computer that is not connected to the diver’s air supply

**Multiplexing Display** - A display on an instrument that alternates to show different information relating to separate events

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

**NO DEC** - Abbreviation for No-decompression

**NO DEC Time Remaining** - The amount of dive time remaining based on no-decompression status

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

**Out of Range** - The point that a dive computer can no longer supply correct dive information

**PDPS** - Abbreviation for Pre Dive Planning Sequence

**Pre Dive Planning Sequence™** - A display of available dive times at ten foot intervals from 30 to 160 feet used when dive planning



**Pressure Sensor** - an electro-mechanical device that converts tank pressure into an electrical signal that the DataMax Pro converts into tank pressure and air time remaining displays

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

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

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

**Tissue** - See Compartment

**Tissue Compartment** - See Compartment

**Tissue Loading Bar Graph™** - A graphic display of simulated nitrogen absorption on Oceanic dive computers

**TLBG** - Abbreviation for Tissue Loading Bar Graph

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

**VARI** - Abbreviation for Variable Ascent Rate Indicator

**Variable Ascent Rate Indicator™** - A display on the DataMax Pro that shows ascent rate as a bar graph alongside a color-coded indicator (part of the Graphic Diver Interface)

## INDEX

### A

- Accuracy 61
- Activation 2, 61
  - Accidental underwater 10
  - How to 10
- Air Reserve 22
- Air Time Remaining 22
- Alternate Dive Mode 3, 13
- Altitude
  - Algorithm 60
  - Diving 7, 27
  - Range 27, 61
- Attachment to regulator 52
- Audible Alarm
  - About 4
  - Air time = decompression time 37
- Audible alarm
  - About 24
  - Turning off 17, 26

### B

- Battery
  - Automatic shut-off 10
  - Flooded compartment 51
  - Life expectancy 61

- Low Batt display 48
- Memory erasure 11
- Replacement 49

- Boot 44
- Buddy breathing 22

### C

- Care & maintenance 44
- Caution Zone 5, 20, 38
- Cautions
  - Battery contacts 49
  - Improper installation 52
  - No aerosols 44
- Ceiling 5
- Clean dive 12
- Computer
  - Failure 39
  - Modes 60
  - Sharing 41
- Conditional Violation Mode 32

### D

- Data base 23, 60
- DataLink quick disconnect 44
- Decompression
  - About 6
  - and Air Time Remaining 37

- Ceiling 5, 33
- Ceiling greater than 30 feet 34
- Credit 33

- Data base 60
- Emergency 31
- Half-times 60
- Mode 13
- Model ii
- Penalty time 33
- Repetitive diving 54
- Sickness ii, 31
- Staying below ceiling 14
- Delayed Violation Mode 34
- Depth sensor 46
- Diagnostic Mode 10
- Displays 18
  - Accuracy 61
  - Activation 2, 10
  - Air time remaining 22
  - Depth 18
  - Dive Counter 61
  - Dive time remaining 21
  - Graphic Diver Interface 4, 19, 60
  - Listing of 60
  - Low Battery 48
  - No-decompression time 23
  - Numeric 60
  - Out of range 30

Scratches 44  
Sluggish 40  
Specifications 61  
Tank Pressure 19  
Time 19  
Tissue Loading Bar Graph 5  
Turning black 40  
Variable Ascent Rate Indicator 5  
Dive Counter 61  
Dive log mode 7, 61  
Dive planning 3, 6  
Dive Time Remaining 21  
DSAT 23

## E

Erasing memory 11  
External Access Mode 26

## F

Flooded battery compartment 51  
Flying after diving 8, 17, 27  
    DAN guidelines 27  
    UHMS guidelines 27

## G

Gauge mode 15, 37  
Glossary 66

Graphic Diver Interface 4, 19, 60  
    Tank Pressure Bar Graph 21  
    Tissue Loading Bar Graph 20  
    Variable Ascent Rate Indicator 20, 60

## I

Immediate Violation Mode 36  
Informational displays 18  
Installation 2  
Introduction 2

## L

Low Batt display 48

## M

Maintenance  
    After dive 45  
    Annual service 46  
    Before dive 44  
    During dive 45  
    Flooded battery 51  
    Obtaining service 47  
Maximum depth 30  
Maximum dive profile 56  
Memory erasure 11, 48  
Model ii, 23, 60

## Modes

Alternate dive 3, 13  
Decompression dive 13  
Diagnostic 10  
Dive log 7, 61  
External Access 26  
Gauge mode 15, 37  
Listing of 60  
No-decompression dive 3, 12  
Pre Dive Planning Sequence 11  
Surface 11  
Telling them apart 18  
Time to Fly 17  
Violation 32

## N

Navy Tables 56  
No-decompression  
    Limits 56  
    Mode 3, 12  
    Model 60  
    PDPS limits 12  
    Time Remaining 23

## Notes

Audible alarm access 17  
Who to contact for help 63

## Numeric Displays

Listing of 60

## O

- Obtaining Service ii
- Oceanic DiveLog
  - Blank page for duplication 65
  - Instructions 64
- Off-gassing 33
- Operating temperature 40
- Out of range 30

## P

- Permanent Violation Modes 34
- Planning the dive 3
- Pre Dive Planning Sequence 3, 11

## Q

- Quiz 62

## R

- Regulator Attachment 2, 52
- Repetitive decompression 54
- Replacing battery 49
- Residual nitrogen 30
- Rubber boot 44

## S

- Safety stop 5

- Service ii, 46
- Sharing computers 41
- Sport diving limit 30
- Surface mode 11

## T

- Tables, U.S. Navy 56
- Tank Pressure Bar Graph 21
- Test 62
- Testing depth accuracy 46
- Time to Fly 8, 17, 27
- Tissue Compartment 23
- Tissue half-times 54, 60
- Tissue Loading Bar
  - Graph 5, 14, 20, 31, 38
- Training ii
- Turning off alarm 26
- Turning on display 10

## U

- U.S. Navy Tables 56
- Underwater activation 10

## V

- Variable Ascent Rate Indica-

- tor 5, 20, 60
- Violation modes 15
  - About 32
  - Conditional 32
  - Delayed 34
  - Immediate 36
  - Permanent 34

## W

### Warnings

- Audible alarm 26
- Decompression sickness 55
- Depth sensor damage 45, 47
- Don't decompression dive 13, 20
- Improper use 2
- Memory erasure 11, 48
- PDPS 12
- Repetitive decompression 55
- Sport diving depth limit 30
- Underwater activation 10

### Warranty

- Exclusions ii
- Limitations ii
- Maintaining ii, 46
- Registration ii, 46

# DATAMAX PRO ANNUAL INSPECTION RECORD

Serial Number \_\_\_\_\_

Date of purchase \_\_\_\_\_

Oceanic dealer \_\_\_\_\_

To be filled in by Authorized Oceanic Dealer:

Date	Dealer Name & Number	Technician Name





# **THE CODE OF THE RESPONSIBLE DIVER**

**AS A RESPONSIBLE DIVER  
I UNDERSTAND AND ASSUME THE RISKS I MAY ENCOUNTER WHILE DIVING  
RESPONSIBLE DIVING BEGINS WITH:**

- **DIVING WITHIN THE LIMITS OF MY ABILITY AND TRAINING**
- **EVALUATING THE CONDITIONS BEFORE EVERY DIVE AND MAKING SURE THEY FIT MY PERSONAL CAPABILITIES**
- **BEING FAMILIAR WITH AND CHECKING MY EQUIPMENT BEFORE AND DURING EVERY DIVE**
- **KNOWING MY BUDDY'S ABILITY LEVEL AS WELL AS MY OWN**
- **ACCEPTING THE RESPONSIBILITY FOR MY OWN SAFETY ON EVERY DIVE**

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