DataTrans Plus

owner's guide

Pay special attention to items marked with this Warning symbol. ⚠

⚠WARNINGS:

- **The DataTrans Plus is intended for use by recreational divers who have successfully completed a nationally recognized course in scuba diving, and diving with enriched nitrogen-oxygen (nitrox) mixtures.**
- **It is intended only for no decompression diving, NOT intentional decompression diving.**
- **It must not be used by untrained persons who may not have knowledge of the potential risks and hazards of scuba diving, and diving with enriched nitrogen-oxygen (nitrox) mixtures.**
- **You must obtain scuba certification, and certification in diving with enriched nitrogen-oxygen mixtures (nitrox) before using the DataTrans Plus if you have not already done so.**
- **It is NOT for use by military and commercial divers.**
- **It should NOT be utilized for any competitive, or repetitive square wave or decompression diving, as it is intended solely for recreational use and no decompression multilevel diving.**
- **As with all underwater life support equipment, improper use or misuse of this product can cause serious injury or death.**
- **Never participate in sharing or swapping of a dive computer.**
- **Conduct your dives in such a manner so as to insure that you continuously check the computer's proper function.**
- **Read and understand this owner's guide completely before diving with the DataTrans Plus.**
- **If you do not fully understand how to use this dive computer, or if you have any questions, you should seek instruction in its use from your authorized Oceanic dealer before you utilize this product.**

OCEANIC®

LIMITED TWO-YEAR WARRANTY

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

This warranty will be considered void if the DataTrans Plus was purchased from anyone other than an Authorized Oceanic Dealer, and/or if the registration card is not filled out completely at the time of purchase and mailed to Oceanic within 30 days of purchase, and/or if the annual inspection is not done according to this owner's guide. This warranty is non-transferrable and applies to the original purchaser only. All correspondence concerning this warranty must be accompanied by a copy of the original sales receipt and a copy of the owner's portion of the warranty registration card including the annual inspection record.

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

Statement of Limitations - General:

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

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

COPYRIGHT NOTICE

DataTrans Plus Owner's Guide, Doc. No. 12-2022
© 2002 Design 1997
2002 Davis Street
San Leandro, Ca. USA 94577
510/562-0500

TRADEMARK NOTICE

PATENT NOTICE

U.S. Patents have been issued, or applied for, to protect the following design features:
Graphic Diver Interface, Pre Dive Planning Sequence, Dive Time Remaining, Breathing Gas Time Remaining Bar Graph, Variable Breathing Gas Consumption Bar Graph, DataTrans Plus Message Box, DataTrans Plus Mode Menu Structure, Breathing Gas Alarm Set Point, Depth Alarm Set Point, Breathing Gas Time Remaining (U.S. Patent no. 4,586,136), 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).

DECOMPRESSION MODEL

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

FCC ID: MH8A

FCC Compliance:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: 1) this device may not cause harmful interference, and 2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Interference Statement:

This equipment has been tested and found to comply with the limits for an Intentional Radiator, a Class B Digital Device, pursuant to Part 15 of FCC Rules, Title 47 of the Code of Federal Regulations. These limits are designed to provide reasonable protection against harmful interference in a commercial or residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause interference to radio communications.

There is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to try to correct the interference by one or more of the following measures:

a. Reorient or relocate the receiving antenna.
b. Increase the separation between the equipment and the affected receiver.
c. Connect the equipment and the affected receiver to power outlets on separate circuits.
d. Consult the dealer or an experienced radio/TV technician for help.

⚠ **WARNING: Changes or modifications not expressly approved by Oceanic could void the user's authority to operate the equipment.**

CONTENTS

CONTENTS (continued)

CONTENTS (continued)

CONTENTS (continued)

CONTENTS (continued)

CONTENTS (continued)

FEATURES and DISPLAYS

INTRODUCTION

Welcome to Oceanic and thank you for choosing DataTrans Plus!

Your new DataTrans Plus is a two component, hoseless, integrated system that consists of a computer Display Module and a radio frequency Transmitter that will be installed into a high pressure port of your regulator first stage, or is built into an Oceanic DX3™ Integrated first stage regulator. The transmitter sends tank pressure data to the display module via a low frequency signal. In addition to nitrogen and oxygen loading data, breathing gas consumption is calculated and displayed in graphic and alpha/numerical formats on the computer's screen. The Display Module can also be used without the transmitter as a stand alone, non-integrated computer, and will retain full use of all functions except those that related to tank pressure.

Your DataTrans Plus presents the information that you need before, during, and after your air (or nitrox) dives using Oceanic's intuitive combination of easy to read displays and unique identification icons. Tissue loading of nitrogen, accumulation of oxygen, ascent rate, breathing gas consumption rate, and breathing gas time remaining are presented as segmented bar graphs alongside color coded reference indicators that bring quick focus to these important status displays.

As you progress through this instructional guide, you will become familiar with all of the unique functions and features available and see examples of the displays that you could expect to see in the various operational modes. Refer to the Glossary of terms on page 121, and keep the waterproof Review Card handy during your dive trips. Although it will require an initial investment of time to become acquainted with the various icons

and bar graphs of the Graphic Diver Interface, you'll soon agree that the DataTrans Plus is easy to understand and use.

The DataTrans Plus has a wide array of features described in detail throughout the pages that follow. Due to the importance that they be understood thoroughly prior to using the DataTrans Plus, information will be expanded upon and some refreshed as you proceed. Relax and read through the complete guide.

It is extremely important that you:

- **Read this owner's guide in sequence and understand it completely before attempting to use the DataTrans Plus.**
- **Check the DataTrans Plus frequently during your dive.**
- **You must also be a trained diver, certified by a recognized training agency in Scuba diving.**
- **Prior to using the oxygen related features of the DataTrans Plus, you must also be trained and certified for diving with enriched nitrogen-oxygen (nitrox) mixtures by a recognized training agency.**

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

Be a RESPONSIBLE DIVER at all times.

INTERACTIVE CONTROL CONSOLE

(Surface Modes)

(Dive Modes)

Fig. 1 - Interactive Control Console

The DataTrans Plus is a unique dive computer with interactive controls that allow you to select various display options and access specific information when you choose to see it. The Interactive Control Console consists of the **Advance** (Left) button and **Select** (Right) button (Fig. 1).

The control buttons can be pressed repeatedly, releasing upon hearing a beep, or held in to scroll and continue as you set or access different display modes.

On the surface, before diving, you can perform the following operations using the Control Console:

- Activate the display module
- Select units of measure - English or Metric
- Select Message Box™ language - English, Italian, German, Spanish, or French
- Set depth & gas alarm warning level Set Points™
- Turn the audible alarm - on or off
- Turn the Alternate Dive Mode display - on or off
- Set the current date & time
- Set the display module/transmitter link code

Also while on the surface, you can access the following modes with the Control Console:

- **FO2** mode - to program the percentage of oxygen in the nitrox mix.
- **Plan** mode - to view no decompression limits and plan your next dive.
- **Log** mode - to view data from your 12 most recent dives.
- **History** mode - to view the total number of dives, maximum depth, etc.
- **Set** mode - to establish prefered selections.
- **External Access** mode - to download (copy) dive data from the DataTrans Plus to a unique PC log/profile program.

During the Dive mode, the Advance (Left) button can be used to activate the display's Oceanglo™ backlight, and the Select (Right) button can be used to access an Alternate Dive mode, that displays additional information including maximum depth, bottom time and temperature.

INFORMATIONAL DISPLAYS

Operational modes and status information is visually represented numerically and/or graphically and can be understood at a glance with the aide of universal icons (Fig. 2) that identify and bring quick focus to the displays. Also, segmented bar graphs will show how close you are to critical limits.

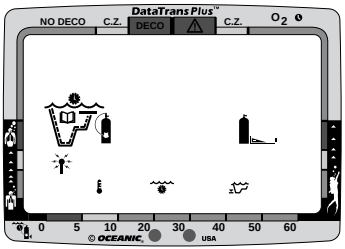


Fig. 2 - Universal Icons

In critical situations, a Message Box™ flashes urgent messages, while an au-

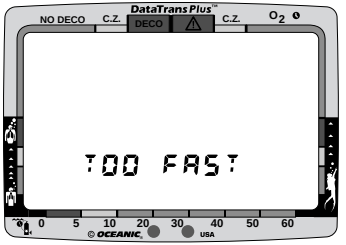


Fig. 3 - Message Box

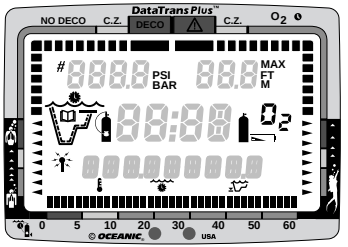


Fig. 4 - Bar Graph Displays

dible alarm sounds to alert you to check this information. These concise, simple messages (Fig. 3), such as “TOO FAST” or “TOO DEEP" are displayed in the language that you choose during setup.

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

NOTE: Throughout this owner's guide reference is made to the term 'breathing gas'. The rational being that the DataTrans Plus can be used for 'air' dives or 'nitrox' dives. For clarity these terms are defined as -

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

UNIVERSAL GRAPHIC DIVER INTERFACE ™

Five bar graphs referred to as the Universal Graphic Diver Interface™ appear around the perimeter of the DataTrans Plus screen (Fig. 4). These segmented

bar graphs are located next to green, yellow, and red color coded portions of the peripheral decal that denote normal, caution, and danger zones, respectively. When underwater, you can quickly focus on the bar graphs to make sure that they are **in the green**. You can quickly verify that you're not getting too close to the no decompression limit or the oxygen tolerance limit, or ascending too fast, or consuming breathing gas too fast, or running low on breathing gas.

Tissue Loading Bar Graph™

The Tissue Loading Bar Graph™ represents nitrogen loading (Fig. 5), showing your relative no decompression or decompression status. As your depth and elapsed dive time increase, segments will add to the graph beginning in the lower left portion of the screen. As you ascend to shallower depths, this bar graph will begin to recede, indicating that additional no decompression time is allowed for multilevel diving.

The Tissue Loading Bar Graph monitors 12 different nitrogen compartments simultaneously and displays the one that is in control of your dive. It is divided into a green No Decompression zone (NO DECO), a yellow Caution zone (C.Z.), and a red Decompression zone (DECO). The bar graph gives a visual representation of just how close you are to the no decompression limit with a yellow Caution (C.Z.) Zone.

This Caution Zone portion of the bar graph (Fig. 5a) allows you to make a decision regarding safety stop duration or necessity. While you cannot provide a

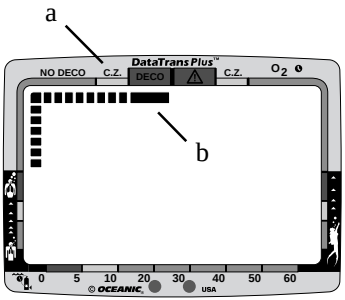


Fig. 5 - Tissue Loading Bar Graph

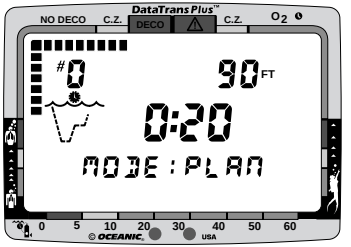


Fig. 6 - Nitrogen Control

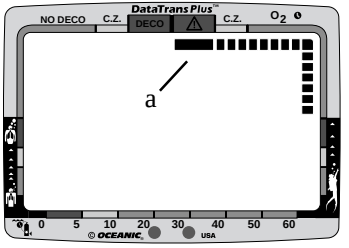


Fig. 7 - Oxygen Accumulation (O2) Bar Graph

guarantee against the occurrence of decompression sickness, you may choose your own personal zone of caution based upon age, physique, excessive weight, etc., to reduce the statistical risk.

The Tissue Loading Bar Graph assists you with managing decompression by filling a large red 'ceiling stop required' segment (Fig. 5b). Decompression is explained in detail in the Handling the Extremes section.

Prior to a repetitive nitrox dive, if all segments of the Tissue Loading Bar Graph are displayed during the Pre Dive Planning Sequence™, and no segments of the O2 bar graph are displayed (Fig. 6), that next dive is calculated to be controlled by nitrogen loading.

WARNING: Oceanic advocates responsible diving practices consistent with your individual level of formal training and experience, and <u>does not</u> recommend decompression diving or diving below 130 feet (39 m).

Oxygen Accumulation (O2) Bar Graph

NOTE: Displays associated with oxygen and the O2 bar graph will only appear if FO2 has been set at a value other than 'Air'.

The Oxygen Accumulation (O2) Bar Graph (Fig. 7) represents oxygen loading,

your relative oxygen tolerance dosage (OTU), showing the maximum of either per dive allowable oxygen, or 24 hour period allowable oxygen. As your exposure (accumulation of oxygen) increases during the dive, segments will add to the graph around the upper right perimeter of the screen. As accumulation decreases, the bar graph will begin to recede, indicating that additional exposure (accumulation) is allowed for that dive, and that 24 hour period.

The O2 Bar Graph also assists you with managing high partial pressure of oxygen (PO2) by flashing the large red Danger zone segment (Fig. 7a) as a warning when the level of PO2 exceeds the maximum allowed limit of 1.60 BAR (ATA). This is explained in detail in the Handling the Extremes section.

Prior to a repetitive nitrox dive, if the segments of the O2 Bar Graph are displayed during the Pre Dive Planning Sequence™ (PDPS), and no segments of the Tissue Loading Bar Graph are displayed (Fig. 8), that next dive is calculated to be controlled by oxygen loading.

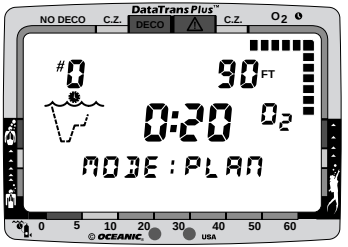


Fig. 8 - Oxygen Control

Variable Ascent Rate Indicator™

The Variable Ascent Rate Indicator™ (VARI), located along the lower/right portion of the screen (Fig. 9), is provided to help you to avoid excessive ascent rates by providing a visual representation of ascent speed, rather than just showing that you are ascending too fast.

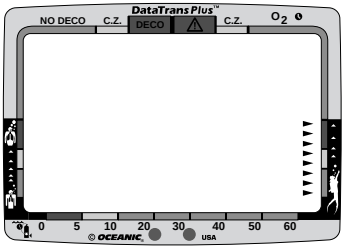


Fig. 9 - Variable Ascent Rate Indicator

VARI Segments = Speed (rate)
0 = 0 - 10 fpm (0 - 3 mpm)
1 = 11 - 20 fpm (3 - 6 mpm)
2 = 21 - 30 fpm (6 - 9 mpm)
3 = 31 - 40 fpm (9 - 12 mpm)
4 = 41 - 50 fpm (12 - 15 mpm)
5 = 51 - 60 fpm (15 - 18 mpm)
6 = 61 - 90 fpm (18 - 27 mpm)
7 = 91 - 120 fpm (27 - 36 mpm)
8 = >120 fpm (>36 mpm)
(when > 5, the segments flash)

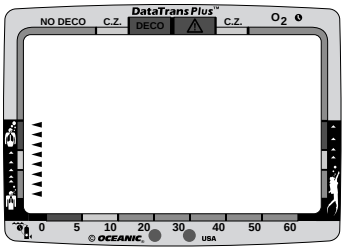


Fig. 10 - Breathing Gas Consumption Indicator

The 8 triangular segments of the bar graph, located beside green, yellow, and red reference zones, appear beginning from the bottom and may be considered an ascent rate speedometer. Green is a 'normal' rate, yellow is a 'caution' rate, and red is 'Too Fast'. The actual speeds that the VARI segments represent are shown at the left.

When your ascent rate exceeds the maximum recommended rate of 60 feet (18 meters) per minute, the bar graph segments will enter the red zone and all displayed segments will flash once per second until your ascent speed is slowed. When this occurs, you should immediately slow your ascent.

The Variable Ascent Rate Indicator is a unique feature of Oceanic dive computers that has been granted U.S. Patent No. 5,156,055.

Breathing Gas Consumption Indicator

The Breathing Gas Consumption Indicator bar graph located at the lower/left portion of the display (Fig. 10) is a true biofeedback monitor that indicates your current breathing rate as compared to your personally established breathing parameters. The comparison is based upon an average rate established during the first 70 seconds of breathing that is sensed.

After the comparison, the bar graph will provide you with continuous visual indication of your breathing rate as it slows or increases. Use of Oceanic's pat-

ented (U.S. Patent No. 4,586,136) breathing gas consumption calculation method makes information accurate even during sudden changes in depth.

Breathing Gas Time Remaining Bar Graph

The Breathing Gas Time Remaining Bar Graph located along the bottom of the display (Fig. 11) provides a graphic representation of the time that you can remain at your present depth and then, following a safe ascent, surface with a predetermined breathing gas reserve. This calculation and display is based on your breathing gas consumption rate that is continually monitored by the DataTrans Plus, and it takes into account the breathing gas required for a safe ascent including any required decompression stops.

The green, yellow, and red zones adjacent to the bar graph enable you to quickly focus on remaining breathing gas times of 60 minutes or less, based on your pre selected Gas Alarm Set Point. The bar graph is more precise as time remaining decreases toward the red zone.

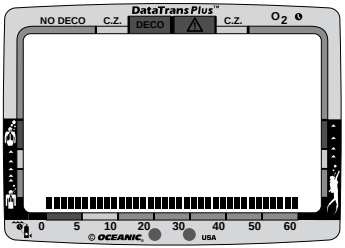


Fig. 11 - Breathing Gas Time Remaining Bar Graph

DIVE TIME REMAINING

One of the most important pieces of information on the DataTrans Plus is the patented Dive Time Remaining numeric display. To numerically display Dive Time Remaining, the DataTrans Plus constantly monitors three critical pieces of information; no decompression status, oxygen accumulation status, and rate

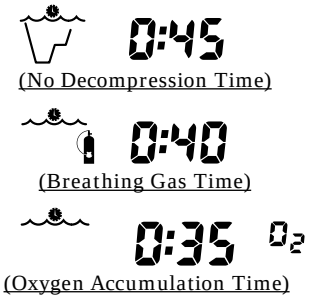


Fig. 12 - Dive Time Remaining Identification

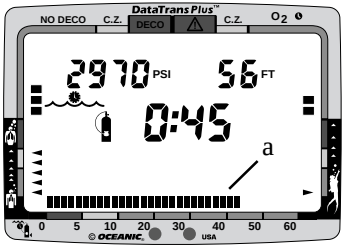


Fig. 13 - Breathing Gas Time Remaining

of breathing gas consumption. The Dive Time Remaining display will indicate the time that is more critical for you at that particular moment (i.e.; whichever time is the least amount available of the three). The time being displayed is identified by the No Decompression Dive Time icon, or Gas Time Remaining icon displayed to the left of the numeric display, or the O2 symbol displayed to the right of the numeric display (Fig. 12).

Knowing that you have 45 minutes of no decompression time remaining is not as critical as knowing that you only have 40 minutes of breathing gas time remaining. Or, knowing that you have 40 minutes of breathing gas time remaining is not as critical as knowing that you only have 35 minutes of oxygen accumulation time remaining. The DataTrans Plus presents the dive time remaining that is considered to be of primary importance. This unique feature of select Oceanic dive computers has been granted U.S. Patent No. 4,586,136.

Breathing Gas Time Remaining

Breathing Gas Time Remaining will appear as the numeric Dive Time Remaining display (Fig. 13) only when it is less than No Decompression Time Remaining and Oxygen Accumulation Time Remaining. Breathing Gas Time Remaining of 60 minutes, or less, will be displayed continuously as the Gas Time Remaining Bar Graph (Fig. 13a) regardless of which time is being displayed as the numeric Dive Time Remaining. The bar graph represents only Breathing Gas Time information and it will be the only indication of breathing gas time

remaining if you are in a decompression or violation mode.

The DataTrans Plus calculates Breathing Gas Time Remaining using a patented algorithm that is based on a diver's individual breathing gas consumption rate and depth. Tank pressure is measured once each second, and an average rate of consumption is calculated over a 90 second period. This rate of consumption is then used in conjunction with a knowledge of the depth dependence to predict the breathing gas required for a safe ascent including any required decompression stops.

Breathing gas consumption and depth are continuously monitored, and Breathing Gas Time Remaining reflects any change in your circumstances. For example, when a buddy starts breathing from your octopus or you suddenly find yourself swimming against a strong current and begin breathing more rapidly, the DataTrans Plus will recognize this change and adjust your Breathing Gas Time Remaining accordingly.

Remember, the Breathing Gas Time Remaining is the time you can remain at the present depth and still surface with the tank pressure reserve (Gas Alarm Set Point) that you set during setup. When Gas Time Remaining indicates zero, you should immediately initiate a controlled ascent. However, there is no reason to panic, the DataTrans Plus has allowed for the breathing gas necessary for a safe ascent including any emergency decompression stops.

No Decompression Dive Time Remaining

No Decompression Dive Time Remaining is the maximum amount of time that you can stay at your present depth before entering a decompression situation. It is calculated based on the amount of nitrogen absorbed by twelve hypothetical tissue compartments. The rates each of these compartments absorb and release nitrogen is mathematically modeled and compared against a maximum allowable nitrogen level. Whichever one of the twelve is closest to this maximum level is the controlling compartment for that depth. Its resulting value will be displayed numerically along with the No Decompression Dive icon and graphically as the Tissue Loading Bar Graph (Fig. 14).

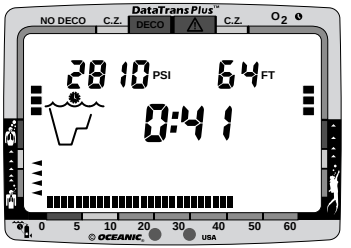


Fig. 14 - No Decompression Dive Time Remaining

As you ascend from depth following a dive that has approached the no decompression limit, the Tissue Loading Bar Graph will diminish as control shifts to slower compartments. This is a feature of the decompression model that is the basis for multilevel diving, one of the most important advantages the DataTrans Plus offers. See the Reference section for more information pertaining to tissue tracking.

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

the findings in the Recreational Dive Planner™ distributed by PADI.

Oxygen Accumulation Time Remaining

Oxygen accumulation (exposure) during a dive, or 24 hour period, appears graphically as the O2 Bar Graph. As time remaining before reaching the oxygen exposure limit decreases, segments are added to the O2 bar graph. When the amount of time remaining before reaching the oxygen limit becomes less than the No Decompression Dive Time Remaining or Breathing Gas Time Remaining, calculations for the dive will be controlled by oxygen. Oxygen Time Remaining will then appear as the main numeric time display (Fig. 15a) as signified by the O_2 symbol appearing to the right of the display.

As oxygen accumulation continues to increase, the O2 bar graph will enter the yellow Caution Zone. High O2 Mode is explained in detail in the Handling the Extremes section.

ALPHA/NUMERIC DISPLAYS

Cylinder Pressure Display

The Cylinder Pressure display, located in the upper/left portion of the screen (Fig. 15b), indicates how much breathing gas is in your cylinder, up to 5000 PSI (352 BAR) to nearest 10 PSI (.5 BAR).

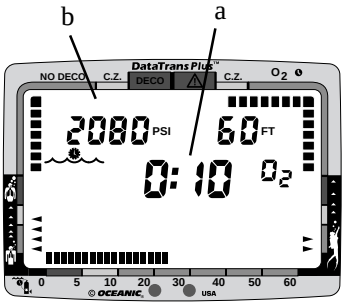


Fig. 15 - Oxygen Accumulation Time Remaining

R2

The value of pressure will be displayed during all dive modes when the Display Module is linked to the Transmitter and within the operating range. Linking is explained in more detail in the Pre Dive and Dive Mode section.

Depth Displays

During a dive, the **Current Depth** display, located in the upper/right portion of the screen (Fig. 16a), indicates depths from 0 to 330 feet (99.5 meters) in 1 foot (.5 meter) increments.

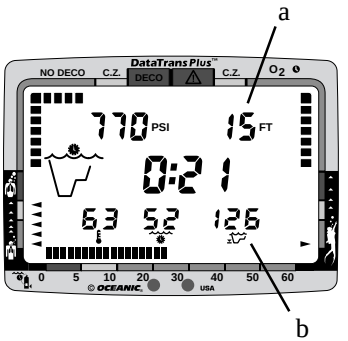


Fig. 16 - Depth Displays (Alternate Dive Mode)

The value of current depth will be displayed during all dive modes unless you descend deeper than 330 feet (99.5 meters), at which point the display will show three dashes (- - -) to indicate that you have gone 'out of range'. This is described in detail in the Handling the Extremes section.

A second depth display located in the lower/right portion of the LCD (Fig. 16b) indicates the **Maximum Depth** reached during that dive. If the Alternate Mode is turned 'off', the display will appear when the Select/Right button is pressed. More critical information such as a message will override it.

In the event that you descend deeper than 330 feet (99.5 meters), this display will only show three dashes (- - -) as the maximum depth for the remainder of that dive, and as the Max Depth in the Dive Log for that dive. This is described in detail in the Handling the Extremes section.

During a Decompression Dive the required **Ceiling Stop Depth** appears in the lower/left portion of the screen (Fig. 17a). The display toggles with the message CEILING once every 15 seconds while in the Decompression Mode. This is described in detail in the Handling the Extremes section.

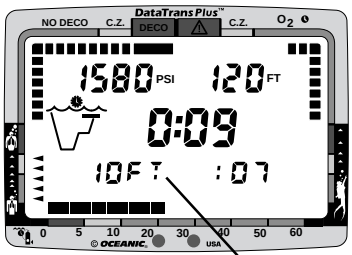


Fig. 17 - Depth Displays (Decompression Dive Mode)

Time Displays

The **Main Time** display, located in the center of the screen (Fig. 18a), has larger digits than the other numerial displays. Depending on the operating mode that the DataTrans Plus is in at the time, the display indicates elapsed Surface Time, theoretical Dive Time Available, Dive Time Remaining, or Total Ascent Time required.

A second Time display appears in the lower portion of the screen. Depending on the operating mode that the DataTrans Plus is in at the time, the display indicates Elapsed Dive Time (Fig. 18b), Decompression Stop Time required, Time of Day, or Time to Fly.

Each display is described in detail in subsequent sections of this owner's guide.

Most of the time displays are shown in hour:minute format (i.e. 1:02 represents one hour and two minutes, not 102 minutes!). The colon that separates hours and minutes blinks once per second when the display is indicating real time such as elapsed Surface Time. Dive Time Available, No Decompression

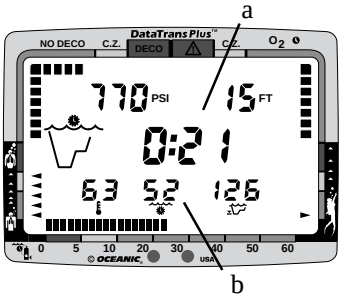


Fig. 18 - Time Displays (Alternate Dive Mode)

Dive Time Remaining, Total Ascent Time required, or Time to Fly are calculated projections of time and use a solid (non-blinking) colon to indicate that they are counting down, rather than counting up.

Elapsed Dive Time, that appears in the lower/center portion of the display (Fig. 19a) when the Alternate Mode is turned 'on', is in minute format with a maximum display value of 99 minutes. If the Alternate Mode has been turned 'off', Elapsed Dive Time can be displayed by depressing the Select/Right button.

Ambient Temperature Display

When the Alternate Mode is turned 'on', ambient Temperature will appear in the lower/left portion of the display(Fig. 19b). If the Alternate Mode has been turned 'off', Temperature can be displayed by depressing the Select/Right button.

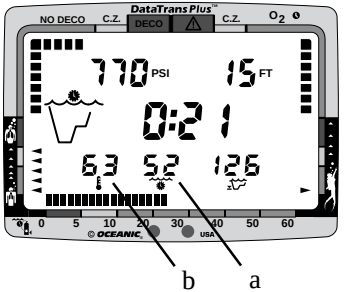


Fig. 19 - Alternate Dive Mode

△ **NOTE: More critical information such as Ceiling Stop Depth required or a message will override the lower displays.**

AUDIBLE ALARM

When you are approaching dangerous situations, the DataTrans Plus alerts you to check the Message Box, Graphic Diver Interface, and numeric displays. There are four Audible Alarms.

Potential Danger – One Double Beep

During situations that may pose potential danger, one Double Beep is emitted from the DataTrans Plus. These situations are as follows:

- Entry into decompression.
- Decreasing to 5 minutes of Breathing Gas Dive Time Remaining.
- Partial pressure of oxygen equal to or greater than 1.40 ATA.

(Potential Danger)

Immediate Danger – continuous One Beep per Second

When the DataTrans Plus senses immediate danger to you, it emits One Beep per Second until one of the following situations is corrected:

- Descent deeper than the Depth Alarm Set Point.
- Continuous interruption of signal link of more than 60 seconds.
- Ascent to a depth shallower than a required stop depth.

(Immediate Danger)

- Ascent rate that exceeds 60 ft./min (18 m/min).
- Gas Time Remaining equals required Decompression time.
- Gas Time Remaining equals zero (0:00).
- Partial pressure of oxygen equal to or greater than 1.60 ATA.
- Oxygen accumulation greater than the allowed per dive or 24 hour limit.

Permanent Violations – Single Long Beep

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

(Violation)

- Depth is shallower than the required stop depth for more than 5 minutes.
- Required Decompression exceeds a 60 FT/ 18 M ceiling.

Transition – Short Beep

(Transition)

To indicate that a command has been accepted, the DataTrans Plus will emit a Short Beep whenever you use the control console, and immediately following activation and the Diagnostic Mode.

MESSAGE BOX

The Message Box, located in the lower portion of the screen (Fig. 20), provides a visual explanation of what is occurring when the audible alarm sounds, working in conjunction with the Depth and Gas Alarm Set Points, as well as Decompression and Violation Modes, and the Variable Ascent Rate Indicator. Messages such as, “TOO FAST”, “GAS ALARM”, and “VIOLATION” flash on the display in the language that you set. This is described in detail in the Handling the Extremes section. Also, a language cross reference is provided on page 118 for your convenience.

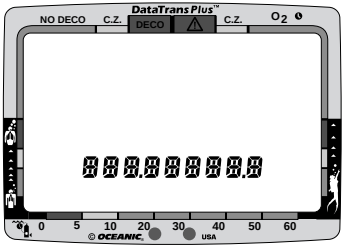


Fig. 20 - Message Box

BACKLIGHT FEATURE

In addition to using a high contrast LCD for easy readability in low light conditions, the DataTrans Plus Oceanglo™ backlight feature evenly and easily illuminates the full display (Fig. 21). This means that on night dives, in caves, or any other low light situation, you illuminate the display when you wish to view it with the touch of a button.

Upon activation the Oceanglo™ backlight will illuminate the display while the unit performs its diagnostic check. To activate the backlight during the Dive mode, simply press the Advance/Left control button. Oceanglo will remain illuminated as long as the button is depressed, plus 10 seconds after being re-

Fig. 21 - Backlight (Oceanglo™)

leased (for a maximum of 15 seconds).

Oceanic recommends that you always carry primary and backup dive lights when conducting dives that could include low light situations.

OPERATING TEMPERATURE

Fig. 22 - Operating Temperature Range

The DataTrans Plus will operate in almost any temperature diving environment in the world (Fig. 22) between 32 and 140°F (0 and 60°C). At extremely low temperatures, the LCD may become sluggish, but this will not affect it's accuracy. If stored or transported in extremely low temperature areas (below freezing), you should warm the module and its batteries with body heat before diving.

Even though the DataTrans Plus will operate in this 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 Display Module and **keep it out of the sun**. If inadvertently left in the direct sunlight for a long period, the LCD display may become totally black. If this occurs, immediately immerse the Display Module in water. The display should recover its normal appearance after a few minutes. **Damage from excess heat, or cold, is not covered by the DataTrans Plus two year limited warranty.**

SHARING THE DATATRANS PLUS

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

The DataTrans Plus provides information based upon a diver's personal dive profile, and therefore **must not be "shared" between divers**. You should never, under any circumstances, swap your computer with another unit between dives, or share your computer with another diver underwater. It is impossible for two divers to stay precisely together underwater, and your computer's dive **profile tracking of previous dives will be pertinent to you only**. Nitrogen and oxygen loading of a second user may be significantly different and thus swapping dive computers could lead to inaccurate and potentially dangerous predictions of decompression and oxygen accumulation status. This rule applies to the use of all dive computers, but is especially important when using the DataTrans Plus, due to the personal information it provides.

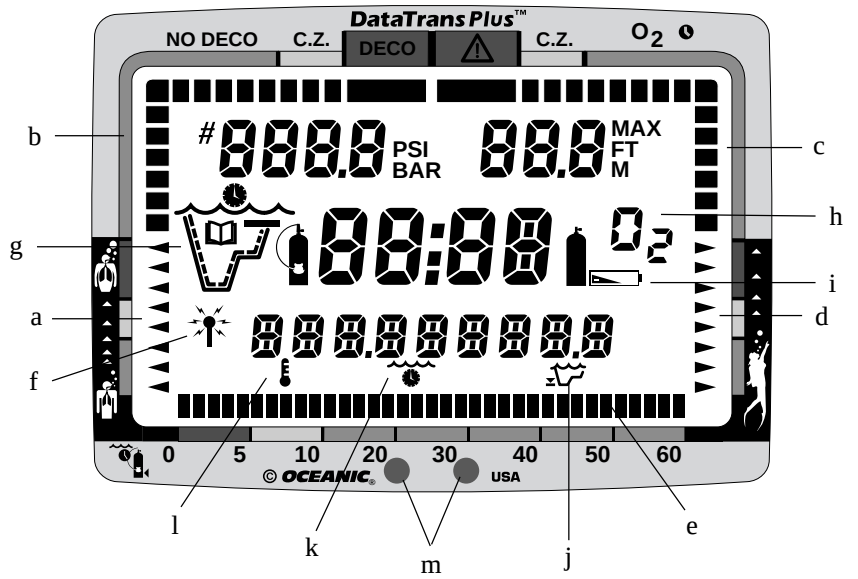
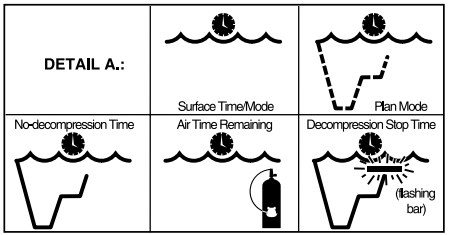
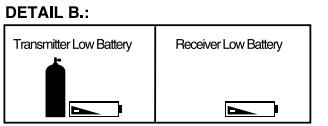


Fig. 23 - Graphic Interface Legend

Key:
a - Gas Consumption Indicator
b - Tissue Loading Bar Graph
c - O2 Accumulation Bar Graph
d - Variable Ascent Rate Indicator
e - Gas Time Remaining Bar Graph
f - Transmitter Link icon
g - Operating mode icon (detail A)
h - Oxygen mode symbol
i - Low Battery icon (detail B)
j - Maximum Depth icon
k - Elapsed Dive Time icon
l - Temperature icon
m - PC Interface sensors





ACTIVATION and SETUP

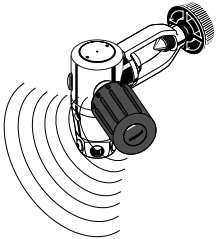


Fig. 24 - Standard First Stage

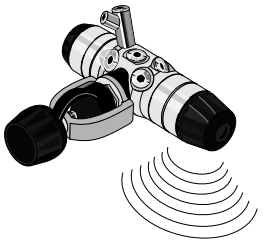


Fig. 25 - DX3 Integrated First Stage

MAKING THE DATATRANS PLUS PERSONAL

Before you dive with the DataTrans Plus for the first time, you will need to become acquainted with its interactive features, and select your personal display settings using the Control Console and Mode Menu.

The transmitter must first be installed into a high pressure port of your regulator first stage, facing to one side (Fig. 24) - unless you purchased the DX3™ Integrated first stage in which the transmitter is a built-in component (Fig. 25). Oceanic strongly recommends that 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 102.

NOTE: The DataTrans Plus transmitter is compatible with all Oceanic first stages, but cannot be guaranteed to fit certain models produced by other manufacturers. Check with your Authorized Oceanic Dealer to verify compatibility with your regulator first stage.

For the Display Module to receive a tank pressure signal from the Transmitter, the two devices must first be 'Linked'. The code (serial number) of the Transmitter must be entered as the 'Link' code in the Display Module.

If your Display Module and Transmitter were packaged and shipped from the factory as a complete system, the code of your Transmitter has already been entered as the 'Link' code in your Display Module. If the two units have been purchased separately by you or your Authorized Oceanic Dealer, it will be necessary to set the Link code in the Display Module so that a tank pressure signal can be received. If the Display Module has been purchased as a stand alone computer without the Transmitter, it has been preset at the factory as a non-linked unit, but can easily be reset at any time to 'Link' with a Transmitter code (serial number) using the Control Console.

ACTIVATING THE DISPLAY

R2 Before activating the Display Module, the regulator containing the transmitter must be connected to a full tank and pressurized by slowly opening the tank valve. Tank pressure of 50 psi (3.5 BAR), or greater, is required for the transmitter to activate. Position the display module within 3 feet (1 m) of and parallel to the transmitter (Fig. 26), and hold it in this location during activation.

WARNING: Never activate the DataTrans Plus underwater. This may result in inaccurate depth and no-decompression time displays. If activated deeper than 4 feet (1 meter) underwater a message "TOO DEEP" will appear and the unit will shut off.

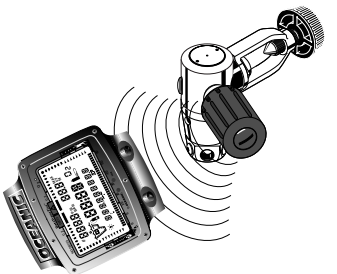


Fig. 26 - Positioning During Activation

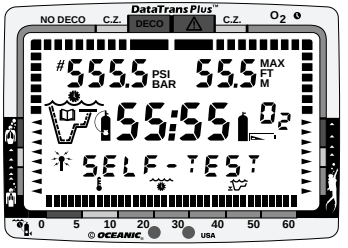


Fig. 27 - Diagnostics in Progress

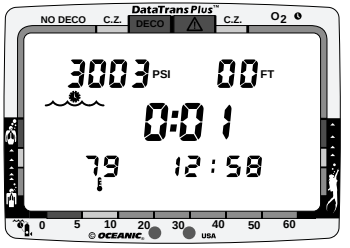


Fig. 28 - Diagnostics Successfull

To activate the Display Module, press the Select/Right button once and release. R2

The DataTrans Plus will immediately enter Diagnostic Mode, displaying all "8's", followed by "dashes", and then a countdown from 9 to 0 (Fig. 27). The Message Box will read SELF - TEST and the Oceanglo backlight will illuminate the display throughout the diagnostic check. A single beep will be emitted to indicate successful completion of the operation.

While conducting diagnostics, the DataTrans Plus checks its display functions, coded frequency link to the transmitter, and battery voltage to ensure that everything is working correctly.

If the Display Module is already set to the Transmitter's link code, the Link icon will disappear from the screen and tank pressure will be displayed numerically (Fig. 28).

It will also check the ambient barometric pressure, and calibrate its present depth as zero. At elevations of 2,000 ft. (610 m) or higher, it will recalibrate itself to measure depth in feet of fresh water instead of feet of sea water.

R2

During the diagnostic mode, battery voltage level of both the Display Module and the Transmitter are measured to determine if sufficient voltage is available to maintain operation for one day of diving. If there is not enough battery voltage in the Display Module, it will deactivate itself or would not have activated at all. If there is not sufficient voltage in the Transmitter, the Link icon and a tank pressure of "00" PSI will flash on display (Fig. 29). This could also indicate one of the following conditions:

- The Transmitter was not pressurized prior to activation of the Display Module.
- The Display Module was not positioned in close proximity to the Transmitter during activation, or not correctly positioned parallel to it.
- The Display Module is not linked to the same coded frequency as the Transmitter.

If the Display Module is out of the range of the Transmitter while in Surface Mode, the flashing will stop and the Link icon will disappear within 5 seconds when the Display Module is returned to its correct proximity to the Transmitter.

R2

In the latter case, it will be necessary to follow the prescribed linking procedure outlined on page 41 to set the Display Module to the Link code that matches that of the Transmitter's serial number, or to set a specific link code that will allow the Display Module to function as a stand alone unit.

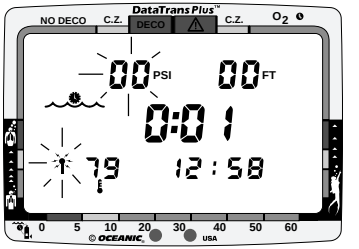


Fig. 29 - Unsuccessful Link

Low Battery conditions and battery power conservation are described in more detail in the Care & Maintenance section.

WARNING: If either or both of the Low Battery icons remain on display following diagnostics, Oceanic strongly recommends that you DO NOT dive until the batteries are replaced. See the battery replacement procedure on page 99.

If no dive is made within 2 hours after initial activation, the Display Module will automatically deactivate to conserve its battery power. Check your Display Module before entering the water to verify that it is functioning and doesn't need reactivation.

To save its battery power while on the surface, the Display Module will stop searching for a Transmitter signal after 10 minutes. The signal Link can be restored by depressing the Select/Right button on the Display Module. It will also be restored automatically upon descent on a dive.

WARNING: During activation and diagnostics, if any display or message varies from the information presented here, return the DataTrans Plus to your Oceanic Dealer for inspection.

Be a -
RESPONSIBLE DIVER
at all times.

SURFACE MODE

Surface Mode immediately follows Diagnostic Mode after initial activation (Fig. 30), or after the linking procedure has been performed. It also appears after a dive when you ascend shallower than 3 feet (1 meter). Surface Mode is identified by the Surface Time icon. Information displayed includes Tank Pressure, Depth (00 FT), Surface Time with flashing colon, Temperature, and Time of Day with colon flashing.

MODE MENU SYSTEM

The Mode Menu system allows you to set the various display options that will make the DataTrans Plus your personal computer. If you followed the Linking procedure, you have already developed a feel for how the Control Console works. The Advance/Left button is used to move through the Mode Menu and change each setting, and the Select/Right button is used to select (enter) the mode or setting that is currently on the screen. A brief glossary and hierarchy of the menu system is as follows:

Mode - Each mode provides a different display of information, or access to a submenu or setting. Some modes, such as Dive Mode and Surface Mode, are entered into automatically after activation. Others, such as the FO2 Mode, Plan Mode and Alternate Dive Mode, are accessed using the Control Console, when you want to view specific information.

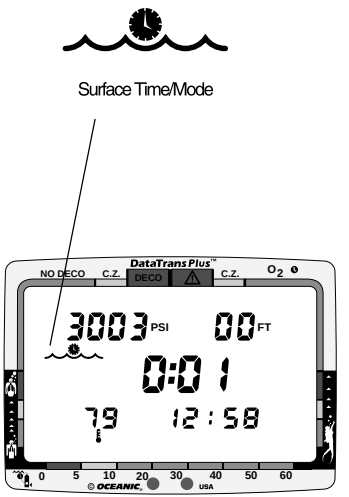


Fig. 30 - Surface Mode

Menu - The main menu allows interactive access from the Surface Mode to various other modes used while on the surface.

Settings - These are display options (settings) that are determined by you before going diving. For example, with 'alarms' you can set the values at which depth and tank pressure will alert you when you are going too deep or running low on breathing gas.

Mode Menu Sequence
- Surface
- FO2
- Plan
- Log
- History
- Set
- External Access

Settings Sequence
- Time
- Date
- Alternate
- Unit
- Alarms
- Link
- Language

NOTE: If the DataTrans Plus is left unattended for five minutes while in the Mode Menu, it will automatically revert to Surface Mode.

ENTERING SETTINGS

Before going diving, enter the general settings to be used for each of your dives. These include - Time, Date, Alternate Display, Units of Measure, Depth Alarm, Gas (tank pressure) Alarm, Link code, and Language.

Note that FO2 is a 'pre dive' setting that must be entered prior to each nitrox dive. Setting the FO2 value for the nitrox mixture being used is described in the Pre Dive and Dive Mode section.

Set Time

Your DataTrans Plus has been factory set for 12:00 AM. To change to the current Time, follow this procedure, beginning in Surface Mode:

1. Press the Advance/Left button 5 times to advance to the Set Mode. MODE:SET will appear, with SET flashing (Fig. 31). If you accidentally pass the Set Mode, you will need to press the Advance/Left button repeatedly until MODE:SET reappears.
2. Press the Select/Right button to select (enter) the Set Mode. SET:TIME will appear, with TIME flashing (Fig. 32).
3. Press the Select/Right button once to select (enter) the Time setting. Time of day will appear, with the first digit flashing (Fig. 33).
4. To set the time, press the Advance/Left button to change that digit until

Fig. 31 - Set Mode

Fig. 32 - Set Time

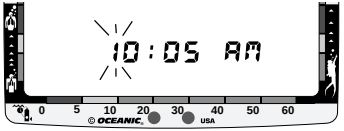


Fig. 33 - Time of Day

it matches that of the current time, and press the Select/Right button to save the digit shown and move on to the next.

5. Press the Advance/Left button to toggle between AM or PM, and press the Select/Right button to save the one displayed.

Fig. 34 - Set Date

After the time has been set, SET:DATE will appear with DATE flashing. To set the date, continue with step 4 of the following Set Date procedure, or to return to the Surface Mode press the Advance/Left button 6 times.

Set Date

Your unit has been factory set for JAN 1 96. To change to the current Date, follow this procedure, beginning with step 1 if in Surface Mode; or beginning with step 4, if you just set the Time:

1. Press the Advance/Left button 5 times to advance to the Set Mode.
2. Press the Select/Right button to select the Set Mode.
3. Press the Advance/Left button 2 times to advance to the Date setting. SET:DATE will appear, with DATE flashing (Fig. 34).
4. Press the Select/Right button to select the Date setting. The date will appear, with the month flashing (Fig. 35).
5. To set the Date, press the Advance/Left button to change the month, and ress the Select/Right button to save it. Repeat for the day and year.

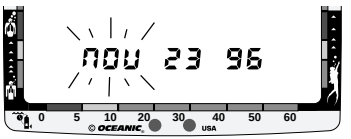


Fig. 35 - Set Month

R2

After the year has been set, SET: ALT will appear, with ALT flashing. To set the Alternate display continue with step 4 of the following Set Alternate Display procedure, or to return to the Surface Mode press the Advance/Left button 5 times.

Set Alternate Display

Your unit has been factory set so the values of Temperature, Elapsed Dive Time, and Maximum Depth will be displayed continuously during the Dive Mode. You can turn this Alternate display 'off' and have them appear only when you wish to see them by depressing the Select/Right button during the dive. To turn the Alternate Display 'off', follow this procedure, beginning with step 1 if in the Surface Mode, or beginning with step 4 if you just set the Date:

1. Press the Advance/Left button 5 times to advance to the Set Mode.
2. Press the Select/Right button to select the Set Mode.
3. Press the Advance/Left button 3 times to advance to the Alternate setting. SET: ALT will appear with ALT flashing (Fig. 36).
4. Press the Select/Right button to select the Alternate Display setting. ALT: ON will appear with ON flashing (Fig. 37).
5. Press the Advance/Left button to toggle between ON and Off, and press the Select/Right button to select the one displayed.

After the Alternate display has been set, SET:UNITS will appear with UNITS flashing. To set the Units of Measure continue with step 4 of the following Set

Fig. 36 - Set Alt

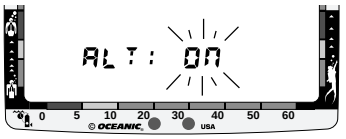


Fig. 37 - Alt On/Off

Units of Measure procedure, or to return to the Surface Mode press the Advance/Left button 4 times.

Fig. 38 - Set Units

Set Units of Measure

You can choose between Imperial (PSI and Feet) and Metric (BAR and Meters) units of measure. Your unit has been factory set for FT and PSI. To change to metric units of measure, follow this procedure, beginning with step 1 if in the Surface Mode, or beginning with step 4 if you just set the Alternate Display:

R2

1. Press the Advance/Left button 5 times to advance to the Set Mode.
2. Press the Select/Right button to select the Set Mode.
3. Press the Advance/Left button 4 times to advance to the Unit setting. SET:UNIT will appear, with UNIT flashing (Fig. 38).
4. Press the Select/Right button to select the Unit setting. PSI and FT will appear, flashing (Fig. 39).
5. Press the Advance/Left button to toggle between Imperial and Metric units, and press the Select/Right button to accept the one displayed.

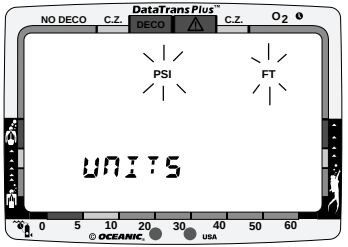


Fig. 39 - Units

After the Units have been set, SET:ALRM will appear with ALRM flashing. To set the alarm values continue with step 4 of the Set Gas and Depth Alarm procedure beginning on page 40, or to return to the Surface Mode press the Advance/Left button 3 times.

BREATHING GAS & DEPTH ALARM SET POINTS™

After planning each dive according to the no-decompression dive times shown to be available in the Pre Dive Planning Sequence, Oceanic strongly recommends that you utilize one of the greatest safety features the DataTrans Plus offers - the Gas & Depth Alarm settings.

While the DataTrans Plus uses the Audible Alarm, Message Box, and Graphic Diver Interface to automatically alert you whenever you enter a potentially dangerous situation, such as Decompression Dive Mode, ascending too fast, running low on breathing gas, etc., the Alarm settings allow you to preset more conservative limits to better avoid these situations.

Depth Alarm Set Point™

The Depth Alarm will alert you whenever you reach or exceed the maximum depth Set Point value that you have chosen. Of course, if you set the Depth Alarm for a depth that is deeper than the no-decompression or decompression limits for that dive, you will first be alerted by other built-in alarms that you have exceeded those limits before the Depth Alarm is activated.
When the Depth Alarm is activated by reaching or exceeding your preset maximum depth, the audible alarm will sound once per second, while the Message Box flashes the words “TOO DEEP” (Fig. 40) until you ascend above the

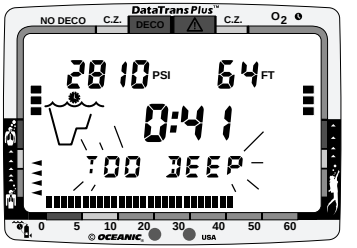


Fig. 40 - Too Deep Message (60 FT Set Point)

Depth Alarm Set Point value. The Depth Alarm value may be set for depths ranging from 30-320 feet (9-97.5 meters), in 10 foot (3 & 3.5 meter) increments. The setting that you choose for the Depth Alarm does not change the displayed limits of no-decompression dive time remaining.

Breathing Gas Alarm Set Point™

The Breathing Gas Alarm is an acoustic alert that indicates you are approaching a critical Breathing Gas Time Remaining. The Breathing Gas Alarm Set Point refers to the surfacing tank pressure reserve of your choice, which may be set for tank pressures ranging from 300 to 1000 psi (21 to 70 bar).

You will recall that Breathing Gas Time Remaining is the time that you can remain at your present depth and, following a safe ascent, still surface with a prescribed breathing gas reserve (identified here as the Breathing Gas Alarm Set Point).

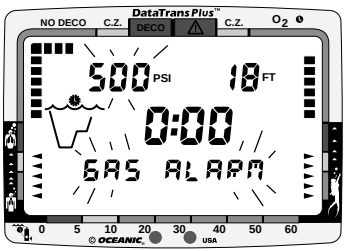


Fig. 41 - Gas Alarm Message

When your Breathing Gas Time Remaining reaches 5 minutes, the Gas Alarm will emit a double beep as a preliminary warning. If you allow your Breathing Gas Time Remaining to decrease to zero, the tank pressure display will flash and the Message Box flashes the words "GAS ALARM" (Fig. 41) until you ascend to a depth of 5 feet (1.5 meters) or less.

While an immediate safe ascent is called for if the Breathing Gas Time Re-

maining decreases to zero, there is no reason to panic. The DataTrans Plus has allowed for the breathing gas you will consume during a safe ascent, including decompression stops if they are required, and still provide the tank pressure reserve you have chosen, e.g., 300 psi (21 bar).

Set Depth and Breathing Gas Alarms

Your DataTrans Plus alarms have been factory set for 320 FT and 300 PSI. These set point values will be retained unless you change them.

To set your desired Depth and Breathing Gas Alarm values, or turn the audible alarm off, follow this procedure, beginning with step 1 if in the Surface Mode, or beginning with step 4 if you just set Units of Measure:

1. Press the Advance/Left button 5 times to advance to the Set Mode.
2. Press the Select/Right button to select the Set Mode.
3. Press the Advance/Left button 5 times to advance to the Alarm setting. SET:ALRM will appear, with ALRM flashing (Fig. 42).
4. Press the Select/Right button to select the Alarm setting. The current Depth Alarm Set Point value will appear, flashing (Fig. 43).
5. Press the Advance/Left button repeatedly to change the Depth Alarm Set Point value to the depth you choose, and press the Select/Right button to accept (save) that setting. The current Breathing Gas Alarm Set Point

Fig. 42 - Set Alarm

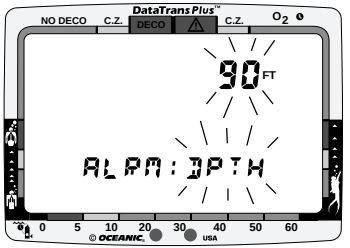


Fig. 43 - Depth Alarm

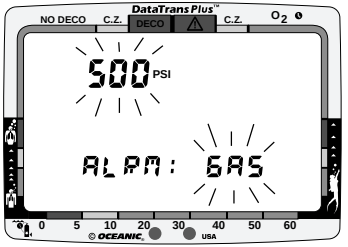


Fig. 44 - Gas Alarm

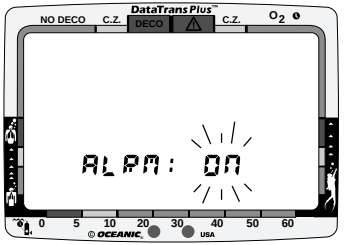


Fig. 45 - Alarm On

value will appear, flashing (Fig. 44).

6. Press the Advance/Left button repeatedly to change the Breathing Gas Alarm Set Point value to the pressure you choose, and press the Select/Right button to save that setting. ALARM:ON will appear, with ON flashing (Fig. 45).
7. Press the Advance/Left button to toggle between 'on' or 'off', and press the Select/Right button to accept the one displayed.

Turning Off the Audible Alarm

WARNING: Turning off the audible alarm disables an important tool that can help you avoid decompression diving or low breathing gas emergencies. Although possible, Oceanic does not recommend the disablement of the audible alarm.

The audible portion of the alarm may not be desired by some divers in certain situations. Underwater photographers, for instance, may find that the alarm frightens off marine life at a close distance, and will therefore want to turn it off temporarily before they begin a dive involving that activity. For a reason such as this, the audible portion of the alarm feature may be turned off at your discretion. The DataTrans Plus will otherwise continue to display information according to the values that have been entered for the Alarm settings.

After the Alarm values have been set, SET:LINK will appear with LINK flashing. To set the Transmitter Link code continue with step 4 of the following LINKING procedure, or to return to the Surface Mode press the Advance/Left button 2 times.

LINKING PROCEDURE

Your DataTrans Plus Display Module has been factory set with the Transmitter's serial number, or at serial number 999999 if no Transmitter was purchased. If the DataTrans Plus linked automatically immediately following activation, there is no need to perform the Linking procedure. However, if the Link icon and pressure value of 00 PSI remained flashing on the screen, the Linking procedure must be performed before the Display Module can receive tank pressure data from the Transmitter.

The Linking procedure may also need to be performed in the event that your DataTrans Plus Display Module or Transmitter has received factory service, and is returned to you with a different Linking code. You may also choose to "unlink" your Display Module from the Transmitter to use the Display Module as a stand alone computer, without its pressure integrated features, or to link it to a Transmitter that has been purchased separately at a time in the future.

To set the Display Module with the link code (serial number of the Transmitter), follow this procedure beginning with step 1 if in the Surface Mode, or be-

Fig. 46 - Set Link

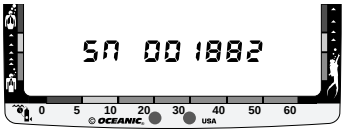


Fig. 47 - Link Mode

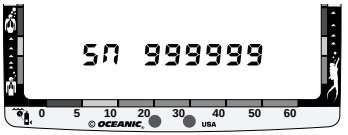


Fig. 48 - Stand Alone

ginning with step 4 if you just set the Alarms:

1. Press the Advance/Left button 4 more times to advance to the Set Mode.
2. Press the Select/Right button to select the Set Mode.
3. Press the Advance/Left button 6 times to advance to the LINK setting. SET:LINK will appear, with LINK flashing (Fig. 46).
4. Press the Select/Right button to select the Link Mode (Fig. 47).
5. Compare the 6 digit serial number code shown on the display to the first 6 digits of the serial number embossed on the Transmitter.

a. If the numbers are the same, press the Select/Right button 6 times to accept (save) the code number shown. DO NOT press the Advance/Left button, this will change the code to an incorrect number.

b. If the numbers are not the same, press the Advance/Left button to change the first digit of the code as required, then press the Select/Right button to save that digit. Repeat until all 6 digits are set correctly.

If you would like to set the Display Module to function as a stand alone, non pressure integrated computer, use the control buttons as described above to set the code as **999999** (Fig. 48).

After the Link code has been set, SET:LANG will appear with LANG flashing. To set your preferred Language continue with step 4 of the following Set Language procedure, or to return to the Surface Mode press the Advance/Left button once.

Set Language

The Message Box displays warning messages in the language that you choose - either English, Italian, German, Spanish, or French. **The Mode Menu system is also displayed in the language selected, so it is very important that you do not accidentally change this setting to a language that you do not understand.**

Your unit has been factory set for English. To change the language, follow this procedure beginning with step 1 if in the Surface Mode, or beginning with step 4 if you just set the Link code:

1. Press the Advance/Left button 4 more times to advance to the Set Mode.
2. Press the Select/Right button to select the Set Mode.
3. Press the Advance/Left button 7 times to advance to the Language setting. SET:LANG will appear, with LANG flashing (Fig. 49).
4. Press the Select/Right button to select the Language setting. The default setting ENGLISH will appear, flashing (Fig. 50).
5. Press the Advance/Left button to scroll through the Language setting options until you arrive at the one you prefer.
6. Be careful to ensure that the language selection flashing is the one that you prefer before you press the Select/Right button.
7. Press the Select/Right button to save the Language chosen and return to the Surface Mode.

Fig. 49 - Set Language

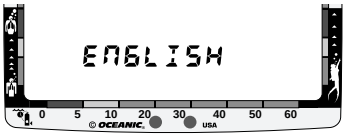


Fig. 50 - Language

Language Correction Procedure

If you accidentally selected a language that you do not prefer or understand, you may find it very confusing to navigate further in the Mode Menu or understand the Message Box warnings (Fig. 51). To correct the language, it is recommended that you wait 5 minutes to allow the Display Module to default to the Surface Mode, then carefully perform the following procedure:

1. Press the Advance/Left button 5 times to arrive at the Set Mode.
2. Press the Select/Right button once to enter Set Mode.
3. Press the Advance/Left button 7 times to arrive at the Language submenu.
4. Press the Select/Right button once to select the Language submenu.
5. Press the Advance/Left button as needed until your preferred language appears.
6. Press the Select/Right button to save the language chosen and return to the Surface Mode.

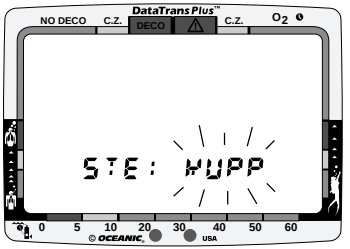
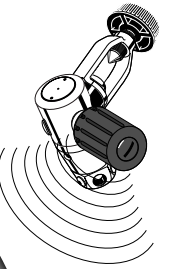


Fig. 51 - Language
(Set: Link - German)

PRE DIVE and DIVE MODES

Poor reception distance.
(Greater than 3 feet)

Poor reception area.



Best reception zone.

Poor reception area.

POSITIONING OF THE DISPLAY MODULE

The Transmitter emits a low frequency signal that radiates outward in a semi-circular pattern that is parallel to the length dimension of the Transmitter. A coiled antenna inside the Display Module receives the signal when it is positioned within a zone parallel to or at a 45 degree angle to the Transmitter as shown on page 46. The Display Module cannot effectively receive the signal when it is held out to the sides of the Transmitter, or held at distances greater than 6 feet (2 meters) in front of the Transmitter. Best reception is achieved when the Display Module is within 3 feet (1 meter) of the Transmitter.

When installed into a high pressure port of your first stage regulator, the Transmitter must be positioned so that it faces horizontally outward from the tank valve.

R2

LINK INTERRUPTION UNDERWATER

During a dive, you may at times move the Display Module out of the signal pattern resulting in a temporary interruption of the link signal.

An interruption greater than 15 seconds will cause the Link icon and tank pressure display to flash (Fig. 52). Also, an audible alarm will sound once per second until the link is restored. The link will be restored within 4 seconds

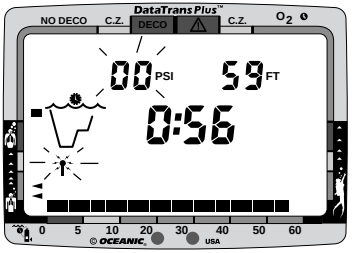


Fig. 52 - Underwater Link Interruption

after the Display Module is moved back into its correct position.

An interruption may also occur while the Display Module is in an area 3 to 4 feet (1 meter) of a running dive propulsion vehicle. The link will be restored within 4 seconds after the vehicle motor is shut off or when the Display Module is moved out of this area.

When using a photo strobe, temporary link interruption may occur shortly after the strobe flashes. The link will be restored in 4 seconds.

⚠ **WARNING: During the period of link interruption, the Display Module will temporarily loose transmitted pressure related functions and displays. These will be regained 4 seconds after the link is restored.**

OPERATIONAL MODES

The DataTrans Plus operates in different operational modes, including the **Diagnostic**, **Surface**, and **Set** Modes which have already been explained in detail in the previous section, “Activation & Setup.” This section describes the modes that the DataTrans Plus operates in before and during a dive.

FO2 MODE

WARNING: The percentage of oxygen (FO2) in the nitrox mix being used must be set 'before each' nitrox dive.

The DataTrans Plus can be used either as an Air computer or a Nitrox computer. After activation, the Display Module will operate as an Air computer without displaying information associated with oxygen calculations, unless it is set for a percentage of oxygen (FO2) other than Air (numerical value between 21 and 50 %).

Fig. 53 - FO2 Mode

FO2 Set for Air

If you are using 'Air' as your breathing gas, you can verify that 'Air' is the FO2 value by performing the following procedure beginning in the Surface Mode:

1. Press the Advance/Left button once to enter the Mode Menu. MODE: FO2 will appear, with FO2 flashing (Fig. 53).
2. Press the Select/Right button once to select the FO2 Mode. FO2 Air will appear, with Air flashing (Fig. 54).
3. Press the Select/Right once to accept Air as the setting. MODE:PLAN will appear with PLAN flashing.
4. Press the Advance/Left button 5 times to return to the Surface Mode.

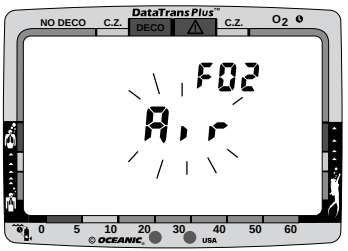


Fig. 54 - Air Setting

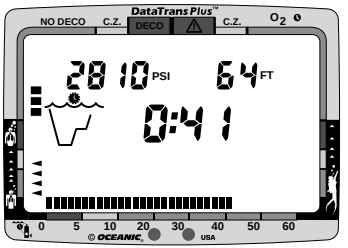


Fig. 55 - Dive Mode (Air)

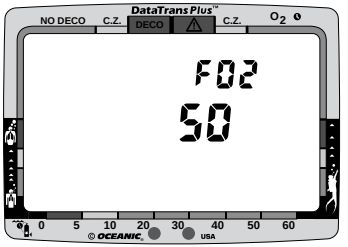


Fig. 56 - FO2 Default
(after nitrox dive)

When set with an FO2 value of 'Air', the DataTrans Plus will perform calculations the same as if FO2 were set for 21% oxygen, internally accounting for oxygen loading for any subsequent Nitrox dives. However, oxygen related displays, warnings, and the O2 bar graph will not appear on the LCD display for that dive (Fig. 55), or subsequent dives, unless FO2 is set for a numerical value (21 to 50 %).

Setting FO2 for a Nitrox Dive

You can program the DataTrans Plus for nitrogen-oxygen (nitrox) mixtures of 21% to 50% oxygen (O2) before each nitrox dive. If FO2 is set at a value of 21%, the unit will remain set as a '21% nitrox computer' for subsequent nitrox dives until FO2 is set to a higher value, or the Display Module automatically turns off. Once FO2 is set to a value 'greater than 21%' to match the nitrox mix being used for that nitrox dive, the FO2 value displayed during the FO2 Mode that is accessible 10 minutes after that dive will be 50% (Fig. 56).

FO2 must be reset for each repetitive nitrox dive, or the value will automatically default to 50 and the dives will be calculated based on 50% O2 for oxygen calculations and 21% O2 (79% nitrogen) for nitrogen calculations. Once a dive is made with the DataTrans Plus set as a nitrox computer (FO2 set for a numerical value), the unit cannot be programmed to operate as an 'Air' computer until 24 hours after the last dive. 'Air' will not be displayed as an option in the FO2 Mode.

WARNING: The DataTrans Plus will default to an FO2 value of 50 after a 10 minute surface interval following a nitrox dive. Therfore, this procedure must be performed prior to descent on each and every nitrox dive, even if the percentage of oxygen in the nitrox mixtures used remains the same.

To set (enter) a numerical value for the percentage of oxygen (FO2) in your nitrox mix, perform the following procedure beginning in the Surface Mode:

1. Press the Advance/Left button once to enter the Mode Menu. MODE: FO2 will appear with FO2 flashing.
2. Press the Select/Right button once to select the FO2 Mode. If a previous dive was made that day with the unit set for Air, FO2 and Air will appear, with Air flashing. If a previous dive was made with the unit set for a numerical value of FO2, FO2 and 50 will appear, with 50 flashing.
3. Press and hold the Advance/Left button, or press it repeatedly, until the proper value of FO2 appears (Fig. 57). The percentage displayed will advance 1 (%) per second from 21 to 50 (%), then display 'Air' again.
4. Once the proper value of FO2 is displayed, press the Select/Right once to save the value shown as the setting for that dive. MODE:PLAN will appear with PLAN flashing.
5. Press the Advance/Left button 5 times to return to the Surface Mode.

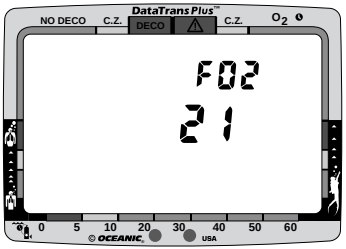


Fig. 57 - Setting FO2

PLAN MODE

Oceanic strongly recommends that you access the Plan Mode prior to every dive to review the Pre Dive Planning Sequence (PDPS) that will help you plan your dive as required to avoid exceeding no decompression, or oxygen exposure limits. This is especially important for repetitive dives, when the Pre Dive Planning Sequence will indicate for you the adjusted no decompression bottom times that are available to you for your next dive, based on any residual nitrogen or oxygen accumulation (whichever is in control) following your last dive and surface interval.

WARNING: The Pre Dive Planning Sequence predicts only no decompression times for subsequent dives. Depending on cylinder size, breathing gas consumption, and oxygen accumulation, you may have *less time available* than indicated because of breathing gas quantity or other limitations.

Fig. 58 - Plan Mode

To access the Plan Mode, press the Advance/Left button twice beginning in the Surface Mode. MODE:PLAN will appear, with PLAN flashing (Fig. 58). Press the Select/Right button once to enter the Plan Mode.

If FO2 was set for 'Air', the PO2 screen will not appear and the DataTrans Plus will begin to scroll through the Pre Dive Planning Sequence.

If FO2 was set for a numerical value, FO2 and the value set will appear as the first screen (Fig. 59), followed by a screen showing the maximum depth that can be achieved for an oxygen partial pressure of 1.60 ATA for that FO2 (Fig. 60).

The DataTrans Plus then scrolls through the Pre Dive Planning Sequence (PDPS), displaying a sequence of depths from 30 to 160 feet (9 to 48 meters) in 10 foot (3 meter) increments. With each depth display, you will see either 'predicted' no decompression limits based upon your previous dive profiles (if calculated to be nitrogen controlled), or 'predicted' oxygen tolerance limits based upon either a single dive oxygen dose or your 24 hour accumulation of oxygen (if calculated to be oxygen controlled).

Information displayed includes Previous Dive #, Depth, Dive Time available at that depth (which includes descent time at a rate of 120 ft/min), Plan Mode icon, and the message MODE:PLAN.

No decompression times are only displayed for depths where there is at least 3 minutes of dive time available at the depth, taking into account a descent rate of 120 feet (36 meters) per minute. Depths greater than the maximum depth that can be achieved with a partial pressure of oxygen (PO2) of 1.60 ATA will not be displayed.

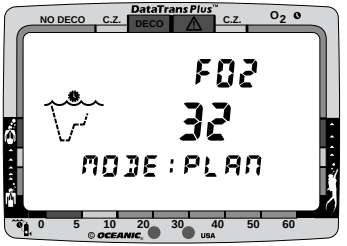


Fig. 59 - FO2 Value Set

R2

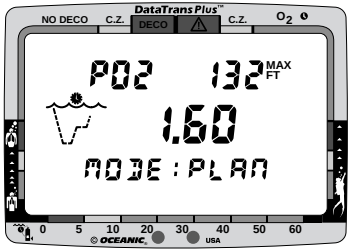


Fig. 60 - Max Allowed Depth

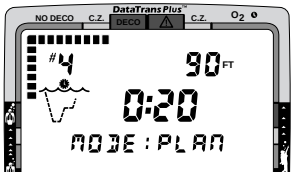


Fig. 61 - Nitrogen Controlled

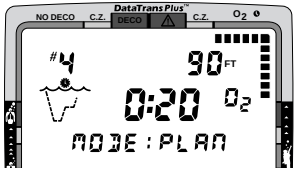


Fig. 62 - Oxygen Controlled

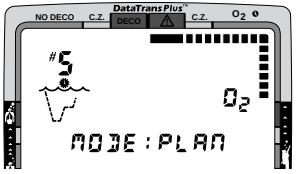


Fig. 63 - Max Daily O2 Limit Exceeded

After scrolling once through depth and dive times available, the DataTrans Plus will automatically return to the Surface Mode. Plan Mode can be accessed and the sequence repeated as often as you choose. If you wish to interrupt the Pre Dive Planning Sequence to return to the Surface Mode, you may do so at any time by pressing either control button.

Prior to a Repetitive Nitrox Dive

If the segments of the Tissue Loading Bar Graph are displayed during the Pre Dive Planning Sequence (Fig 61), that next dive is calculated to be controlled by nitrogen loading.

If the segments of the O2 bar graph are displayed Pre Dive Planning Sequence (Fig. 62), that next dive is calculated to be controlled by oxygen loading.

R2

The DataTrans Plus will store oxygen accumulation for up to 10 dives conducted during a 24 hour period. In the event that the maximum limit for oxygen loading has been exceeded for that day (24 hour period), all of the segments of the O2 bar graph will be displayed (Fig. 63). Depth and Time displays will not appear until the O2 bar graph recedes into the green (normal) zone (i.e., your daily oxygen doseage decreases an amount equivalent to the amount accumulated during the latest dive completed).

WARNING: The DataTrans Plus must be manually activated and be in an operating mode prior to start of a dive. The unit will not activate automatically by immersion in water. Also, FO2 must be set prior to commencing each nitrox dive.

NO DECOMPRESSION DIVE MODE

After it has been manually activated and completed its diagnostic checks, the DataTrans Plus will enter the No Decompression Dive Mode when you descend deeper than 5 feet (1.5 meters). No Decompression Dive Mode (Fig. 64) can be recognized by the No Decompression Dive Mode icon that is displayed to the left of the large numeric display of Dive Time Remaining. Also displayed are Tank Pressure, Current Depth, and the applicable bar graphs.

If you set the Alternate display option 'ON' during setup, the values of Temperature, Elapsed Dive Time, and Maximum Depth will be displayed continuously in the lower portion of the screen (Fig. 65), unless overridden by more critical information. If you set the Alternate display option 'OFF', the values can be viewed by depressing the Select/Right button. Time of Day will appear briefly when the button is released.

To activate the Oceanglo™ backlight during a dive, press the Advance/Left button. The display will be illuminated as long as the button is depressed plus 10 seconds after it is released (for a maxmum illumination time of 15 seconds).

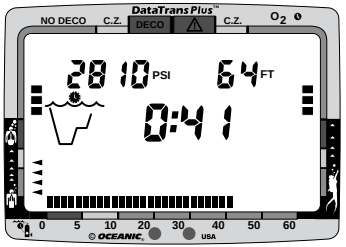


Fig. 64 - No Decompression Dive Mode

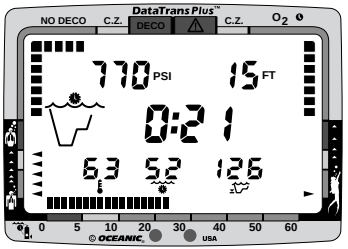


Fig. 65 - Alternate Display

As your depth and elapsed dive time increase, the Tissue Loading Bar Graph will fill with segments (green to red) to represent the absorption of nitrogen; and if FO2 was set for a value other than 'Air', the O2 bar graph will fill with segments (green to red) to represent oxygen accumulation for that dive, or 24 hour period, whichever is greater. The Gas Time Remaining bar graph will recede from green to red as breathing gas time remaining decreases from 60 to 0 minutes. Segments of the Breathing Gas Consumption and Variable Ascent Rate Indicator bar graphs fill (and recede) as their respective rates increase (and decrease) throughout the dive.

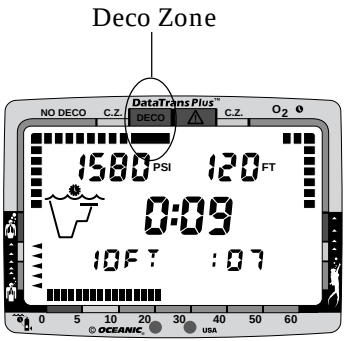


Fig. 66 - Decompression Dive Mode

WARNING: Every effort should be made to keep all of the bar graphs *in the green* throughout your dives to reduce your risk of exposure to decompression sickness and oxygen toxicity.

DECOMPRESSION DIVE MODE

The DataTrans Plus provides information that will help you avoid, or if necessary, manage emergency decompression.

The Decompression Dive Mode activates when the No Decompression Limits are exceeded and the Tissue Loading Bar Graph enters the red decompression zone (Fig. 66).

VIOLATION MODES

The DataTrans Plus enters Violation Modes when it is unable to predict an ascent procedure.

GAUGE MODE

If the DataTrans Plus enters a Permanent Violation Mode, it will not display information relating to nitrogen or oxygen loading for the remainder of that dive or for subsequent dives conducted during the 24 hour period after surfacing.

NOTE: Decompression Dive Mode, Violation Modes, and Gauge Mode are each described in the Handling the Extremes section.

ASCENDING TO THE SURFACE

While ascending to shallower depths, the segments that have filled up the Tissue Loading Bar Graph will begin to recede (Fig. 67), offering a graphic representation of your multilevel diving capability. If you entered Decompression Mode, you must not complete your ascent until the Tissue Loading Bar Graph is at least inside the yellow Caution Zone.

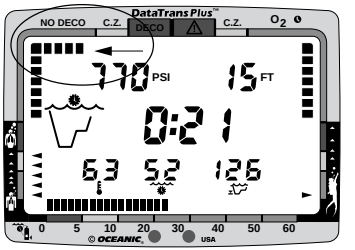


Fig. 67 - Tissue Loading Bar Graph Receding

If you have not entered Decompression Mode, a safety stop made between 15-20 feet (5-6.5 meters) is strongly recommended as a standard procedure before completing your ascent.

You should make every effort to complete all of your ascents with the Tissue Loading Bar Graph inside of the green zone.

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

The Variable Ascent Rate Indicator™ shows how fast you are ascending. When you exceed the maximum recommended ascent rate of 60 feet per minute (18 meters per minute), the bar graph will enter the red (Too Fast) zone (Fig. 68), and you will be alerted by the segments flashing. You will also be alerted by an audible alarm, and the Message Box will flash the message “TOO FAST". The warnings will stop when your ascent rate is slowed.

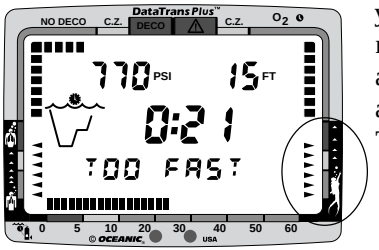


Fig. 68 - Ascent 'Too Fast'

ALTITUDE DIVING

The mathematical model within the DataTrans Plus accounts for the reduced No Decompression dive time available at higher elevations based on NOAA (National Oceanic and Atmospheric Administration) guidelines. When diving in high altitude lakes or rivers from 2,000 to 14,000 feet (610 to 4,268 meters), the DataTrans Plus will adjust automatically, providing corrected depth and reduced No Decompression and Oxygen Exposure times.

Also, when above 2,000 feet (610 meters), depth calibration is automatically changed to read in feet of freshwater rather than feet of seawater.

NOTE: If activated above 14,000 feet (4,268 meters), a message "TOO HIGH" will appear and the unit will shut off.

More about altitude diving is presented in the Reference section.

WARNING: Until it has shut itself off, you must not use the DataTrans Plus 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 with erroneous data.

Be a -
RESPONSIBLE DIVER
at all times.

(This page intentionally left blank.)

POST DIVE MODES

POST DIVE SURFACE MODE

When you ascend to 3 feet (1 meter) or shallower, the DataTrans Plus will enter Surface Mode (Fig. 69) and begin counting your surface interval.

TRANSITION PERIOD

The first 10 minutes is, in affect, a transition period during which time:

- The main time display starts counting Surface Interval (colon flashing).
- The Surface Mode icon will appear (flashing).
- The Tissue Loading Bar Graph will indicate current nitrogen loading.
- The O2 bar graph will indicate current oxygen loading, if the dive was a nitrox dive (FO2 set for a numerical value).
- Temperature and Time of Day will also be displayed.

If you descend during the 10 minute transition period, time underwater will be considered a continuation of that dive. The time at the surface (if less than 10 minutes) will not be added as Elapsed Dive Time. During the 10 minute transition period, the Log Mode is accessible in the Mode Menu and will display that dive's data, however, the data will not be stored in the unit's memory until the 10 minute period on the surface is completed. No other modes are accessible in the Mode Menu during the 10 minute transition period.

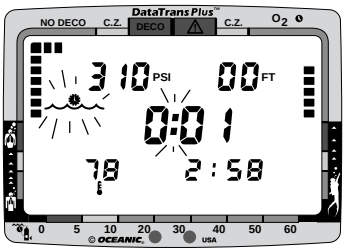


Fig. 69 - Post Dive Surface Mode (<10 min)

Once 10 minutes have elapsed, the Surface Mode icon and Surface Interval time display colon will stop flashing (Fig. 70) indicating that the dive and transition period are completed, and a subsequent descent will be considered a new dive. Other information will continue to be displayed as described above and you will have full access to the Mode Menu.

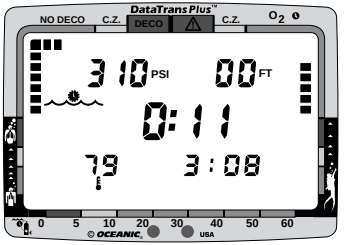


Fig. 70 - Surface Mode (> 10 min)

FO2 MODE

If the DataTrans Plus was set for FO2 of 'Air' or 21% prior to the dive, it will stay set for 'Air' or 21%, respectively, unless you reset it to a higher numeric value prior to the next dive. If it was set for a numeric value of FO2 greater than 21% (22 to 50 %) prior to the dive, the FO2 value displayed after the dive will be 50 % (Fig. 71) and subsequent dives will be calculated based on 50% oxygen for oxygen calculations and 21% oxygen (79% nitrogen) for nitrogen calculations, unless you set FO2 for another value.

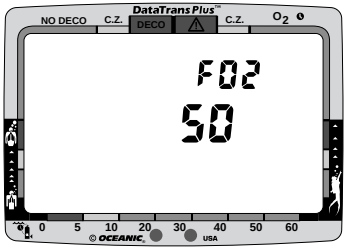


Fig. 71 - FO2 Default

Remember!! You must set the FO2 to match the specific nitrox mix for each nitrox dive, even if the percentage of oxygen in the mix is the same as the previous.

PLAN MODE

When you access the Plan Mode after a dive, the FO2 screen will show the FO2 set point value that you entered for the next dive. The PO2 screen will show

the maximum depth allowed for the FO2 set point and your 24 hour oxygen accumulation (dose). Time to Fly, described next, will appear prior to the Pre Dive Planning Sequence.

The Pre Dive Planning Sequence will show 'adjusted' no decompression limits based on residual nitrogen calculated to be remaining from previous dives. Calculated dive times and the maximum allowed depth displayed will increase as the real time surface interval increases after completion of a dive. The Pre Dive Planning Sequence will only scroll to the maximum depth allowed by the nitrogen or oxygen limit, whichever is in control. The respective bar graph will be displayed to indicate which is in control.

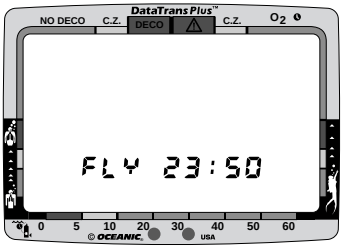


Fig. 72 - Time to Fly (first 12 hours)

Time to Fly

As you should be aware from your own training, the longer you wait to fly (or travel to higher elevations) after diving, the more you will reduce your exposure to decompression sickness.

The Time To Fly counter begins counting down 10 minutes after the last dive has ended to assist you with deciding when enough surface time has elapsed to fly. It appears prior to the Pre Dive Planning Sequence when you access the Plan Mode, and shows the word 'FLY' with a countdown (Fig. 72) that starts at 23:50 (hr:min) and counts down to 12:00 (hr:min).

Twelve hours after the last dive, the Surface Mode will disappear from the screen, and the Fly Mode will be displayed continuously, with the final 12 hour countdown from 11:59 to 0:00.

WARNING: <u>During the final 12 hours, the DataTrans Plus</u> is in a countdown mode only, and <u>must be 'activated' by depressing the Select/Right button prior to start of a dive</u>.

After a surface interval of 12 hours, you may choose to fly (or travel to higher elevations), provided that your dive profile(s) did not enter decompression. If your diving involved decompression or a repetitive, multi day profile, it is strongly recommended that you wait a full 24 hours after your last dive to add a greater degree of protection. More About Flying After Diving and DAN's guidelines is presented in the Reference section.

DIVE LOG MODE

Dive Log Mode, identified by the Dive Log icon (Fig. 73a), can be accessed using the Mode Menu while on the surface. Information from your 12 latest dives is stored in the log for viewing, giving you the opportunity to record data in your log book before it is eventually overwritten by subsequent data. After 12 dives are accumulated, each subsequent dive will overwrite the oldest dive that exists in the log, i.e. the DataTrans Plus will add the most recent dive while deleting the oldest. Dive log information will be retained when batteries

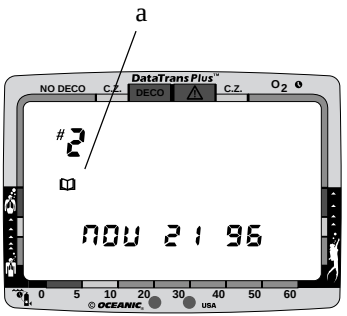


Fig. 73 - Log Mode Icon

Fig. 74 - Dive Log Mode

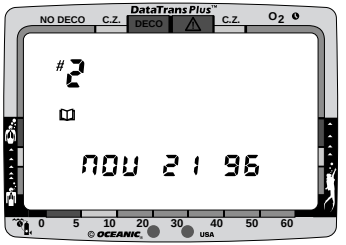


Fig. 75 - Log Mode
(first screen - date)

are removed from the Display Module.

Dives are displayed in a reverse sequence that starts with the dive most recently conducted back to the oldest of the 12 dives stored. Thus, your most recent dive will always be the first shown in the sequence.

To eliminate confusion, each dive is separately 'stamped' (identified) with the date on which it was made and the time of day that the dive started.

Each dive has four log screens that display date, time, nitrogen related data, and oxygen related data, respectively. To access the Dive Log Mode, follow this procedure, beginning in Surface Mode:

1. Press the Advance/Left button 3 times to advance to the Log Mode. MODE:LOG will appear with LOG flashing (Fig. 74).
2. Press the Select/Right button once to select (enter) the Log Mode. If you accidentally pass Log Mode, press the Select/Right button repeatedly until MODE:LOG appears.
3. The first screen to appear (Fig. 75) will display the most recent dive recorded, identified by the Log Mode icon, the dive Number and dive Date .
4. To bypass the dive currently being displayed to view an older dive, press the Select/Right button until the desired dive is displayed, identified by the dive number and date of the dive.

5. Press the Advance/Left button once, to display the Time of Day (Fig. 76) when the dive started.
6. Press the Advance/Left button once more to view the information associated with nitrogen (Fig. 77). Displayed will be: Log Mode icon, dive Number, Surface Time between that dive and the one previous to it, lowest water Temperature during the dive, Elapsed Dive Time, and Maximum Depth. 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. Also shown will be the tissue nitrogen loading at the time you surfaced from the dive (Tissue Loading Bar Graph), the maximum rate of breathing gas consumption (Gas Consumption Indicator), and the maximum rate of ascent at any time during the dive (Variable Ascent Rate Indicator).
7. Press the Advance/Left button once to view the information associated with oxygen (Fig. 78). Displayed will be: Log Mode icon, dive Number, FO2 symbol and the value that FO2 was set at for the dive. If FO2 was set for a value other than 'Air', the PO2 symbol and value of the maximum partial pressure of oxygen attained during the dive will also be displayed. Also shown will be the oxygen loading (O2 bar graph) at the time you surfaced from the dive (maximum for that dive or 24 hour period, whichever was greater at the time). The O2 bar graph will also display the segment that represents the maximum level of oxygen exposure (dose) that you achieved during that dive.
8. Press either button to advance to the first screen (Date) of the next dive

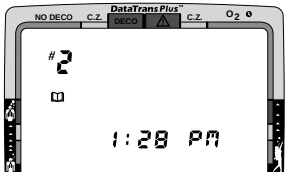


Fig. 76 - Log Mode
(second screen - time)

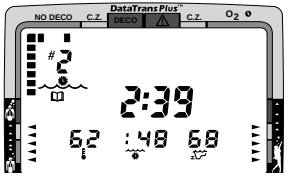


Fig. 77 - Log Mode
(third screen - nitrogen)

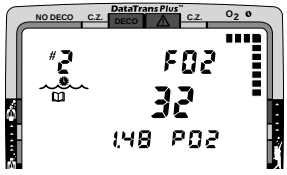


Fig. 78 - Log Mode
(fourth screen - oxygen)

in the log's reverse sequence.

Fig. 79 - History Mode

To exit the Log Mode, press the Select/Right button repeatedly to advance through all recorded dives and return to the Surface Mode.

HISTORY MODE

The History Mode offers a convenient summary of your DataTrans Plus computer since it was originally purchased, or last received factory service. Information provided on three sequential screens includes total number of all dives, total number of decompression dives, total elapsed dive time in hours, deepest maximum depth, and total number of violation dives.

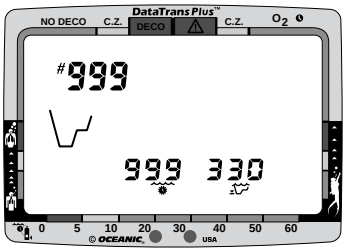


Fig. 80 - History Mode
(first screen - total)

To access the information provided in History Mode, follow this procedure, beginning in the Surface Mode:

1. Press the Advance/Left button 4 times to advance to the History Mode. MODE:HIST will appear, with HIST flashing (Fig. 79).
2. Press the Select/Right button once to select (enter) the History Mode. The first screen (Fig. 80) will show the No Decompression icon, total number of dives, total elapsed dive time, and maximum depth.
3. Press the Advance/Left button once to view the second screen (Fig. 81) that shows the Decompression Dive icon and the total number of Decompression dives. Total elapsed dive time and maximum depth will remain

on display.

4. Press the Advance/Left button once again to view the third and final screen (Fig. 82) that shows the Dive Mode icon and the total number of dives during which the DataTrans Plus entered a Violation Mode.
5. Press either button to return to the Surface Mode.

R2

NOTE: Previous unit history will be erased whenever your DataTrans Plus receives factory service.

EXTERNAL ACCESS MODE (EACC)

Using special infrared linking hardware and a unique PC software program, data from your dives can be downloaded (copied) from your DataTrans Plus into an IBM compatible personal computer program running on a Windows® 3.x or Windows® 95 operating system. Instructions for performing the interface and download are provided with the hardware and software package that is available separately from your Authorized Oceanic Dealer. Ask for OceanLog™ for DataTrans Plus.

The OceanLog™ software program provides dive profile data, and nitrogen and oxygen loading information that was sampled throughout the dives that are downloaded..

Once you have acquired your OceanLink™ package, to access the External Ac-

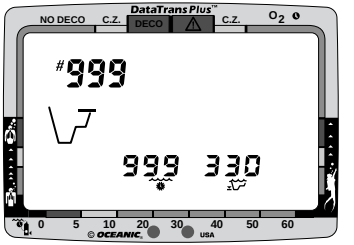


Fig. 81 - History Mode (second screen - deco)

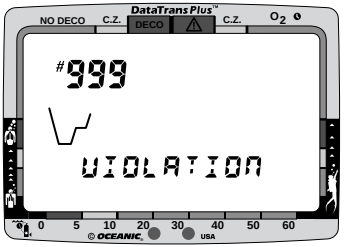


Fig. 82 - History Mode (third screen - violation)

cess Mode, follow this procedure, beginning in the Surface Mode:

R2

Fig. 83 - External Access Mode

1. Press the Advance/Left button 6 times to advance to the External Access Mode. MODE:EACC will appear, with EACC flashing (Fig. 83).
2. If you are going to download information, follow the procedures described in the OceanLog™ User's Manual.
3. If you are not going to download information, press the Advance/Left button once to return to the Surface Mode. If you press the Select/Right button once, the letters EACC will appear with a countdown from '8' to '0' (Fig. 84). After counting down to '0', the DataTrans Plus will revert to the Surface Mode.

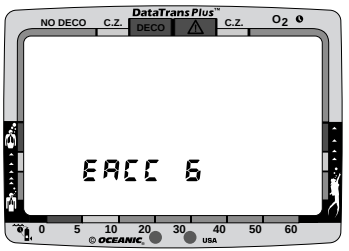


Fig. 84 - EACC Countdown

Be a RESPONSIBLE DIVER at all times.

HANDLING THE EXTREMES

EMERGENCY DECOMPRESSION

There are few legitimate excuses for making unplanned Decompression dives, and the consequences of this type of diving can be severe. Decompression diving requires special training and support. **The DataTrans Plus is intended for use by recreational divers not engaged in intentional decompression diving. Decompression features are provided only for emergency situations.** By entering decompression, you automatically impose a "ceiling" above you which you cannot immediately ascend beyond, denying you free access to the surface.

Professional military and commercial divers plan ahead for this situation by ensuring that they have complete surface support, including a redundant breathing gas supply for emergencies. They also navigate very carefully throughout their dive to ensure that they begin and complete their ascent while maintaining contact with a rope or a line to the surface. This is necessary for making a well controlled ascent. **The DataTrans Plus is not intended for use by military or commercial divers.**

By making an unplanned Decompression dive without the necessary **preparation and training**, you will have placed yourself in an unnecessarily dangerous situation. Consider also, that one mistake can quickly be compounded by several others.

The DataTrans Plus is a sophisticated instrument designed with capabilities that go beyond the range of recreational diving with compressed air. **It should not be considered, however, that these built-in capabilities provide any implied approval or consent from Oceanic for individuals to exceed the defined limits of recreational dive profiles, as agreed on by all internationally recognized training agencies.**

Decompression diving should therefore be strictly avoided. The DataTrans Plus is designed to help you by providing a complete representation of how close you are to entering decompression. In the event that you do inadvertently enter decompression, the red zone of the Tissue Loading Bar Graph (Fig. 85), the DataTrans Plus can provide you with limited information to help you ascend to the surface, if you follow the instructions given in this section.

Oceanic strongly recommends that you avoid entering decompression, and reminds you that decompression diving requires special training.

The DataTrans Plus cannot provide you with a backup breathing gas supply for emergencies or the ascent line you will need, and decompression diving greatly increases your risk of decompression sickness.

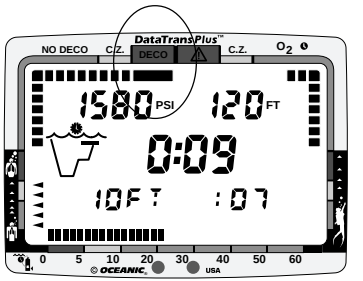


Fig. 85 - Decompression Mode

WARNING: Existing data for making planned decompression dives is extremely limited, and virtually nonexistent for repetitive decompression diving. You must therefore avoid decompression diving and allow a surface interval of at least 24 hours before reentering the water in the event a dive requiring emergency decompression is made.

If you're not careful, it is possible to enter decompression rapidly, whether at deep depths or during repetitive dives.

Upon entering decompression, you must immediately change the focus of your dive to getting safely back to the surface. Upon seeing the Tissue Loading Bar Graph enter the red decompression (DECO) zone, you should immediately begin a safe controlled ascent, 60 feet (18 meters) per minute or slower, to a depth slightly deeper than or equal to the required ceiling stop depth indicated (Fig. 86).

If you continue the dive at a depth more than a few feet (1 meter) deeper than the required ceiling stop depth, your exposure to decompression sickness will increase, and you will risk entering violation mode and losing the information needed to ascend properly.

R2

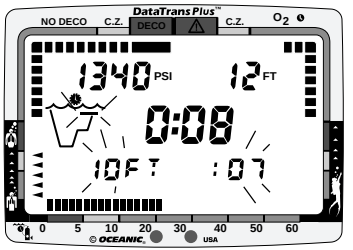


Fig. 86 - Decompression Stop

GAS TIME REMAINING DURING DECOMPRESSION

Breathing Gas Time Remaining will fluctuate throughout your dive, decreasing as you dive deeper or breath heavier, and increasing as you ascend to shallower depths or relax your breathing efforts. If you inadvertently exceed no decompression limits, the DataTrans Plus will provide critical information regarding your remaining breathing gas supply.

Once you enter Decompression Mode, you will need to refer to the Gas Time Remaining bar graph for Breathing Gas Dive Time Remaining information.

When Breathing Gas Time Remaining decreases to 5 minutes, the tank pressure numerals will flash and a Double Beep will sound (Fig. 87). This means that only 5 minutes remain before your breathing gas supply will be reduced to the minimum level necessary to perform the required decompression stops and still provide a tank pressure reserve upon surfacing.

When the Breathing Gas Time Remaining decreases to zero minutes, the Audible Alarm will continuously beep once per second (Fig. 88), signaling the need for an immediate safe ascent to your first decompression stop. However, there is no need to panic. The DataTrans Plus has allowed for the breathing gas you will consume during a safe ascent including the required decompression stops and still provide the surfacing tank pressure reserve you chose (entered) during setup, e.g. 500 psi.

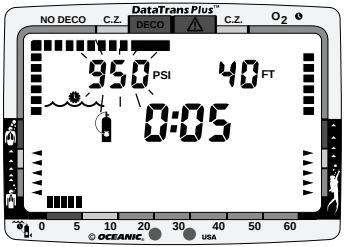


Fig. 87 - Gas Time Remaining (5 minutes)

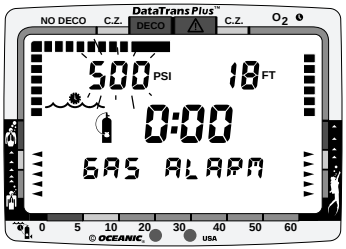


Fig. 88 - Gas Time Remaining (zero minutes)

CAUTION ZONE (C.Z.)

Your dive training taught you not to get too close to the No Decompression limits. The yellow Caution Zone (C.Z.) of the Tissue Loading Bar Graph (Fig. 89) offers you a convenient 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 green** No Decompression (NO DECO) zone.

WARNING: Never exit the water with the Tissue Loading Bar Graph in the red decompression (DECO) zone. Doing so greatly increases the risk of decompression sickness, and may result in injury or death.

R2

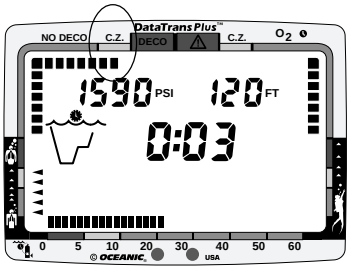


Fig. 89 - Caution Zone
(Tissue Loading Bar Graph)

Body 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 yellow Caution Zone as a visual reference to place a wider margin of protection between you and the No Decompression limit.**

DECOMPRESSION DIVE MODE

The DataTrans Plus will help you to avoid and manage decompression.

⚠ WARNING: Oceanic recommends the application of responsible diving practices and does not recommend decompression diving, or diving deeper than 130 feet (39 meters), as these practices will greatly increase your risk of decompression sickness.

Decompression Dive Mode (Fig. 90), identified by the Decompression Dive icon located to the left of the Main Time Display, activates when the theoretical no decompression dive/depth limits are exceeded causing the Tissue Loading Bar Graph to pass the yellow caution (C.Z.) zone and enter the red decompression (DECO) zone. Also, the audible alarm will emit a double beep to alert you. The other bar graphs will continue to represent their respective information.

Information displayed includes Tank Pressure, current depth, and total ascent time that includes stop times required at all ceilings and vertical ascent time calculated at 60 feet (18 meters) per minute. The Message Box alternately flashes the required stop depth and time, and CEILING (Fig. 91).

The amount of decompression credit time that you receive is dependent on depth, with slightly less credit given the deeper you are. **Still, you must**

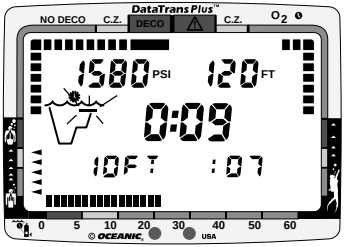


Fig. 90 - Decompression Mode

R2

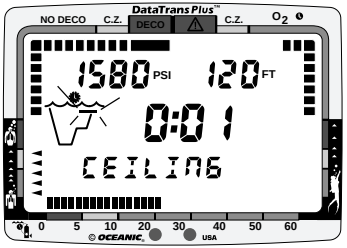


Fig. 91 - Deco Mode (alternate message)

never ascend shallower than your decompression ceiling. Doing so will greatly increase your risk of decompression sickness, and place the DataTrans Plus into a Conditional Violation Mode described later. When coping with surge and swells, it may be difficult to stay at an exact depth. You should stay slightly deeper (Fig. 92) than the required stop depth indicated until the next shallower stop depth appears. Then, you can ascend to, but not shallower than, that indicated ceiling stop depth.

Once you have performed the required decompression, the DataTrans Plus will switch to the No Decompression Dive Mode, allowing additional time underwater. Though more time is theoretically available, it is strongly recommended that you spend the remainder of the dive continuing to decompress at, or slightly deeper than, 10 feet (3 meters). This will let the Tissue Loading Bar Graph recede further into the yellow caution (C.Z.) zone or green no decompression (NO DECO) zone, helping you reduce your tissue nitrogen loading as much as possible.

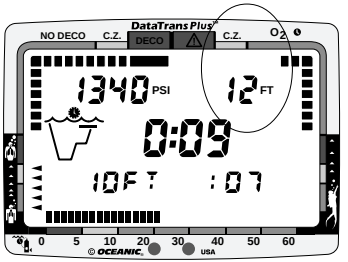


Fig. 92 - Deco Mode
(managing a stop)

Warning: If you exceed certain limits, the DataTrans Plus will not be able to tell you how to get safely back to the surface. These situations will make the DataTrans Plus enter Violation Modes and must be avoided at all costs. They exceed tested limits and can result in loss of some DataTrans Plus functions for 24 hours after the dive in which a violation occurred.

VIOLATION MODES

The Violation Modes that the DataTrans Plus can enter, depending on the situation, are termed Conditional, Delayed, and Immediate. Gauge Mode and Permanent Violation Mode are continuations of these Violation Modes. It is important to understand each different Violation Mode and how to carry out emergency procedures in the event you enter one.

CONDITIONAL VIOLATION MODE

The DataTrans Plus will alert you to the possibility of losing decompression management abilities by entering the Conditional Violation Mode. If properly handled, the Conditional Violation Mode can assist you in getting back to the surface and allow continued use of the DataTrans Plus. The situation that will force the DataTrans Plus to enter a Conditional Violation Mode is: **Ascent to a Depth Shallower than the Required Decompression Ceiling** (Fig. 93).

A momentary rise above the ceiling, such as with a surge or swell, could cause this to happen. Therefore you should stay slightly deeper than the exact ceiling stop depth, watching the DataTrans Plus closely when managing decompression. The audible alarm will beep once per second and the Message Box will alternately flash CEILING and VIOLATION until you descend below the required decompression ceiling stop depth.

R2

R2

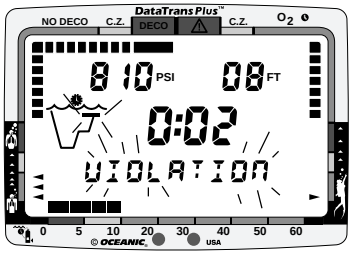


Fig. 93 - Conditional Violation (above ceiling)

If you descend below the required decompression ceiling before 5 minutes have elapsed, the DataTrans Plus will continue to function as if no violation had occurred. In this case, no off-gassing credit will be given, and for each minute above the ceiling $1^{1}/_{2}$ minutes of penalty time is added to decompression stop time.

The added penalty decompression time will have to be 'worked off' first, before obtaining off-gassing credit. Once the penalty time is worked-off, and off-gassing credit begins, required decompression stop depths and time will decrease and the Tissue Loading Bar Graph will recede into the caution (C.Z.) zone and revert to the No Decompression Dive Mode.

If you stay above (shallower than) the required ceiling stop depth for more than 5 minutes, the Tissue Loading bar Graph segments will flash and the Delayed Violation Mode will be entered.

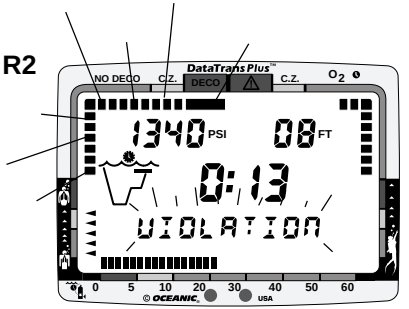


Fig. 94 - Delayed Violation (above ceiling >5min)

DELAYED VIOLATION MODE

Three conditions will cause the DataTrans Plus to enter the Delayed Violation Mode:

1. You remain above the required Decompression Ceiling Stop Depth for more than 5 minutes (Fig. 94).

The audible alarm will beep once per second and the Message Box will alternately flash CEILING and VIOLATION until you descend below the required ceiling stop depth.

As previously described, you would then need to follow the ceiling stop depths and times toward the surface as the Tissue Loading Bar Graph recedes into the caution (C.Z.) zone.

2. Your necessary decompression requires a ceiling stop depth between 60 feet (18 meters) and 70 feet (21 meters).

In this situation the Audible Alarm will emit One Long Beep, the Tissue Loading Bar Graph will flash, and the Message Box alternately flashes EXCEEDED and CEILING (Fig. 95) four times. Total Ascent Time needed to get back to the surface will still be displayed numerically in the Main Time display.

To get back to the surface, you must safely ascend to just deeper than 60 feet (18 meters) staying as close to 60 feet (18 meters) as possible without causing the Message Box to flash. After waiting until the required ceiling stop depth display indicates 50 FT/ 15 M, you can ascend to, but no shallower than 50 feet (15 meters) and continue decompressing. As the required ceiling stop depth display indicates 40 FT/ 12 M, 30 ft/ 9 M, 20 FT/ 6 M, and then 10 FT/ 3 M, you can ascend to, but no shallower than the required ceiling stop depth indicated.

R2

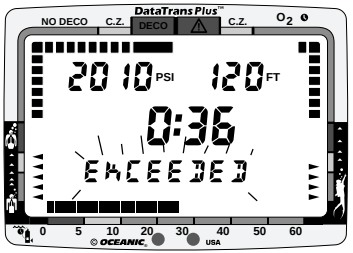


Fig. 95 - Delayed Violation (>60 FT ceiling required)

After Total Ascent Time reaches zero and the Tissue Loading Bar Graph recedes into the yellow caution (C.Z.) zone, you can surface. **However, to add a greater margin of protection, Oceanic strongly recommends that you wait until the segments of the Tissue Loading Bar Graph are well within the 'green' no decompression (NO DECO) zone, unless a low tank pressure condition requires you to surface.**

3. You descend deeper than 330 feet (99.5 meters).

NOTE: Oceanic reminds you that the DataTrans Plus is intended for no decompression diving at depths within 130 feet (39 meters). Expanded capabilities of the DataTrans Plus are provided as safety features to assist you with emergency situations.

Upon descending deeper than 330 feet (99.5 meters), the Tissue Loading Bar Graph will flash and the Current Depth and Maximum Depth displays will only indicate 3 dashes (Fig. 96) until ascent is made to a depth shallower than 330 feet (99.5 meters), at which time the Current Depth display will be restored. Max Depth will continue to display 3 dashes. Exceeding the maximum operating depth is described in detail on page 85 of this section.

R2

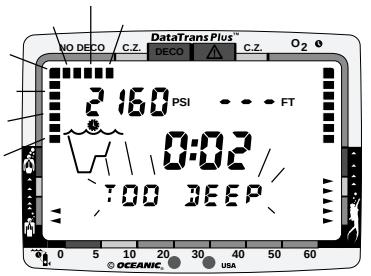


Fig. 96 - Delayed Violation (>330 ft / 99.5 m)

Five minutes after reaching the surface from a dive in which a Delayed Violation occurred, the DataTrans Plus will enter an Immediate Violation Mode and revert to Gauge Mode for 24 hours.

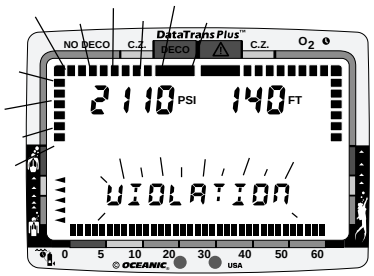
IMMEDIATE VIOLATION MODE

Warning: The DataTrans Plus enters Immediate Violation Mode when a situation totally exceeds its capacity to predict an ascent procedure. These dives represent gross excursions into decompression that are beyond the boundaries and spirit of the DataTrans Plus design. If you are following these dive profiles, Oceanic advises you not use a DataTrans Plus dive computer.

Immediate Violation Mode occurs when **a Decompression Stop depth *much greater than* 60 feet (18 meters) is required**. This situation would be preceded by entering the Delayed Violation Mode previously described.

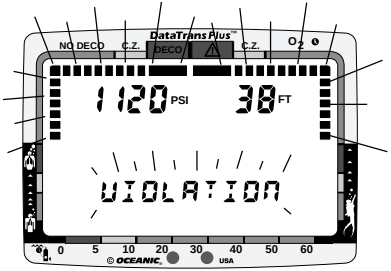
The DataTrans Plus cannot accurately calculate decompression times for depths much greater than 60 feet (18 meters) and offers no indication of how much time spent underwater would result in the need for greater than a 60 foot (18 meter) decompression stop depth.

If a ceiling *much greater* than 60 feet (18 meters) is required, an Immediate Violation Mode (Fig. 97) will be entered, and you will be alerted by a Single Long Beep of the audible alarm. This situation would be preceded by the Delayed Violation Mode. The DataTrans Plus would then operate with limited functions (current depth, maximum depth, and elapsed dive time) in Gauge Mode during the remainder of that dive and for 24 hours after surfacing.



R2

Fig. 97 - Immediate Violation



R2

Fig. 98 - Gauge Mode (underwater)

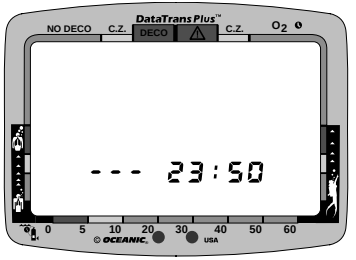


Fig. 99 - Gauge Mode (10 min after surfacing)

GAUGE MODE

Underwater, the Gauge Mode is a continuation of the Immediate Violation Mode that turns the DataTrans Plus into a digital instrument without any decompression or oxygen monitoring functions (Fig. 98). The Tissue Loading Bar Graph and O21 Bar Graph flash, while the Message Box flashes VIOLATION. The numeric Dive Time Remaining will be absent from the screen. The Alternate Dive Mode may still be accessed underwater by pressing the Select/Right button.

After surfacing, Gauge Mode does not provide the FO2, Plan, or Time to Fly features. A countdown timer beginning 10 minutes after the dive at 23:50 (hr:min) with a “triple dash” display (Fig. 99) will inform you of the time remaining before normal DataTrans Plus operation can resume with full features and functions.

PERMANENT VIOLATION

Entering the Immediate Violation Mode, then Gauge Mode, will result in loss of all DataTrans Plus decompression and oxygen monitoring functions for 24 hours after that dive. This condition is considered a Permanent Violation.

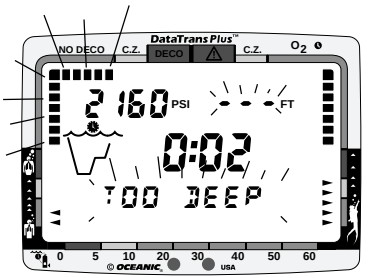
EXCEEDING MAXIMUM OPERATING DEPTH

Although the DataTrans Plus will withstand the pressures found at 330 feet (99.5 meters), the depth that you can still use all of its features could be much shallower.

WARNING: The maximum recommended sport diving depth limit is 130 feet (39 meters). Any deeper dive should be avoided. Special training, equipment, and support are necessary for this type of diving. Oceanic does not advocate diving to depths below 130 feet (39 meters), the basis for which is purely theoretical.

The maximum depth the DataTrans Plus will display all of its features is 330 feet (99.5 meters). Upon exceeding a depth of 330 feet (99.5 meters), the Tissue Loading Bar Graph will flash, and Depth and Max Depth displays will only indicate and flash three dashes "- - -" signifying that you are 'Out of Range'. Also, the message box will alternately display TOO DEEP with the Alternate displays (Fig. 100). The numeric display for current depth will not reappear until you ascend shallower than 330 feet (99.5 meters). You will also enter the Delayed Violation Mode. For the remainder of that dive, and in the log for that dive, only three dashes will be displayed as the value for Maximum Depth.

R2



R2

Fig. 100 - Out of Range (>330 ft / 99.5 m))

OXYGEN EXPOSURE

There are few legitimate excuses for exceeding the maximum limits for exposure to oxygen, and the consequences of CNS (Central Nervous System) oxygen toxicity can be severe, resulting in Gran Mal convulsions and drowning. Diving with enriched nitrogen-oxygen (nitrox) mixtures requires special training and certification.

WARNING: The oxygen features of the DataTrans Plus are intended for use only by recreational divers trained for nitrox diving by an instructor certified by a recognized training agency to teach diving with nitrox. The DataTrans Plus is not intended for use by military or commercial divers.

By making a nitrox dive without the necessary **training, preparation, and equipment**, you will have placed yourself in an unnecessarily dangerous situation. The DataTrans Plus is a sophisticated instrument designed with capabilities that go beyond the range of recreational diving with compressed air. **It should not be considered, however, that these built-in capabilities provide any implied approval or consent from Oceanic for individuals to exceed the defined limits of oxygen exposure, as agreed on by all internationally recognized nitrox training agencies. Nitrox diving should therefore be strictly controlled.**

Be a -
RESPONSIBLE DIVER
at all times.

PARTIAL PRESSURE OF OXYGEN

As depth increases during the dive, the partial pressure of oxygen increases. As you approach the depth limit for the FO2 value set before that dive, the DataTrans Plus will alert you and display the PO2 level while you reduce oxygen partial pressure according to your training.

High PO2 Dive Mode

The DataTrans Plus enters the High PO2 Dive Mode when partial pressure of oxygen becomes equal to or greater than 1.40 ATA. The audible alarm will emit a double beep, and the PO2 value and the symbol 'PO2' will appear in the lower portion of the display (Fig. 101). They will remain on display until partial pressure of oxygen decreases below a value of 1.40 ATA.

If partial pressure of oxygen continues to increase, the value of PO2 displayed will increase from 1.40 toward a value of 5.00 ATA in increments of '.01' ATA. When PO2 reaches the maximum limit of 1.60 ATA, the audible alarm continuously emits one beep per second, and the large red segment of the O2 bar graph, the PO2 value, and PO2 symbol will flash continuously as a warning (Fig. 102) until the level of PO2 decreases below 1.60 ATA

.

In the event that you enter High PO2 Dive Mode, you must immediately focus on reducing the partial pressure of oxygen by slowly ascending to a shallower

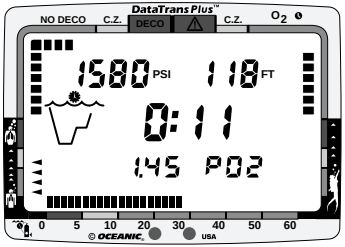


Fig. 101 - High PO2 Mode (≥ 1.40 BAR)

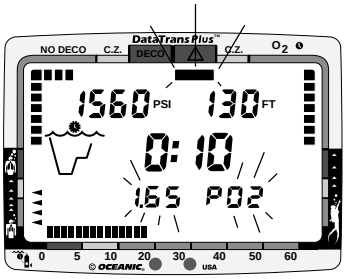


Fig. 102 - High PO2 Mode (≥ 1.60 BAR)

depth at a safe rate in accordance with your nitrox training. **If you continue the dive at your current depth, or descend deeper, your exposure to CNS oxygen toxicity will increase.**

OXYGEN ACCUMULATION

It is also important that you understand that conducting repetitive dives using enriched nitrogen-oxygen (nitrox) mixtures can lead to oxygen buildup, reducing oxygen tolerance while increasing the risk of pulmonary oxygen toxicity. The O2 bar graph (Fig. 103) provides a visual representation of oxygen accumulation for either that dive or 24 hour period, whichever is greater.

Oceanic strongly recommends that you avoid exceeding oxygen exposure limits, and reminds you that nitrox diving requires special training and understanding of the effects of oxygen toxicity.

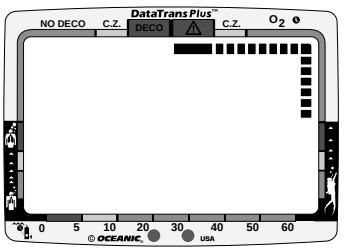


Fig. 103 - O2 Bar Graph

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

HIGH OXYGEN ACCUMULATION

Your nitrox dive training taught you not to get too close to the oxygen tolerance limits. The O2 Bar Graph provides you with a convenient graphic representation of your oxygen accumulation, displaying either oxygen accumulated during that dive or during your repetitive dives conducted during that 24 hour period, whichever of the two is greater at that time.

R2

As your accumulation increases, segments will add to the O2 Bar Graph. When it enters the yellow caution (C.Z.) zone, the audible alarm will emit a double beep as a warning (Fig. 104). If accumulation exceeds the limit of oxygen tolerance (Oxygen Dive Time Remaining is 0:00), the audible alarm will emit a continuous one beep per second, and the O2 Bar Graph will enter the red danger zone and the full bar graph will flash as a warning (Fig. 105).

You must then immediately focus on making a safe controlled ascent to the surface to prevent further exposure. As your accumulation (dose) decreases during your surface interval, the O2 bar graph will gradually recede into the yellow caution (C.Z.) zone and green (normal) zone. Oceanic suggests always keeping the O2 Bar Graph **in the green** zone.

WARNING: DO NOT allow the O2 Bar Graph to enter the red (Danger) zone. Doing so greatly increases the risk of CNS oxygen toxicity, and may result in serious injury or death.

R2

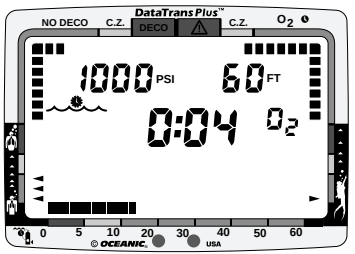


Fig. 104 - High Oxygen Accumulation (warning)

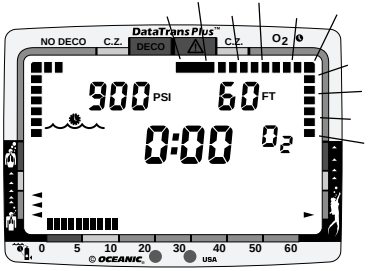


Fig. 105 - High Oxygen Accumulation (alarm)

Body metabolism varies from person to person, and even from day to day. If you are feeling less than 100%, or you are in less than perfect physical shape, **use the caution (C.Z.) zone as a visual reference to place a wider margin of protection between you and the limits of oxygen tolerance.**

MESSAGE BOX WARNINGS

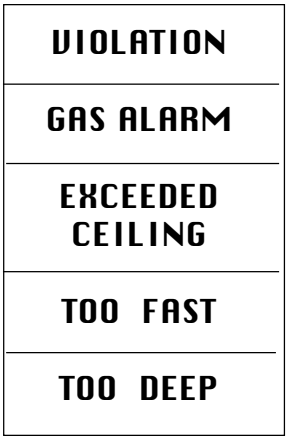


Fig. 106 - Message Hierarchy

When diving beyond the normal limits of recreational sport diving, it is possible that you will violate more than one condition at a time, such as exceeding the maximum recommended ascent rate, ascending above a required ceiling stop depth, or exceeding the maximum allowed partial pressure of oxygen. In these situations, the Message Box will display the most important warning for that time, allowing more critical warnings to override others of lesser importance (Fig. 106).

UNEXPECTED LOSS OF DISPLAYED INFORMATION

While No Decompression diving, if you find that any major piece of equipment is not functioning correctly, you must abort the dive immediately and surface slowly in a controlled manner. If your DataTrans Plus stops working for any reason, it is important that you have anticipated this possibility and are prepared for it. **This is an important reason to avoid pushing the no decompression and oxygen tolerance**

limits, and a critical reason to avoid entering decompression. Regardless of your diving habits, Oceanic advises you to dive with additional backup instrumentation that can provide the data necessary to properly surface if and when your primary instruments fail.

As with any other piece of equipment, unforeseen things can happen. By preparing ahead of time, you can spare yourself a great deal of frustration and disappointment. **If you dive in situations where your trip would be ruined or your safety would be jeopardized by losing the use of your DataTrans Plus, an analog or digital backup system or use of standard air (or nitrox) tables is highly recommended.**

A FINAL WORD OF CAUTION

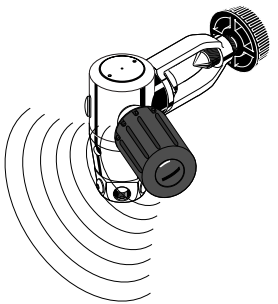
Although the DataTrans Plus represents the latest in user friendly dive computer technology, it cannot force you to understand how to use it. Before diving with the DataTrans Plus, be sure you thoroughly understand its functions and displays. Contact your local Authorized Oceanic Dealer if you have a question. Above all remember, technology is not a replacement for training, experience, and common sense !

Be a Responsible Diver at all times !!

(This page intentionally left blank.)

CARE and MAINTENANCE

CARE AND CLEANING



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

The housing is made of an impact resistant resin that is extremely shock resistant but is susceptible to chemical attack and scratches. If the transparent 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 DataTrans Plus. The propellants may chemically attack the plastic.

BEFORE THE DIVE

Be careful not to place the DataTrans Plus in an unsupervised, unprotected location where it might be damaged. Many dive computers (and dive trips) are ruined due to carelessly tossed weight belts or cylinders. Keep yourDdisplay Module and Transmitter protected from undue shock.

AFTER THE DIVE

Soak and rinse the Display Module in fresh water following each dive, and check the low pressure sensor guard cap to ensure that it is free of any debris or obstructions. For the transmitter, soak and rinse the regulator in fresh water following each dive as you normally would, according to the proper maintenance procedures prescribed for that model. 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 DataTrans Plus under gently running water and towel dry before storing. Transport your DataTrans Plus cool, dry, and protected.

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

ANNUAL INSPECTIONS & SERVICE

Your DataTrans Plus should be inspected annually by an Authorized Oceanic Dealer who will perform a factory prescribed function check and inspection for damage or wear. To keep the 2 year limited warranty in effect, this inspection must be completed one year after purchase (+/- 30 days). Oceanic recom-

mends that you continue to have this inspection performed every year to ensure your DataTrans Plus is working properly. A convenient service record is provided in the rear of this owner's guide. This should be signed by the service technician after each annual inspection or factory service. The cost of annual inspections are not covered under the terms of the 2 year limited warranty.

WARNING: If you are in doubt about the accuracy of your DataTrans Plus' depth readings, DO NOT attempt to dive with it until it has been inspected by Oceanic Customer Service.

It is possible to damage the DataTrans Plus depth sensor if it is not pressure tested properly. Please take heed of the following warning:

WARNING: Never pressure test the DataTrans Plus display module in an air environment. Doing so may damage the depth sensor; possibly resulting in erroneous depth or time readings.

HOW TO OBTAIN SERVICE

Take your DataTrans Plus to an Authorized Oceanic Dealer.

NOTE: The transmitter and display module must be returned together, regardless of the reported problem or symptom.

To return your DataTrans Plus to Oceanic:

- Remove the Transmitter from the regulator.
- Package the Display Module and Transmitter together, using a cushioning material to keep them isolated from each other.
- Authorized Oceanic Dealers should use an Oceanic Product Return Form.
- Include a legible note stating specific reason for return, your name, address, daytime phone number, serial number, and a copy of your original sales receipt from your Authorized Oceanic Dealer.
- Send prepaid and insured to the nearest Oceanic service facility.
- If you have any questions regarding DataTrans Plus service, call Oceanic Customer Service at (510) 562-0500, 8 to 5 PST.

NOTE: Previous dive log and history data will be erased whenever your DataTrans Plus receives factory service.

BATTERY LIFE

The DataTrans Plus battery consumption rate varies throughout periods of operation, which begin upon activation and continue for 24 hours after surfacing from a dive. The Transmitter and Display Module consume power any time batteries are installed in them, even in standby when pressure to the Transmitter is purged and the Display Module has shut down.

The exact number of dives, or hours of operation, that you will obtain with a set of batteries is subject to variables such as, the number of dives conducted during an operational period, the manufacturer, model and age of batteries actually used, and the amount of time batteries remain in the Transmitter and Display Module during periods of inactivity.

NOTE: Tests and calculations indicate that the number of dives that you can obtain from a set of batteries will vary. Approximately 100 dives could be conducted with the recommended batteries. This is still considered to be substantial given the convenience of the user replaceable feature.

Due to the convenience of the user replaceable battery feature, Oceanic recommends that batteries be removed during periods of inactivity expected to exceed one week and during air travel that is not conducted during repetitive dive surface intervals.

NOTE: The disposable batteries supplied with the DataTrans Plus dive computer are not covered by the DataTrans Plus limited 2 year warranty.

LOW BATTERY CONDITION

Low Battery Icons appear on display to alert you of the need for a battery change for either the Transmitter (Fig. 107) or Display Module (Fig. 108). Usually, the DataTrans Plus will only activate if there is enough battery power to complete one full day of diving. Remaining battery life may also be shortened by a sudden change in temperature.

Oceanic strongly advises that you replace the batteries and DO NOT attempt to dive when either battery icon remains on display, and that you replace the batteries of the Transmitter and Display Module with new prior to any multi-day dive trip.

WARNING: Adjusted No Decompression Limits (nitrogen and oxygen calculation) will be erased when the Display Module batteries are replaced between repetitive dives. Also, date and time settings will have to be reset.

BATTERY REPLACEMENT

The following procedure must be closely adhered to whenever replacing the batteries. Whenever replacing the batteries of the Display Module, it is recommended that you also replace the batteries of the Transmitter, and vice-versa.

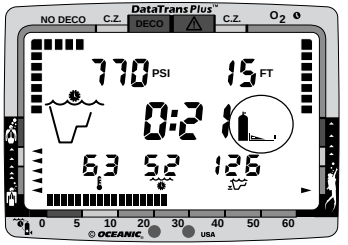


Fig. 107 - Low Battery (Transmitter)

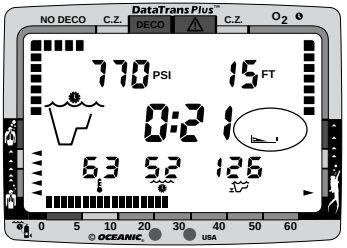


Fig. 108 - Low Battery (Display Module)

WARNING: Damage due to improper battery replacement is not covered by the DataTrans Plus limited 2 year warranty. Follow directions exactly.

- Apply a coin (not a screwdriver) to the recessed slot of the battery cap, and turn the cap out counterclockwise to remove it from the housing. Note: The battery compartment should only be opened in a dry and clean environment, with extreme care taken to prevent the entrance of moisture or dust.
- Remove the battery from the cap using care not to lose the spring located behind the battery. Closely examine the spring and contact area inside the battery compartment for any signs of corrosion indicating entrance of moisture into the unit. If found, return your DataTrans Plus to an Authorized Oceanic Dealer, and DO NOT use it until it has received service.
- To remove the o-ring, press the sides with your fingertips to cause it to protrude slightly from the groove of the cap and lift it over the head of the cap. DO NOT use tools to remove.
- Closely check the threads of the battery cap and the housing for any signs of damage which might impair proper threading. If found, return your DataTrans Plus to your Authorized Oceanic Dealer, and DO NOT attempt to use until it has received factory service.
- To replace the o-ring, lightly lubricate it with silicon grease and stretch it slightly to work it down over the head of the cap (Fig. 109), DO NOT roll it over the threads. Ensure that it is evenly seated inside the groove

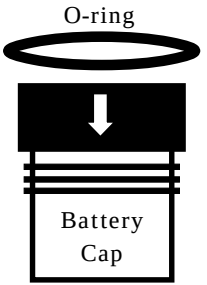


Fig. 109 - O-ring Installation

above the threads.

- Insert the spring into the cap with the large end first (small end facing out), and insert the battery into the housing (Fig. 110). For the Transmitter, the positive (+) end of the battery goes into the housing first with the negative (-) end toward the cap. For the Display Module, the negative (-) end of the battery goes into the housing first with the positive (+) end toward the cap.
- Carefully insert the battery cap into the housing and turn clockwise by hand until snug. To ensure correct threading and overcome spring pressure apply slight inward pressure as you begin turning the cap. Apply a coin to the recessed slot and tighten until secure.

- Activate the Display Module and watch carefully as it performs a full diagnostic and battery check, and signal link with the Transmitter.
- Examine the LCD display to ensure it is consistently clear and sharp in contrast throughout the screen.

FLOODED BATTERY COMPARTMENT

Note: For any cause of flooding other than a bad o-ring, return the complete DataTrans Plus for factory service.

If moisture is found in the battery compartment, it is best to have your DataTrans Plus inspected and cleaned by an Authorized Oceanic Dealer.

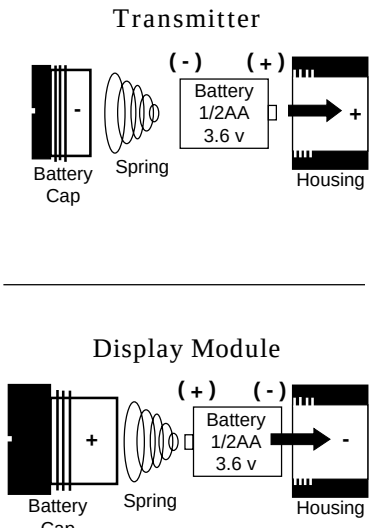
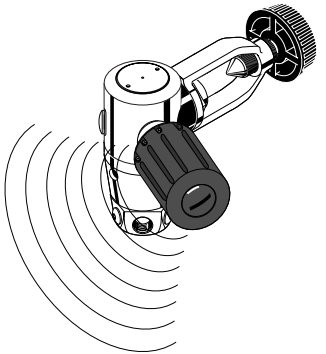


Fig. 110 - Battery Installation

To perform a repair in the field:

- Remove the battery and discard, DO NOT attempt to reuse.
- Check the o-ring for damage (nicks, cuts, divots, etc.). If found, discard and replace with new.
- Before replacing the o-ring and batteries, flush the battery compartment with a solution of 50% white vinegar and 50% water. Rinse with fresh water, and allow to dry overnight or blow dry with a hair dryer (set at 'no heat') Prior to installing the spring and battery, ensure that no moisture is present around the retaining ring located inside the base of the compartment.



Note: The retainer ring cannot be removed or replaced by the user.

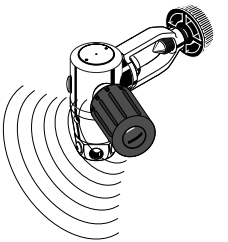
TRANSMITTER INSTALLATION INSTRUCTIONS

As an integrated unit the DataTrans Plus requires attachment of its Radio Frequency (R/F) transmitter unit to your regulator first stage.

CAUTION: Installing the Transmitter improperly to your regulator first stage may damage the Transmitter, regulator, or both. Oceanic strongly recommends that installation be performed by an Authorized Oceanic Dealer.

To install the Transmitter on your regulator first stage:

- Remove your current pressure gauge high pressure hose, or high pressure port plug from the regulator first stage port marked “HP” with the proper wrench or hex key.
- Very lightly lubricate the o-ring and threads of the Transmitter fitting with a halocarbon based lubricant such as Christo-Lube MCG111 (provided in the Oceanic battery kit).
- Thread the transmitter clockwise by hand into the regulator HP port and tighten until secure with a 5/8” open-end wrench.
- Attach the regulator first stage to a full scuba cylinder.
- Open the cylinder valve slowly, listening for gas escaping around the fitting. If gas is leaking, take the complete regulator system to an Authorized Oceanic Dealer for inspection and repair.



TRANSMITTER COMPATIBILITY WITH NITROX

All Oceanic DataTrans Plus Transmitters can be used with compressed air and/or nitrogen-oxygen (Nitrox) breathing gas mixtures in which the percentage of oxygen (O2) in the Nitrox mixture does not exceed 50 (%). However, use with Nitrox (up to 50%) requires that the Transmitter end fitting be Oxygen Cleaned and fitted with Nitrox compatible parts (i.e., o-ring and lubricant) by an authorized Oceanic Dealer Nitrox Service Technician.

Transmitterss that have been specifically prepared for Oxygen Service by the Oceanic factory, as identified to be Oxygen Clean and Oxygen Compatible by a special tag affixed to it, can be used with any nitrogen-oxygen (Nitrox) breathing gas mixture to a maximum of 100 (%) Oxygen.

If a Transmitter prepared by the Oceanic factory, and certified and tagged for Oxygen Service, is subsequently used with compressed air, it cannot then be used with nitrogen-oxygen (Nitrox) breathing gas mixtures in which the percentage of oxygen (O2) in the Nitrox will be greater than 50 (%).

Only the Oceanic factory can prepare Oceanic DataTrans Plus Transmitters for use with nitrogen-oxygen (Nitrox) breathing gas mixtures in which the percentage of oxygen (O2) in the Nitrox will be greater than 50 (%).

REFERENCE

MORE ABOUT FLYING AFTER DIVING

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

* excerpted from "The UHMS Flying After Diving Workshop"

The two exceptions to this recommendation are:

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

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

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

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

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

MORE ABOUT ALTITUDE DIVING

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

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

The DataTrans Plus automatically compensates for decreased ambient pressure when activated at high altitudes up to 14,000 feet (4,267 meters). Its program contains a high altitude algorithm that reduces no decompression and oxygen exposure limits to add a larger zone of caution.

Whenever the DataTrans Plus is manually activated at altitudes higher than 2,000 feet (610 meters), it will automatically recalibrate itself to measure depth in feet of fresh water rather than feet of sea water. Therefore, when returning to lower altitudes, diving should not be conducted until the DataTrans Plus automatically clears of any residual nitrogen and oxygen loading and resets to operate at the new altitude.

WARNING: Altitude compensation provided by the DataTrans Plus takes place when the unit is activated. DO NOT dive at any different altitude until the DataTrans Plus shuts off. It will automatically recalibrate when reactivated at the new altitude.

MORE ABOUT NITROX DIVING

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

Both central nervous system (CNS) oxygen toxicity and pulmonary oxygen toxicity were taken into consideration when the current maximum limits (Fig. 111) for exposure to oxygen were published by NOAA in the October 1991 NOAA Diving Manual. Although CNS oxygen toxicity is considered the primary constraint for higher levels of PO2, there are circumstances in which pulmonary oxygen toxicity can limit exposures.

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

The nitrox features of the DataTrans Plus are intended for use only by recreational divers trained for nitrox diving by an instructor cer-

R2

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

Fig. 111 - Oxygen Exposure Limits

tified by a recognized training agency to teach diving with nitrox. The DataTrans Plus is not intended for use by military or commercial divers.

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

MULTIPLE TISSUE TRACKING

The DataTrans Plus tracks twelve tissue compartments with halftimes 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. 112). 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 113 illustrates the point at which one compartment "hands over" control to another compartment at a different depth. This feature of the Decompression Model is

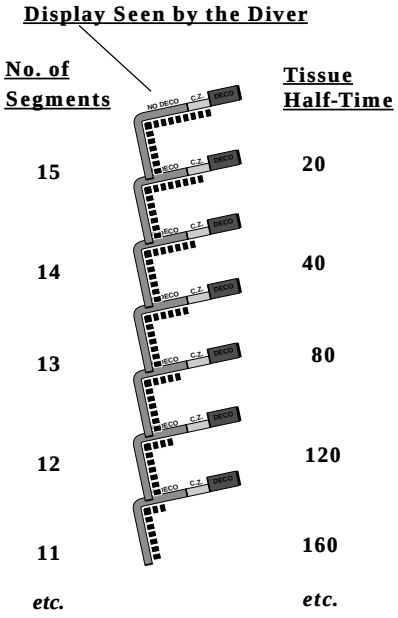


Fig. 112 - Think of the 12 tissues as overlaid clear displays showing only the maximum bar graph reading reached

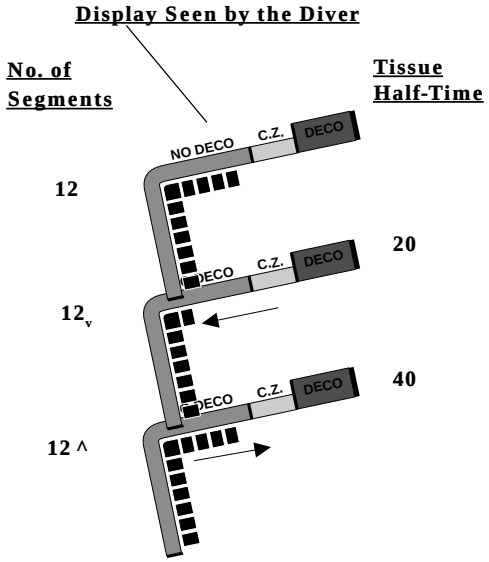


Fig. 113 - As one tissue recedes, another increases with the maximum reading being the only one displayed

Depth feet (meters)	DataTrans Plus NDL-mins. Eng (Metric)	U.S. Navy NDL -mins.
30 (9)	260 (283)	- - -
35	- - - - - -	310
40 (12)	137 (144)	200
50 (15)	80 (84)	100
60 (18)	57 (58)	60
70 (21)	40 (41)	50
80 (24)	30 (31)	40
90 (27)	24 (26)	30
100 (30)	19 (20)	25
110 (33)	16 (16)	20
120 (36)	13 (13)	15
130 (39)	10 (11)	10
140 (42)	9 (9)	10
150 (45)	8 (8)	5
160 (48)	7 (7)	5
170 (51)	* *	5
180 (54)	* *	5
190 (57)	* *	5

[* The DataTrans Plus will not scroll past 160 feet (48 meters), or when projected bottom /descent time is less than one minute.]

Fig. 114 - No Decompression Limits

the basis of multilevel diving, one of the most important contributions the DataTrans Plus offers you. Take advantage of this feature and make all of your dives multilevel dives.

NO DECOMPRESSION LIMITS

Note how the No Decompression Limits for the DataTrans Plus are contrasted with the U.S. Navy limits (Fig. 114). For most depths, the DataTrans Plus provides somewhat less no decompression times than the U.S. Navy Tables. However, while the no decompression limits may be less, you will receive greatly increased allowable bottom times as you take advantage of the multilevel dive capabilities offered by the DataTrans Plus. Notice also that the DataTrans Plus Pre Dive Planning Sequence does not scroll past 160 feet (48 meters).

REPETITIVE DECOMPRESSION DIVING

The decompression model used by the DataTrans Plus is based on the no decompression multilevel repetitive dive schedules successfully tested by Dr. Ray Rogers and Dr. Michael Powell. These tests did not include repetitive dives deeper than 90 feet (27 meters) or decompression dives. Due to the present unavailabil-

ity of statistical data, DataTrans Plus decompression predictions are based on U.S. Navy theory . 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 (39 meters). The decompression capabilities of the DataTrans Plus are intended strictly for emergency use. Decompression diving is inherently hazardous and greatly increases your risk of decompression sickness - even when performed according to the computer's calculations. In the event that you must make an emergency decompression dive, you must not make another dive for at least 24 hours.**

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

CONCLUSION

The DataTrans Plus is an informational tool whose entire worth depends on understanding all of its features and functions, and using it correctly. **Learn how to use it and use it wisely.** Have fun with the DataTrans Plus, and **thank you for being a responsible diver!**

Be a - RESPONSIBLE DIVER at all times.

SPECIFICATIONS

NO DECOMPRESSION MODEL

Basis:
- Modified Haldanean Algorithm
- 12 tissue compartments

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

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

Decompression Capabilities:
- Decompression ceilings at 10, 20, 30, 40, 50, & 60 feet
  (3, 6, 9, 12, 15, & 18 meters)

Altitude Algorithm:
- Based on NOAA tables

Oxygen Tolerance Limits:
- Based on NOAA tables

OPERATIONAL MODES

Modes:
- Activation/Diagnostic
- Surface
- FO2 Set
- PO2 Max Depth
- Pre Dive Planning Sequence
- Log
- History
- Set -
  - Time (hour, minute, am/pm)
  - Date (month, day, year)
  - Alternate Display (on/off)
  - Unit (imperial / metric)
  - Alarm (depth, air, on/off)
  - Link (serial no.)
  - Language (English, Italian, German, Spanish, French)
- EACC (External Access)
- No Decompression Dive
- Alternate No Decompression Dive
- Decompression Dive
- Temperature & Backlight
- Violation (conditional, delayed, & immediate)
- High PO2 Level
- High Oxygen Accumulation
- Gauge
- Time to Fly

SPECIFICATIONS (continued)

DISPLAY RANGE/RESOLUTION

Numeric Displays:

	Range:	Resolution:
• Dive Number	0 - 9	1
• Depth	0 - 330 ft (0 - 99.5 m)	1 ft (.5 m)
• Maximum Depth	330 ft (99.5 m)	1 ft (.5 m)
• FO2 Set Point	21 - 50 %	1 %
R2 • PO2 Value	1.40 - 5.00 ATA	.01 ATA
• Gas Time Remaining	0 - 9 hr. 59 min.	1 minute
• No Decompression Time	0 - 9 hr. 59 min.	1 minute
• Decompression Time	0 - 9 hr. 59 min.	1 minute
• Elapsed Dive Time	0 - 99 min.	1 minute
• Surface Time	0 - 11 hr. 59 min.	1 minute
• Dive Log Surface Interval	0 - 11 hr. 59 min.	1 minute
• Time to Fly	23 hr. 50 min. - 0*	1 minute
	(* starting 10 min. after the dive)	
• Cylinder Pressure	0 - 8190 psi	10 psi
	(0 - 564 BAR)	(.5 BAR)

GRAPHIC DIVER INTERFACE

Tissue Loading Bar Graph

	segments
No Decompression zone (green)	12
No Deco Caution zone (yellow)	3
Decompression Warning zone (red)	1

Oxygen Accumulation (O2) Bar Graph

	segments
Normal zone (green)	12
Caution zone (yellow)	3
Danger zone (red)	1

Breathing Gas Time Remaining Bar Graph

	segments
Normal zone (green)	28
Caution zone (yellow)	2
Danger zone (red)	5

Variable Ascent Rate Indicator (VARI)

	segments	feet/min.	meters/min.
	none	0 - 10	0 - 3
Normal zone (green)	1	11 - 20	3 - 6
	2	21 - 30	6 - 9
	3	31 - 40	9 - 12
Caution zone (yellow)	4	41 - 50	12 - 15
	5	51 - 60	15 - 18
Too Fast zone (red flashing)	6	61 - 90	18 - 27
	7	91 - 120	27 - 36
	8	>120	>36

Breathing Gas Consumption Indicator

	segments
Normal zone (green)	3
Caution zone (yellow)	2
High zone (red)	3

SPECIFICATIONS (continued)

Special Displays	Occurrence
• Audible Alarm Access	On demand
• Diagnostic Display	Activation
• Out of Range	>330 feet (>99.5 meters)
• Gauge Mode Countdown Timer	12 – 24 hours (after violation)

OPERATIONAL PERFORMANCE

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

Dive Counter
- Displays Dives #1 - #9then recycles to #1 (continues to #9)
- Resets to Dive #1, upon diving (after 12 hour surface time)

Dive Log Mode
- Stores 12 most recent dives in memory for viewing
- After 12 dives, adds 13th dive in memory and deletes the first dive

Altitude
- Operational from sea level to 14,000 feet (4,267 meters) elevation
- Recalibration of depth readings from 'feet of sea water' to 'feet of fresh water' when higher than 2,000 feet (610 meters) elevation

Power (Display & Transmitter)

• Battery	Each - 1 - 3.6 v, 1/2AA, TADIRAN® Lithium Model TL-2150
• Shelf life	Up to 10 years
• Replacement	User replaceable (annual recommended)
• Life expectancy	100 dives, or 1 year, whichever comes first

NOTE: Battery life is maximized when batteries are removed from the DataTrans Plus Transmitter and Display Unit during periods of inactivity that exceed 1 week.

Activation:
- Display Module - manual push button
- Transmitter - gas pressure
- Cannot be activated by water immersion
- Cannot be activated deeper than 4 feet (1.5 m)
- Cannot be activated at elevations higher than 14,000 feet (4,267 m)
- Needed before first dive, and after a 12 hour surface interval.
- Automatically shuts unit off if dive is made within 120 minutes after initial activation. Reactivation required.
- Cannot be shut off manually.

RESPONSIBLE COMPUTER DIVING

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

- **Plan each dive, and dive your plan** - Your computer was not designed to make decisions for you, only to provide you with the information you need to make responsible decisions for yourself. This begins with a dive plan that will help you avoid a low air or decompression situation.
- **Do not plan any dive that exceeds your training or experience level.**
- **Inspect your computer before every dive** - If it shows any signs of damage or abnormal function, DO NOT dive with it until it has received factory service.
- **Make your deepest dive first** - When making repetitive dives, it is imperative to ensure that each consecutive dive is shallower than the one before. This will allow your body's slower tissues to continue outgassing nitrogen.
- **Make the deepest part of your dive first, and gradually work your way to the surface using a "staircase" profile** - The ability to perform multilevel diving is one of the most important contributions of a dive computer, and you should take advantage of it. It will increase your bottom time and at the same time decrease your risk of decompression sickness.
- **Ascend slowly by following an ascent line whenever possible, or by ascending diagonally toward the surface -** Watch the Variable Ascent Rate Iindicator closely while you ascend, and keep it in the green zone as much as possible.
- **Make a safety stop at 15-20 feet (4.5-6 m) at the end of every dive** - A safety stop of as little as 5 minutes has been shown to have a dramatic effect on the bubble formation in divers. **It's important. Don't forget it.**

LANGUAGE CROSS REFERENCE

ENGLISH	ITALIANO	DEUTSCH	ESPANOL	FRANCAIS
MODE:FO2	MODO:FO2	MODE:FO2	MODO:FO2	MODE:FO2
MODE:PLAN	MODO:PIAN	MODE:PLAN	MODO:PLAN	MODE:PLAN
MODE:LOG	MODO:LOG	MODE:LOG	MODO:BTC	MODE:MEM
MODE:HIST	MODO:DATI	MODE:DATA	MODO:HIST	MODE:HIST
MODE:SET	MODO:REG	MODE:SET	MODO:LST	MODE:REG
SET:TIME	REG:ORA	SET:ZEIT	LST:TIEM	REG:HEURE
SET:DATE	REG:DATA	SET:DATM	LST:DIA	REG:DATE
JAN	GEN	JAN	ENE	JAN
FEB	FEB	FEB	FEB	FEV
MAR	MAR	MAR	MAR	MAR
APR	APR	APR	ABR	AVR
MAY	MAG	MAI	MAY	MAI
JUN	GIU	JUN	JUN	JUIN
JUL	LUG	JUL	JUL	JUIL
AUG	AGO	AUG	AGO	AOU
SEP	SET	SEP	SEP	SEP
OCT	OTT	OKT	OCT	OCT
NOV	NOV	NOV	NOV	NOV
DEC	DIC	DEZ	DIC	DEC

LANGUAGE CROSS REFERENCE (continued)

ENGLISH	ITALIANO	DEUTSCH	ESPANOL	FRANCAIS
SET:ALT	REG:ALT	SET:ALT	LST:ALT	REG:ALT
ALT:ON	ALT:ON	ALT:AN	ALT:ON	ALT:OUI
ALT:OFF	ALT:OFF	ALT:AUS	ALT:OFF	ALT:NON
SET:UNIT	REG:UNIT	SET:EINH	LST:UNID	REG:UNIT
UNITS	UNITA'	EINHEITEN	UNIDADES	UNITES
SET:ALRM	REG:ALRM	SET:ALRM	LST:ALRM	REG:ALRM
ALRM:DPTH	ALRM:PROF	ALRM:TIEF	ALRM:PRFN	ALRM:PROF
ALRM:GAS	ALRM:GAS	ALRM:LUF	ALRM:GAS	ALRM:GAS
ALRM:ON	ALRM:ON	ALRM:AN	ALRM:ON	ALRM:OUI
ALRM:OFF	ALRM:OFF	ALRM:AUS	ALRM:OFF	ALRM:NON
SET:LINK	REG:COLL	SET:KUPP	LST:CONX	LIAISON
SN 999999	SN 999999	SN 999999	SN 999999	NS 999999
SET:LANG	REG:LING	SET:SPRA	LST:LENG	REG:LANG
ENGLISH	ENGLISH	ENGLISH	ENGLISH	ENGLISH
ITALIANO	ITALIANO	ITALIANO	ITALIANO	ITALIANO
DEUTSCH	DEUTSCH	DEUTSCH	DEUTSCH	DEUTSCH
ESPANOL	ESPANOL	ESPANOL	ESPANOL	ESPANOL
FRANCAIS	FRANCAIS	FRANCAIS	FRANCAIS	FRANCAIS
MODE:EACC	MODO:ACCE	MODE:AUZU	MODO:ACCE	MODE:ORDI
EACC 8	ACCE 8	AUZU 8	ACCE 8	ORDI 8

LANGUAGE CROSS REFERENCE (continued)

ENGLISH	ITALIANO	DEUTSCH	ESPANOL	FRANCAIS
CEILING	TAPPA A	MIN-TIEFE	MAX NIVEL	PALIER
10 FT	10 PIE	10 FT	10 PIE	10 PIE
3 M	3 MET	3 MET	3 MET	3 MET
SELF-TEST	TEST	EIGENTEST	AUTO EXAM	AUTO-TEST
GAS ALARM	GAS ALARM	LUFTALARM	GAS ALARM	GAS ALARM
TOO HIGH	QUOTA ECC	ZU HOCK	DEM ALTO	ALTITUDE
TOO FAST	RALLENTAR	ZU SCHNEL	DEM RAPID	VITREMONT
TOO DEEP	FONDO ECC	ZU TIEF	DEM PRFND	PROFOND
VIOLATION	VIOLAZ	VERSTOSS	VIOLACION	VIOLATION
EXCEEDED	ECCEDUTO	VERSTOSS	EXCEDIDO	VIOLATION
FLY	VOL	FLY	VLR	VOL

GLOSSARY

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

Air Dive - A dive conducted using air (approximately 21% oxygen & 79% nitrogen) as the breathing gas.
Algorithm - A step-by-step mathematical formula designed to accomplish a particular result (i.e. Dive Time Remaining in the DataTrans Plus).
R2 **Altitude Dive** - A dive made at an elevation above sea level (2,000+ ft. / 610+ m.) where a different set of no decompression tables is used .
Breathing Gas Time Remaining - A graphic display of remaining dive time based on a calculation of cylinder pressure, and the diver's breathing rate and depth.
Ascent Rate - The speed that a diver ascends toward the surface.
Audible Alarm - A computer emitted tone that alerts the diver to potential danger.
Breathing Gas Consumption Indicator - A graphic display of breathing gas consumption rate.
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.
CNS - Abbreviation for the Central Nervous System of the body.
Competitive Dive - A dive conducted for profit or prize.
Compartment - A term applied to the hypothetical modeling of nitrogen absorption in the tissues (more accurate than the term "tissue" because dive computer models have no direct relation to human tissues).
DCS - Abbreviation for decompression sickness, i.e., "the bends".

GLOSSARY (continued)

DECO - Abbreviation for Decompression.
Decompression Ceiling - The shallowest depth a diver may reach upon ascent without risking decompression sickness.
Decompression Stop - The depth(s) at which a diver must pause during ascent to allow absorbed nitrogen to escape naturally from the tissues.
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, oxygen accumulation status, or tank pressure.
Elapsed Dive Time - The total time spent underwater during a dive between 5 feet (1.5 meters) on initial descent to 3 feet (1 meter) on final ascent.
FO2 - The fraction (percent / 100) of oxygen (O2) in the breathing gas mixture.
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.
Icon - a small pictorial representation of an operational mode
Integrated Dive Computer - A dive computer that monitors and displays cylinder pressure in addition to no decompression information.
LCD - Abbreviation for liquid crystal display, an easily viewed low voltage display usually found on dive computers

GLOSSARY (continued)

Maximum Depth - The deepest depth attained during a dive.
Message Box - An alpha/numeric display which provides various warnings and messages to the diver to better clarify on-screen information and audible alarm signals.
Mode - A specific set of functions in a dive computer.
Modular Dive Computer - A dive computer that is not physically 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).
Nitrox - A nitrogen-oxygen breathing gas mixture that contains a higher fraction of oxygen than air.
Nitrox Dive - A dive conducted using nitrox (22 to 50 % O2) as the breathing gas.
No Deco - Abbreviation for No Decompression.
No Deco 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.
O2 Bar Graph - A visual representation of oxygen accumlation on a dive computer display.
Oceanglo™ - An Oceanic name for an instrument backlight feature.
OceanLink™ - An Oceanic name for a for a PC interface hardware/software package.
OTU - Abbreviation for oxygen tolerance unit. A Hamilton's Repex method term for oxygen dose.
Out of Range - The point at which a dive computer can no longer supply correct dive information.
Oxygen Tolerance - Dose or exposure to the physiological affects of elevated levels of oxygen.
Oxygen Toxicity - The adverse physiological affects of exposure to elevated levels of oxygen.
Partial Pressure - The proportion of the total pressure contributed by a single gas in a mixture of gases.

GLOSSARY (continued)

PDPS - Abbreviation for Pre Dive Planning Sequence
PO2 - Partial pressure of oxygen. The proportion of total pressure of a gas mixture contributed by oxygen.
Pre Dive Planning Sequence™ - A display of available dive times at 10 ft. (3 m) intervals from 30 to 160 ft. (9 to 48 m) used when dive planning.
Pressure Sensor - an electro-mechanical device that converts cylinder pressure into an electrical signal that the DataTrans Plus converts into cylinder 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.
Transition Period - The first 10 minutes of surface time after ascending above 3 feet (1 meter) from a dive.
VARI - Abbreviation for Variable Ascent Rate Indicator.
Variable Ascent Rate Indicator™ - A display on the DataTrans Plus that shows ascent rate as a bar graph alongside a color–coded indicator (part of the Graphic Diver Interface).

ACCESSORIES

The following optional items are available from your Authorized Oceanic Dealer:

- P/N 04.6175 Battery Kit - includes 2 batteries, 2 o-rings (smaller for Display Module, larger for Transmitter), silicon grease.
- P/N 04.6175.10 Battery Kit (Transmitter only) -includes 1 battery, o-ring, silicon grease
- P/N 04.6175.20 Battery Kit (Display Module only) -includes 1 battery, o-ring, silicon grease
- P/N 04.8100 Lens Protector - adheres to the Display Module lens, prevents scratches
- P/N 04.4200 Transit Clip - retractable mounting device for attaching Display Module to D-ring
- P/N 04.1600 Compass Attachment Kit - for attaching an Analog Compass installed in a Hose Mount Boot to a DataTrans Plus fitted with a Transit Clip
- P/N 04.1700 Compass Attachment Kit - for attaching a Digital Compass installed in a Hose Mount Boot to a DataTrans Plus fitted with a Transit Clip
- P/N 04.4870 OceanLog™for DataTrans Plus - PC Download Package (hardware & software)

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**

DATATRANS PLUS SERVICE RECORD

Serial Number _____

Date of purchase _____

Purchased from _____

Below to be filled in by an Authorized Oceanic Dealer:

Date	Service Performed	Dealer / Technician