OCEANIC

DATATRANS

owner's guide

WARNING:
Read and understand the contents of this guide prior to using the DataTrans. You should seek the advice of your retailer in its use and limitations prior to diving with this product. Should you not understand the contents of this guide, or have any questions, you should seek additional training in the use of this product from your retailer. This product is for recreational multilevel diving use only and is designed for use by competently trained individual divers only.

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

⚠️ **WARNINGS:**
- **The DataTrans is intended for use only by recreational divers who have successfully completed a nationally recognized course in scuba diving.**
- **It must not be used by untrained persons who may not have knowledge of the potential risks and hazards of scuba diving.**
- **You must obtain scuba certification before using the DataTrans if you have not already done so.**
- **It is NOT for use by 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.**
- **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.**

LIMITED TWO-YEAR WARRANTY

Oceanic guarantees, to the original purchaser only, that the DataTrans 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 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 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 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. If you try to obtain warranty service for your DataTrans but have not sent in the registration within 30 days of purchase date, you will be charged a twenty-five dollar late registration processing fee to reinstate the warranty. This charge can be avoided by mailing the registration card immediately after purchase.

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. Modifications or repair by anyone other than an Oceanic Sales & Service Center authorized to service the DataTrans 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 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.**

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

Warranty does not extend to plastic gauge face, rubber strap, o-rings, batteries, transmitter fitting corrosion, chrome loss, or damage due to accident, abuse, modification, or tampering.

iv

DECOMPRESSION MODEL

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

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.**

vi

CONTENTS

RESPONSIBLE COMPUTER DIVING

OCEANIC®

COMPUTER

◆ **Always Plan Each Dive**
◆ **Always Limit Your Dive to the Level of Your Training and Experience**
◆ **Always Make Your Deepest Dive First**
◆ **Always Make The Deepest Part of Every Dive First**
◆ **Check Your Computer Often During the Dive**
◆ **Do A Safety Stop on Every Dive**
◆ **Ensure Adequate Surface Interval Between Each Dive**
◆ **Ensure Adequate Surface Interval Between Each Day of Diving (12 Hours or Until Your Computer Clears)**

Read And Understand This Instruction Manual Thoroughly Before Using the DataTrans.

DIVING

FEATURES OVERVIEW

INTRODUCTION

Welcome to Oceanic *and thank you* for choosing DataTrans! We feel that your new DataTrans will surpass your highest expectations as you become familiar with its broad assortment of features and unique, interactive capabilities that give it the distinction of being a *personal* diving computer.

The complete DataTrans is a two component, air integrated system that consists of a computer 'display module' and a Radio Frequency (R/F) 'transmitter' that will be installed into a high pressure port of your first stage, or is built into an Oceanic DX-2™ Integrated first stage. This transmitter continuously "sends" air supply data to the display module via a low frequency signal. In addition to no-decompression/ decompression status, air consumption is then calculated and displayed in graphic and alpha/ numerical formats on the computer's screen - all without the use of wires or hoses!

The computer module can also be used without the transmitter as a "stand-alone," non air-integrated computer, and will retain full use of all functions except those that are air related. It can therefore be purchased separately, and a transmitter can be added at any time in the future to make full use of the DataTrans' available features.

If navigating through the various modes of the DataTrans' menu system seems complicated at first, *relax*. As you read through this Instruction Guide, you will see that the mode settings are actually easier to understand and perform than those of
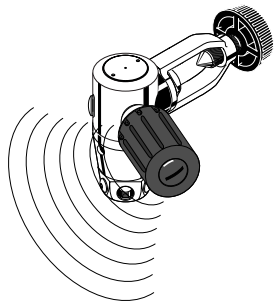
most digital wrist watches. Refer to the icon legend and menu structure chart on the following pages, and keep the waterproof Review Card handy during your dive trips. Although it will require an initial investment of time to become acquainted with the various icons and bar graphs of the Graphic Diver Interface, you'll soon agree that the DataTrans is amazingly easy to use, and intuitively simple to understand - *at a glance!* After all, why spend any more time than necessary studying a computer screen, when there are far more interesting things to look at underwater?

The DataTrans has a wide array of features that are described in detail throughout the following pages. **It is extremely important that you read this manual in sequence and understand it completely before attempting to use the DataTrans. Check the DataTrans frequently during your dive.** You must also be a trained diver, certified by a recognized training agency.

Remember at all times: The rules you were taught in your basic, open water certification course still apply to the diving you will do while using a dive computer - some will become doubly important. Technology is no substitute for common sense, and a dive computer can only be as smart as the person using it.
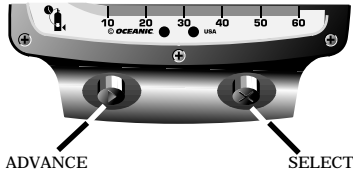
Be a RESPONSIBLE DIVER at all times.

3

ADVANCE   SELECT

Fig. 1 – Interactive Console -
Surface Functions

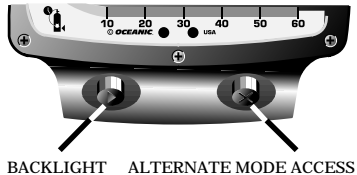

BACKLIGHT   ALTERNATE MODE ACCESS

Fig. 2 – Interactive Console -
Dive Mode Functions

OVERVIEW OF FEATURES

The DataTrans is very unique among diving computers presently available, due to its powerful interactive features that allow you - the user - to select various display options, and to access specific information you need, when you choose to see it. The key to these features is the Interactive Control Console, which consists of the ADVANCE button and SELECT button (Fig. 1). On the surface, prior to entering the water, these controls allow you to preset the following display options:

- **Units of Measure** - **Imperial or Metric**
- **Message Box™ Language** - **English, Italian, German, Spanish, or French**
- **Custom Depth & Air Warning Set Points™**
- **Date & Time**
- **Link** - **Display Module to a Transmitter**

You may choose to set these options only one time and leave them at those settings, or you may set them at different values any time while on the surface.

The controls can be pressed repeatedly , releasing upon hearing a beep, or held in to scroll and continue as you set or access different display modes that you choose. On the surface, you may select the **Plan** mode to plan your next dive, or choose the **Log** mode with time and date stamp to access your 12 most recent dives. A **History** mode displays the unit's complete history, including total number of dives, maximum depth, etc. After the DataTrans enters **Dive** mode underwater, the ADVANCE button may be used to backlight the display, and the SELECT button used to access an **Alternate Dive** mode, which displays additional information including maximum depth, bottom time and temperature (Fig 2).

4

Universal Graphic Diver Interface®

One of Oceanic's primary design objectives for dive computers has always been to display information in a format which is as easy to read and understand as possible, without any clutter of unnecessary information that may cause confusion for the diver. Until now, this has been accomplished by alternately showing primary and secondary screens of information at preset intervals. This allows the numerical figures for each display to be as large and as easy to read as possible, but it comes with the small inconvenience of sometimes waiting until the screen containing the desired information appears.

The DataTrans offers the best of all worlds, and transcends many language barriers. With the use of universal icons and four different bar graphs that make up the Universal Graphic Diver Interface (Fig. 3), information is visually represented and understood at a glance, minimizing the need for numerical displays. Underwater, the Control Console allows you to access an alternate display of information containing max depth, bottom time, and temperature, with the touch of a button - whenever you choose.

In a critical situation, however, icons, bar graphs, and numeric displays may not be enough to convey an urgent message. The Message Box™ is an alpha/numeric display which flashes concise, simple messages, such as "TOO FAST," or "AIR ALARM," while the audible alarm simultaneously sounds to alert you to check this information. Most incredibly, these messages can be displayed in one of five language preferences that you choose, using the interactive Control Console before you enter the water.
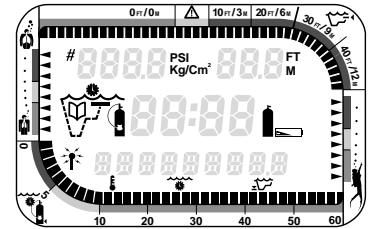

Fig. 3 - Universal Graphic Diver Interface

5

Color Coded Bar Graph Displays

The Graphic Diver Interface contains four separate bar graphs that are each color coded green, yellow, and red, and can be interpreted the same as a traffic signal.

The **Tissue Loading Bar Graph**® (TLBG) represents (Fig. 4a) nitrogen loading, showing your relative no-decompression or decompression status. As your depth and bottom time increase, segments will fill the graph from left to right. 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 TLBG also assists you with managing decompression by indicating four "ceiling" depths. This is explained in detail in the "Handling the Extremes" section.

The **Variable Ascent Rate Indicator**™ (VARI) bar graph (Fig. 4b) shows you how fast you are ascending, rather than just showing that you are ascending too fast. You can think of it as an ascent rate speedometer.

The **Air Time Remaining**™ (ATR) bar graph (Fig. 4c) provides a graphic representation of Air Time Remaining, which represents the time that a diver can remain at his present depth and then, following a safe ascent, surface with a predetermined air reserve (e.g., 300 psi). This calculation and display is based on the diver's individual air consumption rate that is continually monitored by the DataTrans, and it takes into account the air required for a safe ascent including any required decompression stops.

The **Air Consumption Indicator**™ (ACI) bar graph (Fig. 4d) 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 breaths.
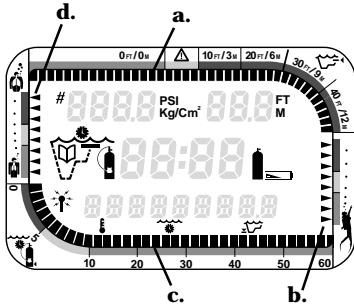

Fig. 4 - Bar Graph Displays

6

While underwater, you must check each of these four bar graphs on a frequent basis. Oceanic strongly recommends that every effort should be made to keep each display "in the green" at all times to minimize any possibility of decompression sickness or an out-of-air situation. More detailed information regarding these displays is provided in the following sections.

In addition to it's unique interactive abilities, the DataTrans is fully loaded with all of the features you would expect from the world's leading manufacturer of dive computers - and much, much more:

- Universal Graphic Diver Interface™ - Intuitively simple to read and understand
- Air-Integrated™ - Calculates personal air consumption in 3 displays
- Alpha-Numeric Message Box™ - Displays warning messages in preferred language
- Audible Alarm - Alerts you to check Message Box™ and Graphic Diver Interface™
- Variable Ascent Rate Indicator™ - Measures ascent rate incrementally
- Dive Log Recall - Recalls 12 most recent dive profiles with time & date stamp
- Backlighted Display - Allows easy viewing at night or in low light situations
- Automatic Altitude Compensation - Fully functional up to 14,000 ft. (4,267 m.)
- Diver Replaceable Batteries
- Ambient Temperature Indication

Before moving on to the next chapter, take the time to familiarize yourself with the universal icons, Fig. 5 on page 8, which make up the Graphic Diver Interface.

1. **Tissue Loading Bar Graph** (NO DECOM ZONE)
2. **Tissue Loading Bar Graph** (CAUTION ZONE)
3a. **Tissue Loading Bar Graph** (10ft/ 3m DECOM CEILING)
3b. **Tissue Loading Bar Graph** (20ft/ 6m DECOM CEILING)
3c. **Tissue Loading Bar Graph** (30ft/ 9m DECOM CEILING)
3d. **Tissue Loading Bar Graph** (40ft/ 12m DECOM CEILING)
4. **Icon - Decompression Zone**
5. **Icon - Ascent Rate**
6. **Icon - Low Battery** (See Detail B)
7. **Icon - Maximum Depth**
8. **Icon - Elapsed Bottom Time**
9. **Icon - Temperature**
10. **Icon - Air Time Remaining**
11. **Icon - RF Transmission Link**
12. **Icon - Dive Time Mode** (See Detail A)
13. **Icon - Low Air Consumption**
14. **Icon - Log Mode**
15. **Icon - High Air Consumption**
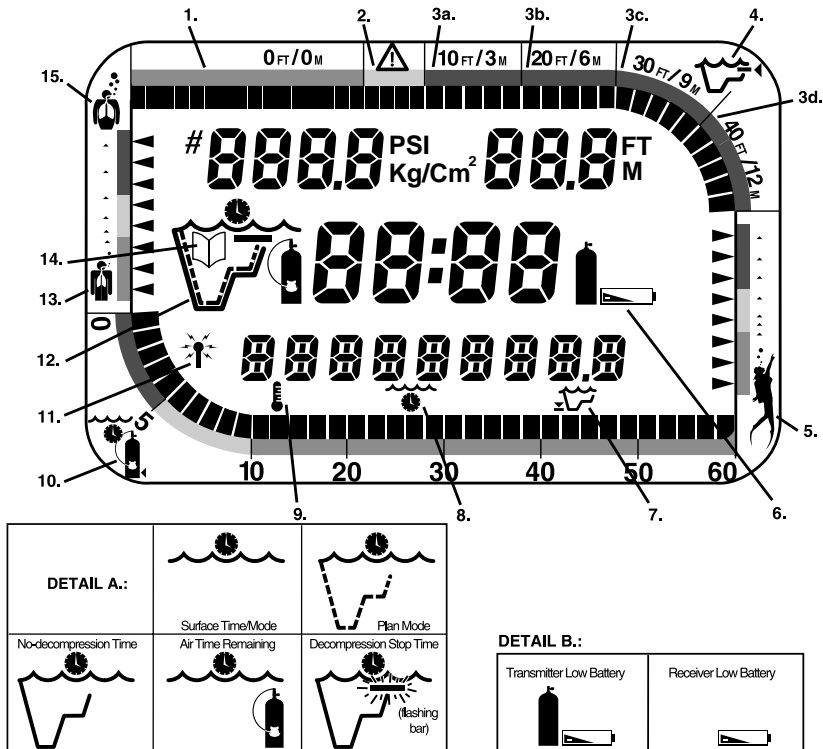
Fig. 5 - Graphic Interface Legend

8

DETAIL A.:

No-decompression Time
Surface Time/Mode
Plan Mode
Air Time Remaining
Decompression Stop Time
(flashing bar)

DETAIL B.:

Transmitter Low Battery
Receiver Low Battery

GETTING STARTED

MAKING THE DATATRANS PERSONAL

Before you dive with the DataTrans 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.

If you intend to use your DataTrans as a complete system that includes the high pressure transmitter, the transmitter must first be installed into a high pressure port of your first stage, facing to one side - unless you purchased the DX-3™ Integrated First Stage, which includes the transmitter as a built-in component (Fig. 6). Oceanic strongly recommends that this installation be performed by an Authorized Oceanic Dealer at the time of purchase. If this is not possible, refer to the instructions for this procedure on page 80.

Fig. 6 - DX-3 Integrated First Stage

⚠ **NOTE: The DataTrans 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 for compatibility with your first stage.**

If your DataTrans display module and transmitter were packaged and shipped from the factory as a complete system, the two units have already been "pre-linked." If the two units have been purchased separately by you or your Authorized Oceanic Dealer, it will be necessary to link the display module to the transmitter's frequency code. This can be easily verified upon activation.

10

A DataTrans that has been packaged and sold as a stand alone computer display module has been preset at the factory as a non-linked unit, but can easily be linked with a transmitter at any time in the future.

ACTIVATING THE DISPLAY

Before activating the DataTrans display module, it is very important to connect the first stage containing the transmitter to a full cylinder and pressurize by opening the valve. Air pressure of 50 psi (3.5 kg/cm²) or more is necessary to activate the transmitter. Position the display module within 3 feet (1 m) of and <u>parallel to</u> the transmitter, and hold it in this location throughout the activation process.

To activate the display of the display module, press the Select button on the right side of the Control Console and release. The DataTrans will immediately enter Diagnostic Mode (Fig. 7), which will display all "8's," followed by "dashes," and then a countdown from 9 to 0. The Message Box will read SELF - TEST until the diagnostic check is completed, at which time the DataTrans will emit a single beep to indicate a successful diagnostic check. If the display module is correctly set to the same frequency code as the transmitter, the Link icon will disappear and cylinder pressure will be displayed numerically. Also, the Air Time Remaining (ATR) bar graph (Fig. 8) will fill indicating 60 minutes.

Throughout this process, the DataTrans checks its display functions, coded frequency link to the transmitter, and battery voltage to ensure that everything is working correctly. If any display or message varies from the information presented here, return the DataTrans to your Oceanic Dealer for inspection. It
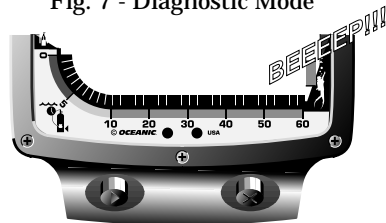

Fig. 7 - Diagnostic Mode

Fig. 8 - Link Verification
(ATR Bar Graph)

11

will also check the ambient barometric pressure, and calibrate its present depth as zero. At elevations of 3,000 ft. (915 m) or higher, it will recalibrate itself to measure depth in feet (meters) of fresh water.

⚠️ **WARNING - Never activate the DataTrans underwater. This may result in inaccurate depth and no-decompression time displays. Activation is not possible deeper than 4 ft. (1 m) underwater.**

If 2 hours elapse after activation without making a dive, the DataTrans will self-deactivate to save battery power. Check your display module before entering the water to ensure that it doesn't need reactivation.

During diagnostic mode, the DataTrans measures the battery voltage level of both the display module and the transmitter to determine whether there is sufficient voltage to complete a full day of diving.

⚠️ **WARNING - If either or both of the Low Battery icons remain on display following activation (Fig. 9a), Oceanic strongly recommends that you DO NOT dive until you have obtained battery replacement. See battery replacement procedure on page 77.**

Fig. 9 - Low Battery Warning

If there is not enough battery voltage in the display module to complete a day of diving, the DataTrans will either deactivate itself or not activate at all. If there is not sufficient voltage in the transmitter to complete a full day of diving, the link

icon and tank pressure of "00" PSI will flash on display (Fig. 10), indicating that the display module is not receiving a signal.

FLASHING LINK ICON

If the display module has been successfully linked to the transmitter upon activation, the Link icon and tank pressure will begin flashing on display whenever the display module is moved out of the range of the transmitter while in Surface Mode. When the display module is returned to its correct proximity to the transmitter, the flashing will stop, and the Link icon will disappear within 5 seconds. Also the Air Time Remaining bar graph will reappear.

If a link was not established during activation, the Link icon will remain flashing on display immediately following Diagnostic Mode, and tank pressure of "00" PSI will be displayed, flashing. This indicates one of the following conditions:

a. The transmitter was not pressurized prior to activation of the display module.

b. The display module was not positioned in close proximity to the transmitter during activation or correctly positioned parallel to it.

c. The transmitter's battery voltage has dropped below the level required to transmit a signal.

d. The display module is not correctly linked to the same coded frequency as the transmitter.

Fig. 10 - Unsuccessful Link

13

Surface Time/Mode

a. Fig. 11 - Surface Mode

In the latter case, it will be immediately necessary to follow the prescribed linking procedure outlined on page 24 to set the display module to the coded frequency that matches that of the transmitter, or set a specific link code that will allow the display module to function as a stand alone unit.

SURFACE MODE

Surface Mode immediately follows Diagnostic Mode after initial activation (Fig 11), or after the linking procedure has been performed. It also appears after a dive when you ascend shallower than 3 ft. (1m). Surface Mode is identified by the Surface Time icon (Fig. 11a). Information displayed in Surface Mode is Tank Pressure, Depth, Surface Time with flashing colon, Temperature, Time of Day with colon flashing, the Air Time Remaining and Tissue Loading Bar Graphs, if any, and the Air Consumption Indicator. The Date may be viewed as a secondary display by pressing the Select button.

Surface Mode is also the default mode that the DataTrans will automatically return to whenever it has been left unattended while in the Mode Menu for a period of more than 5 minutes. You may find yourself automatically returned there when you have completed a particular setting. While navigating through the Mode Menu system, you can think of Surface Mode as "home port".

MODE MENU SYSTEM

In just a moment, you'll begin navigating through the Mode Menu system to set the various display options that will make the DataTrans *your* personal computer. If you followed the Linking procedure, you have already developed a

14

feel for how the Control Console works. The Advance button is used to move through the Mode Menu and change each setting, and the Select button is used to select the mode or setting that is currently on-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. Others, such as the Plan Mode and Alternate Dive Mode, are entered into via the Control Console, at the user's option.

Menu - The main menu allows interactive access from the Surface Mode to Plan, Log, History, Set, and External Access Modes.

Setting - These are display options, such as time, date, language, link and units of measure (imperial or metric) that are determined by you - the user. You can even preprogram your dive by setting the depth and air pressure at which you will be alerted when you are going too deep or running low on air.

   Take the time to become familiar with the Menu System by studying the flowchart diagrams shown on the following pages.

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

Mode Menu

Dive Log
(Dive Log Recall)

MODE: LOG

Plan Mode
(Pre Dive Planning Sequence)

MODE PLAN

History Mode
(Complete Unit History)

MODE HIS

Surface Mode
(Default)

3010 PSI   00 FT
0:01
79   12:59

Start in Surface Mode

External Access Mode
(Optional External Interface Feature)

MODE EACC

Set Mode
(Access Sub-Menus)

MODE: SET

16
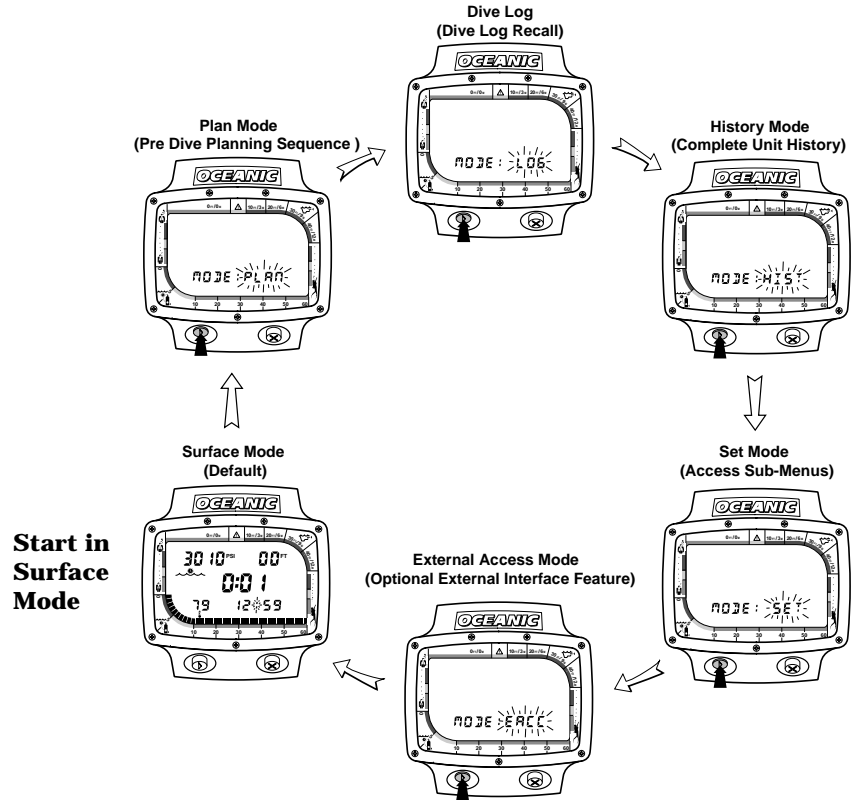
Settings

Start in Set Mode

Set Mode (Access Submenus)

MODE: SET

Time Setting (Set Time of Day)

SET: TIME

Date Setting (Set Today's Date)

SET: DATE

Unit Setting (Set Units of Measure)

SET: UNIT

Language Setting (Set Language)

SET: LANG

Link Setting (Set Frequency Link)

SET: LINK

Alarm Setting (Set Air & Depth)

SET: ALRM

SET: TIME

ADVANCE   SELECT

DataTrans™   0ft/0m   ⚠   10ft/3m   20ft/6m   30ft/9m

7:04 AM

10   20   30   40   50   60
© OCEANIC   USA
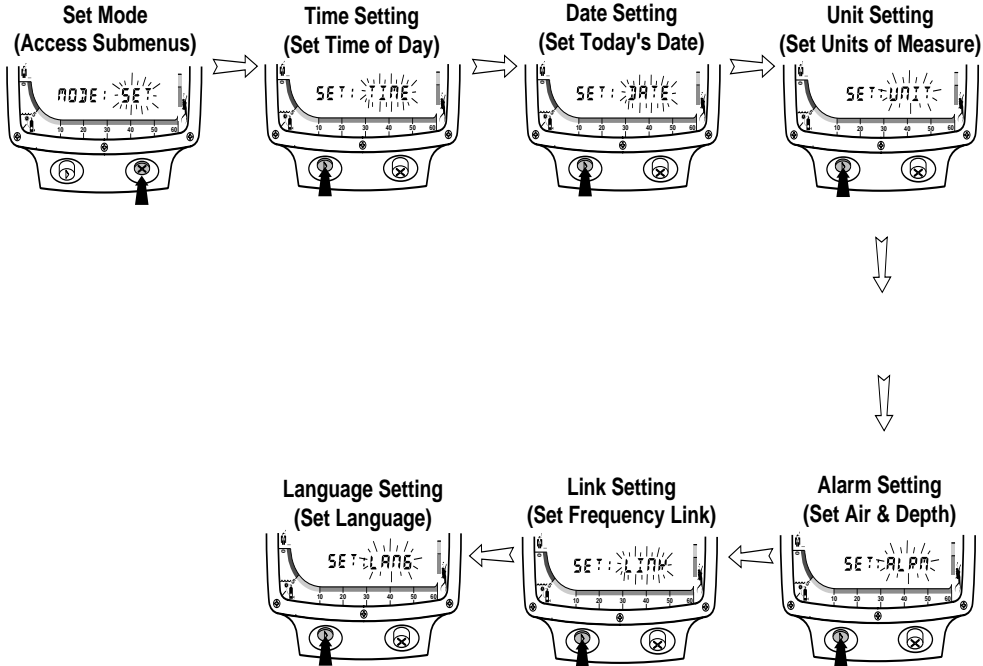
Fig. 12 - Time of Day Setting

SETTING THE MODES

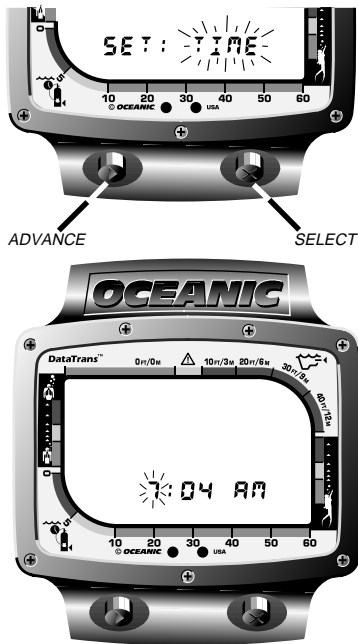Now you can begin setting your personal display preferences, using the interactive Control Console and the Setting Submenu. You will initially set Time and Date, followed by Units of measure and Language.

SET TIME

Time of day is displayed during the Surface and Alternate Dive modes, and each dive recorded in Log Mode is "stamped" with the time of day that the dive started. Your DataTrans 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 button to enter the MODE Menu. MODE:PLAN will appear, with PLAN flashing, indicating that Plan Mode is the first available option.
2. Press the Advance button 3 more times to advance to the Set Mode (MODE:SET will appear, with SET flashing). If you accidentally pass the Set Mode, you will need to press the Advance button repeatedly until MODE:SET appears. Press the Select button to select the Set Mode.
3. SET:TIME will appear, with TIME flashing.
4. Press the Select button to select the Time setting. Time of day will appear, with the first digit flashing (Fig. 12).
5. To set the time, press the Advance button to change each digit until it matches that of the current time, and press the Select button to set each digit and move on to the next. Finally, press the Advance button to display either

18

AM or PM, and press the Select button to enter the setting.

6. After the time has been set, SET:DATE will appear with DATE flashing. Press the Advance button 5 times to return to the Surface Mode, or to set the date continue with step 4 of the following SET DATE procedure.

SET DATE

Each dive shown in Log Mode is "stamped" with the date that the dive was made. The current date may be viewed in Surface Mode by pressing the Select button. Your DataTrans has been factory set for JAN 1 96. To change to the current Date, follow this procedure, beginning in Surface Mode:

1. Press the Advance button to enter the Mode Menu. MODE:PLAN will appear, with PLAN flashing, indicating that Plan Mode is the first available option.

2. Press the Advance button 3 more times to advance to the Set Mode (MODE:SET will appear, with SET flashing). If you accidentally pass the Set Mode, you will need to press the Advance button repeatedly until MODE:SET appears. Press the Select button to select the Set Mode.

3. After selecting Set Mode, press the Advance button once to advance to the Date setting (SET:DATE will appear, with DATE flashing).

4. Press the Select button to select the Date setting. The month will appear, flashing (Fig. 13).

5. To set the Date, press the Advance button to change month, day, and year until they each match that of the current date. Press the Select button to set
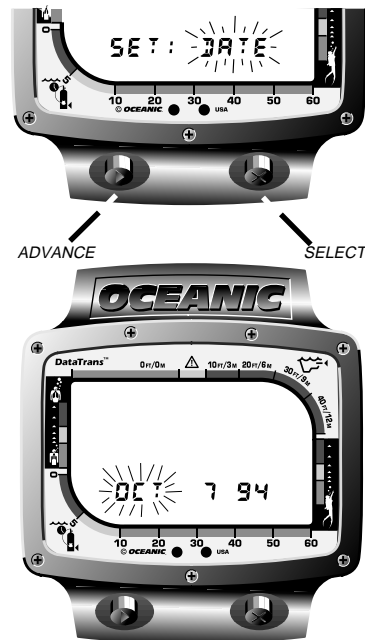

ADVANCE   SELECT
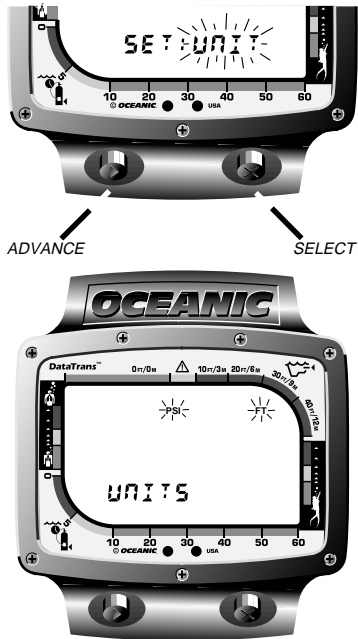
Fig. 13- Date Setting

19

Fig. 14 - Units of Measure
Preference Setting

each of these and advance to the next.

6. After the year has been set, SET:UNIT will appear, with UNIT flashing. Press the Advance button 4 times to return to the Surface Mode, or to set the units continue with step 4 of the following SET UNIT procedure.

SET UNITS OF MEASURE

You can choose between Imperial (PSI and Feet) and Metric (Kg/Cm² and Meters) units of measure to display air pressure and depth information. Your DataTrans has been factory set for FT and PSI. To change display values to metric units of measure, follow this procedure, beginning in Surface Mode:

1. Press the Advance button to enter the Mode Menu. MODE:PLAN will appear, with PLAN flashing, indicating that Plan Mode is the first available option.

2. Press the Advance button 3 more times to advance to the Set Mode (MODE:SET will appear, with SET flashing). If you accidentally pass the Set Mode, you will need to press the Advance button repeatedly until MODE:SET appears. Press the Select button to select the Set Mode.

3. After selecting Set Mode, press the Advance button twice to advance to the Unit setting (SET:UNIT will appear, with UNIT flashing).

4. Press the Select button to select the Unit setting. PSI and FT will appear in the upper portion of the screen, flashing (Fig. 14).

5. You may press the Select button to select Imperial units of measure, or you may press the Advance button once to display Kg/Cm² and M, and press the

SELECT button to select Metric units of measure.

6. After the Units have been set, SET:ALRM will appear with ALRM flashing. Press the Advance button 3 times to return to the Surface Mode, or to set the alarms continue with step 4 of the Set Air and Depth Alarm procedure beginning on page 23.

AIR & DEPTH ALARM SET POINTS™

After planning each dive according to the no-decompression bottom times shown to be available in the PDPS, Oceanic strongly recommends that you utilize one of the greatest safety features the DataTrans offers - the Air & Depth Alarm settings.

While the DataTrans 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 air, 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 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

Fig. 15 - Depth Alarm
(90 FT Set Point)

alarm will sound once per second, while the Message Box flashes the words "TOO DEEP" (Fig. 15, page 21) until you ascend above the depth Set Point. The Depth Alarm may be set for depths ranging from 30-250 feet (9-76 m), in 10 ft (3 & 3.5 m) increments. The setting that you choose for the Depth Alarm does not change the displayed limits of no-decompression dive time remaining.

Air Alarm Set Point™

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

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

When your Air Time Remaining reaches 5 minutes, the Air Alarm will emit a double beep as a preliminary warning. If you allow your Air Time Remaining to decrease to zero, the tank pressure display will flash and the Message Box flashes the words "AIR ALARM" (Fig. 16) until you ascend to a depth of 5 feet or less.

While an immediate ascent is called for if the Air Time Remaining decreases to zero, there is no reason to panic. The DataTrans has allowed for the air 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.

Fig. 16 - Air Alarm
(500 PSI Set Point)

Turning Off 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. In other situations, such as a multiday trip, when spare batteries are in scarce supply, the audible alarm may be turned off to conserve battery power. For these reasons, the audible portion of the alarm feature may be turned off at your discretion. The Graphic Diver Interface and Message Box will continue to display information according to the values that have been entered in the Alarm settings.

> ⚠️ **WARNING: Turning off the audible alarm disables an important tool that can help you avoid decompression diving or low air emergencies. Although possible, Oceanic does not recommend the disablement of the audible alarm for any purpose.**

Set Air and Depth Alarms

Your DataTrans alarms have been factory set for 250 FT and 300 PSI. To set with your desired Depth and Air Alarm settings, or turn the audible alarm off, follow this procedure, beginning in Surface Mode:

1. Press the Advance button to enter the Mode Menu. MODE:PLAN will appear, with PLAN flashing, indicating that Plan Mode is the first available option.

2. Press the Advance button 3 more times to advance to the Set Mode

Fig. 17 - Depth Alarm Setting

23

Fig. 18 - Air Alarm Setting

(MODE:SET will appear, with SET flashing). If you accidentally pass the Set Mode, you will need to press the Advance button repeatedly until MODE:SET appears. Press the Select button to select the Set Mode.

3. After selecting Set Mode, press the Advance button 3 times to advance to the Alarm setting (SET:ALRM will appear, with ALRM flashing).

4. Press the Select button to select the Alarm setting. The current Depth Alarm Set Point value will appear, flashing (Fig. 17, page 23).

5. Press the Advance button repeatedly to change the Depth Alarm Set Point between 30 FT (9M) and 250 FT (76M) in 10 foot (3m) increments to the depth you choose, and press the Select button to enter that setting. The current Air Alarm Set Point value will appear, flashing (Fig. 18).

6. Press the Advance button repeatedly to change the Air Alarm Set Point between 300 PSI (21 Kg/Cm²) and 1000 PSI (70 Kg/Cm²) in 100 PSI (7 Kg/Cm²) increments to the pressure you choose, and press the Select button to enter that setting. ALARM:ON will appear, with the word "ON" flashing (unless the audible alarm has been previously deactivated).

7. Press the Advance button to turn the audible portion of the alarm 'on' or 'off'.

8. After the Alarms have been set, SET:LINK will appear with LINK flashing. Press the Advance button 2 times to return to the Surface Mode, or to set the Link code continue with step 4 of the following LINKING procedure.

LINKING PROCEDURE

Your DataTrans display module has been factory set with the transmitter's

24

serial number, or at SN999999 if no tranmitter was purchased. If the DataTrans Linked automatically immediately following activation, there is no need to perform the Linking procedure. However, if the Link icon and pressure value of 00 remained flashing on-screen, the Linking procedure must be performed before the display module can receive air supply data from the transmitter.

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

While holding the display module within 3 feet (1 m) of the transmitter, which must be installed into a first stage regulator and pressurized with air, perform the following steps to link the display module to the transmitter's frequency code:

1. Press the Advance button to enter the Mode Menu. MODE:PLAN will appear, with PLAN flashing, indicating that Plan Mode is the first available option.

2. Press the Advance button 3 more times to advance to the Set Mode (MODE:SET will appear, with SET flashing). If you accidentally pass the Set Mode, you will need to press the Advance button repeatedly until MODE:SET appears. Press the Select button to select the Set Mode.

3. After selecting the Set Mode, press the Advance button 4 times to advance

ADVANCE   SELECT
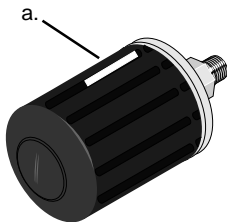
Fig. 19 - Link Setting

25

Fig. 20 - Transmitter
Frequency Code (Serial No.)

Fig. 21 - Optional Non-Link
Frequency Code

26

to the LINK setting. (SET:LINK will appear, with LINK flashing).

4. Press the Select button to select the Link Mode (Fig. 19, page 25), and compare the 6 digit frequency code number which is shown on display to the first 6 digits of the serial number embossed on the transmitter (Fig 20).

    4a. If these numbers are the same, check to ensure that the cylinder valve is open, and that the first stage regulator which contains the transmitter is pressurized. While holding the display module within 3 feet (1 m) of and parallel to the transmitter, press the Select button 6 times to select the same serial code which is on display. DO NOT press the Advance button, which will change the code to an incorrect number.

5. If the frequency code of the display module does not correspond with the transmitter's serial number, you must set the code correctly as follows:

    5a. Press the Advance button to change each number of the code as required. When each number matches the corresponding number of the transmitter, press the Select button to set that number and move on to the next. Repeat this procedure until all 6 numbers are set.

6. If you would like to set the display module to allow it to function as a stand alone, non air-integrated computer, use the Advance and Select buttons as described above to set the code as **999999** (Fig. 21).

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

SET LANGUAGE

The DataTrans Message Box displays warning messages in one of five languages that you choose - either English, Italian, German, Spanish, or French. **The Mode Menu system is also displayed in whichever language is selected, so it is very important that you do not accidentally change this setting to a language that you do not understand.** Your DataTrans has been factory set for English. If you wish to change the DataTrans' language, you may do so by following this procedure, beginning in Surface Mode:

1. Press the Advance button to enter the Mode Menu. MODE:PLAN will appear, with PLAN flashing, indicating that Plan Mode is the first available option.

2. Press the Advance button 3 more times to advance to the Set Mode (MODE:SET will appear, with SET flashing). If you accidentally pass the Set Mode, you will need to press the Advance button repeatedly until MODE:SET appears. Press the Select button to select the Set Mode.

3. After selecting Set Mode, press the Advance button 5 times to advance to the Language setting (SET:LANG will appear, with LANG flashing).

4. Press the Select button to select the Language setting. The default setting ENGLISH will appear in the lower portion of the screen, flashing (Fig. 22).

5. Press the Advance 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 which you prefer before you press the Select button.
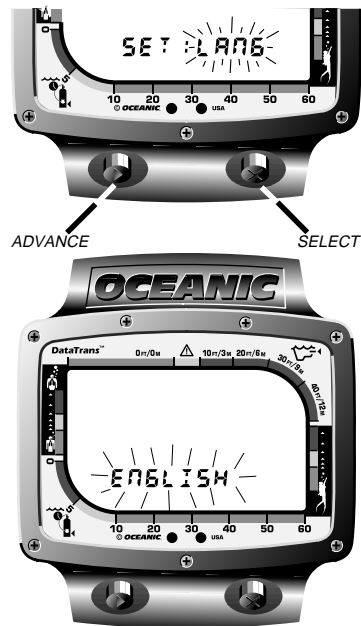

Fig. 22 - Language Preference Setting

27

7. Press the Select button to set the Language chosen and return to the Surface Mode.

Language Correction Procedure

If you accidentally selected a language which 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. 23). To correct the DataTrans to display your preferred language, it is recommended that you wait 5 minutes to allow default to the Surface Mode, and carefully perform the steps outlined in the following procedure:

1. Press the Advance button <u>four</u> times to arrive at the Set Mode.
2. Press the Select button <u>once</u> to enter Set Mode.
3. Press the Advance button <u>five</u> times to arrive at the Language submenu.
4. Press the Select button <u>once</u> to select the Language submenu.
5. Press the Advance button as needed until your preferred language appears.
6. Press the Select button to enter your language preference. You will automatically return to Surface Mode.

△ **NOTE: See page 93 in the Reference section for a cross reference of terminology using the five available languages.**

Fig. 23 - Set : Link as seen in German (Deutsch)

DIVING WITH THE DATATRANS

Poor reception area.

Poor reception distance. (Greater than 3 feet)

Poor reception area.
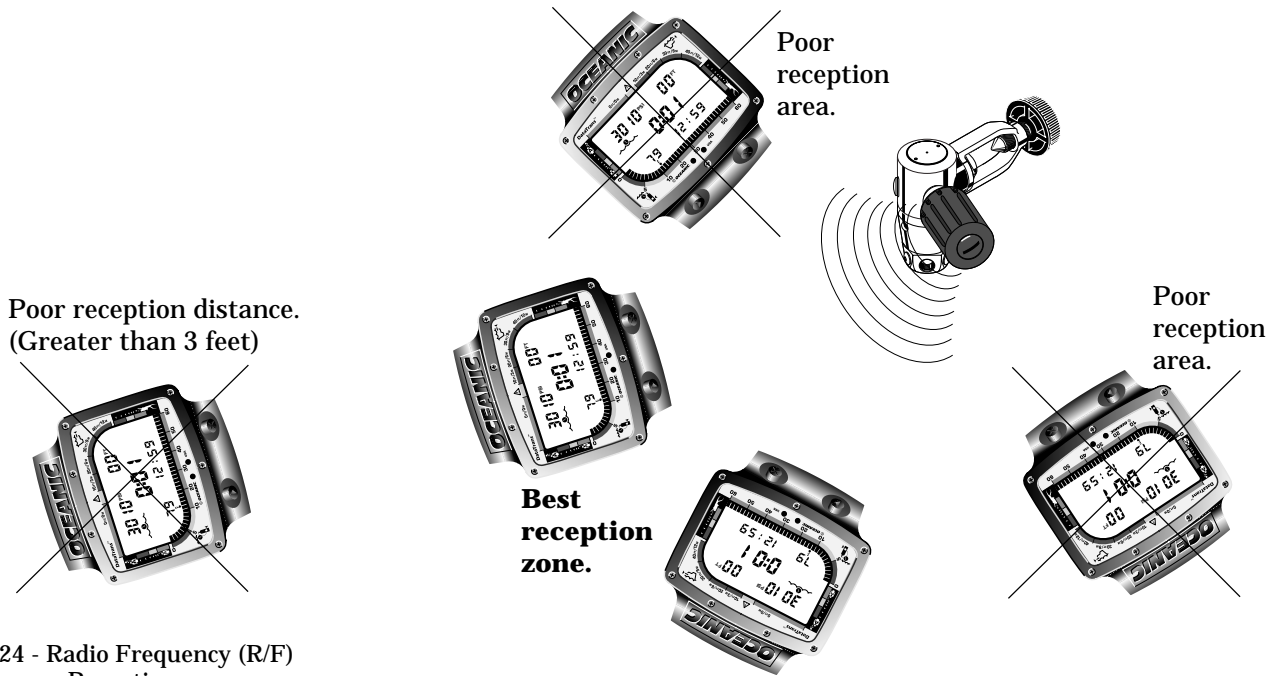
Best reception zone.

Fig. 24 - Radio Frequency (R/F) Reception

30

POSITIONING OF THE DISPLAY MODULE

The DataTrans transmitter emits a radio frequency (R/F) signal that radiates a short distance outward in a semicircular pattern that is parallel to the length dimension of the transmitter (Fig. 24, page 30). The coiled antenna inside the display module is designed to receive this signal when the display module is held in a zone parallel to or at a 45 degree angle to the transmitter. The display module cannot effectively receive the transmitter's signal when the module is held out to the sides of the transmitter, or held at distances greater than 6 feet (2 m) in front of the transmitter. Best signal strength and reception is achieved when the display module is within 3 feet (1 m) 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 cylinder valve.

Link Interruption Underwater

It is possible that you may inadvertently move the display module out of the signal pattern resulting in temporary link interruption.

A link interruption of from 15 to 20 seconds will be indicated by a flashing Link icon and flashing tank pressure (Fig. 25). Also, an audible alarm will sound once per second until the link is restored. The link will be restored within 4 seconds after the display module is moved back into its correct position.

A link interruption may also occur while the display module is in an area 3 to 4 feet (1 m) from a running dive propulsion vehicle. The link will be restored

Fig. 25 - Underwater Link Interruption

31

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 interrupt 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 operates in 13 different operational modes, including the **Diagnostic**, **Surface**, and **Set** Modes which have already been explained in detail in the previous chapter, "Getting Started." This chapter will explain the modes the DataTrans operates in before, during, and after a dive.

PRE DIVE PLANNING SEQUENCE (PLAN MODE)

Prior to every dive, Oceanic strongly recommends that you access the Plan Mode to review the Pre Dive Planning Sequence (PDPS) that will help you plan your dive as required to avoid decompression. This is especially important for repetitive dives, when the PDPS will advise you of the no-decompression bottom times that are available to you on your next dive, based on any residual nitrogen following your last dive and surface interval.

To access the Plan Mode, press the Advance button once while in Surface Mode. MODE:PLAN will appear, with PLAN flashing. Press the Select button to enter the Plan Mode (Fig. 26).

Upon entering the Plan Mode before a "clean" dive (no dives in 24 hours), the PDPS will immediately appear and scroll once through depths from 30 to 160 feet (9 to 48 m) in 10 foot (3 m) increments, showing predicted no-decompression dive times based upon your previous dive profiles. The information displayed is Previous Dive #, Depth, No-Decompression Dive Time available at that depth, and no-decompression dive icon.
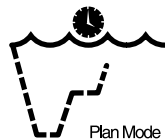

Plan Mode

Fig. 26 – Plan Mode

33

No-decompression Time   Air Time Remaining

No-decompression Time   Air Time Remaining

Fig. 27 – No Decompression
Dive Mode

34

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

PDPS no-decompression times are displayed for depths where there is at least 1 minute available. This takes into account a descent rate of 75 ft./min (23 m/min). Before a "clean" dive (no dives in 24 hours), the PDPS no-decompression limits are those found on page 84 in the Reference section.

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

NO DECOMPRESSION DIVE MODE

The DataTrans will automatically enter No-Decompression Dive Mode when you descend deeper than 5 feet (1.5 m). This mode can be recognized by the Dive Time Remaining icon that is displayed immediately to the left of the numeric display of dive time remaining (Fig. 27). The numeric value displayed will always represent your *true* dive time remaining, either Air Dive Time remaining or No-decompression Dive Time remaining (whichever is less).

At shallower depths and at the beginning of a first dive, the Dive Time Remaining Icon will represent Air Time, to indicate that available bottom time at your present depth is limited by your air supply, and is less than the time that would be allowed by the calculated no-decompression limits.

As your depth and bottom time increase, however, No-Decompression Time eventually becomes the more limiting factor, and the Dive Time Remaining Icon will indicate that the numeric display is showing this value.

No-Decompression Dive Mode numerically displays Cylinder Pressure, Current Depth, and No Decompression or Air Dive Time Remaining (whichever is less). The Graphic Diver Interface displays the TLBG, VARI, ATR, and ACI bar graphs.

As your depth and bottom time increase, the TLBG will fill up with segments from left to right (green to red) to represent the absorption of nitrogen. Upon ascent to shallower depths, the TLBG will begin to recede, indicating the additional no decompression time available through multilevel diving.

ALTERNATE DIVE MODE

To avoid cluttering of the screen, values of Temperature, Maximum Depth, Bottom Time, and Time of Day are displayed in an Alternate Dive Mode (Fig. 28).

To view the Alternate Dive Mode, simply press and hold the Select button at any time throughout your dive. Displays of Temperature (28a), Bottom Time (28b), and Maximum Depth (28c) appear in addition to information displayed in the normal Dive Mode. When you release the Select button, Time of Day will appear briefly before the screen returns to the Dive Mode.

BACKLIGHTING FEATURE

During Dive Mode press the Advance, left, button (Fig. 29) to illuminate the Oceanglo™ backlight for depression time plus 10 sec, or 15 sec maximum.

Fig. 28 - Alternate Dive Mode
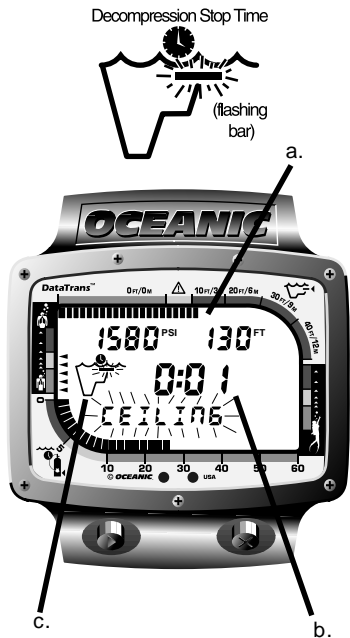

Fig. 29 - Oceanglo™ Backlight

35

Decompression Stop Time

(flashing bar)

a.

c.

b.

Fig. 30 - Decompression Dive Mode

DECOMPRESSION DIVE MODE

The DataTrans will help you to avoid, or easily manage, decompression. Before explaining further, read the following warning.

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

The Decompression Dive Mode activates when the TLBG enters the red decompression zone (Fig. 30a). When this occurs, the numeric No-Decompression dive time remaining display becomes zero and switches to Decompression dive time <u>required</u> (Fig. 30b). The Mode Icon changes from No-Decompression to Decompression (Fig. 30c). At the same time, the audible alarm will emit a double beep to alert you of your entry into decompression, while the Message Box alternately flashes "CEILING" and the time that you must spend decompressing below the ceiling depth shown in the TLBG (Fig. 31, next page).

Decompression Dive Mode numerically displays Depth, Decompression Time, and Tank Pressure. In addition to the ATR, ACI, and VARI bar graphs, the Graphic Diver Interface displays the TLBG, that now acts as a Decompression "ceiling" indicator. Decompression time displays the total number of minutes required at all ceilings combined. The TLBG displays the ceiling depth that you must stay below.

36

When the audible alarm alerts you of entry into decompression, you must immediately change the focus of your dive to getting safely back to the surface. Upon hearing the alarm and seeing the TLBG enter the 10 FT/ 3M STOP zone, you should immediately begin a safe ascent to a depth slightly deeper than or equal to 10 feet (3m). The amount of decompression credit time you receive is dependent on depth, with slightly less credit given the deeper you are.

Still, you must never ascend shallower than your decompression ceiling. Doing so will place the DataTrans into a Conditional Violation Mode, and will **greatly increase your risk of decompression sickness.** Often while coping with surge and swell, it is difficult to stay at a chosen depth. To ensure that you do not enter a violation mode you should stay close to, but no shallower than, the decompression ceiling depth. If the DataTrans requires a 10, 20, 30 or 40 foot (3, 6, 9 or 12 m) decompression ceiling, you should stay slightly deeper than the depth indicated until the TLBG recedes into the next shallower zone. When that occurs, you can ascend to, but not shallower than, the indicated ceiling.

Once you have performed the required decompression, the DataTrans will switch to No Decompression Dive Mode, allowing additional time underwater. Though more time may be available, you must spend a portion of this time continuing to decompress at a safety stop deeper than or equal to 10 feet (3m). This will let the TLBG recede further into the yellow Caution Zone or green No Decompression zone. During a dive in which you inadvertently enter decompression, you must focus on reducing your tissue loading as much as possible - by spending as much time as you can at your final safety stop.
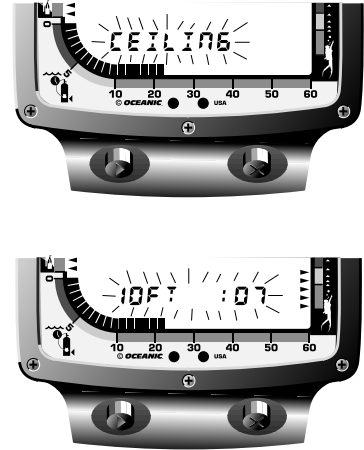

Fig. 31 - Alternating Decompression Message

37

VIOLATION MODES

The DataTrans enters one of three Violation Modes when you exceed its ability to predict an ascent procedure. These modes are explained fully in the "Handling the Extremes" section beginning on page 55.

GAUGE MODE

If the DataTrans enters a Permanent Violation Mode, it will operate only in Gauge Mode on subsequent dives. The DataTrans removes the displays that can no longer provide correct information because of the violation. Only depth and cylinder pressure will be displayed, with the Message Box flashing "VIOLATION" (Fig. 32), and the audible alarm emitting one beep per second. The Alternate Dive Mode can be accessed to display temperature, bottom time, and max depth.
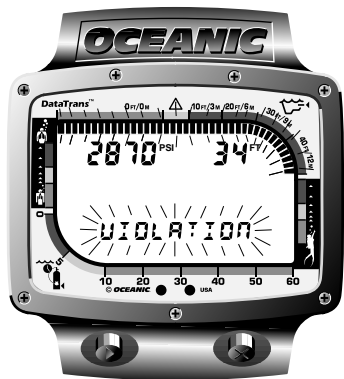
ASCENDING TO THE SURFACE

As you begin ascending to shallower depths during the later part of your dive, the segments that have filled up the TLBG will begin to recede, offering a graphic representation of your multilevel diving capability. If you entered Decompression Mode, you must not complete your ascent until the TLBG is at least inside the yellow Caution Zone. **If you have not entered Decompression Mode, a safety stop made between 15-20 feet (4.5-6m) is strongly recommended as a standard procedure before completing your ascent.** Whenever your air supply allows, you should always make every effort to

Fig. 32 - Gauge Mode

38

complete your ascent with the TLBG 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™ (VARI) will show how fast you are ascending, in relation to the prescribed ascent rate for the depth zone you are in. When it enters the red zone, indicating that you have exceeded the maximum prescribed ascent rate, the DataTrans will also alert you with an audible alarm, flashing VARI, and the Message Box will flash the words "TOO FAST."

When you ascend to 3 feet (1m) or shallower, the DataTrans will automatically enter Surface Mode and begin counting your surface interval. For the first 10 minutes after surfacing, the Surface Mode Icon will flash (Fig. 33) to indicate that if you descend, it will be considered a continuation of that dive. This time at the surface will not be added as bottom time. During this time, the Mode Menu cannot be accessed, with the exception of Log Mode. After 10 minutes has elapsed, the Surface Mode Icon will become solid to indicate that you have full access to the Mode Menu, and another descent will be considered a separate dive.
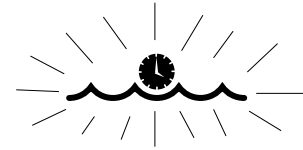
Surface Interval

Fig. 33 - Surface Interval - First 10 minutes

39

Fig. 34 - Log Mode Date Stamp

DIVE LOG MODE

Log Mode can be accessed using the Mode Menu while on the surface. This mode displays 3 separate screens of information for each dive recorded, for up to 12 of your most recent dives. Log Mode will store this information indefinitely, until a subsequent (13th) dive displaces the earliest dive recorded, on a first in, first out basis. To eliminate confusion, each dive is separately "stamped" with the date on which it was made, and the time of day when it was started.

To access Log Mode, follow this procedure, beginning in Surface Mode:

1. Press the Advance button to enter the Mode Menu. MODE:PLAN will appear, with PLAN flashing, indicating that Plan Mode is the first available option.
2. Press the Advance button once to advance to the Log Mode (MODE:LOG will appear (Fig. 34), with LOG flashing. If you accidentally pass the Log Mode, you will need to press the Advance button repeatedly until MODE:LOG appears. Press the Select button to select the Log Mode.
3. The first screen to appear will display the most recent dive recorded, identified by the Log Mode Icon, the dive number and the date of the dive.
4. If you wish to bypass the dive currently being displayed to view an earlier dive, you may do so now by pressing the Select button until the desired dive is displayed, identified by the dive number and date of the dive.

40

5. To display the time of day when the dive started, press the Advance button.
6. Press the Advance button once more to view the actual dive information (Fig. 35). Displayed will be: Log Mode Icon, Dive number (35a), Surface Time - between that dive and the one previous to it (35b), water Temperature (35c) at the end of the dive, Bottom Time (35d), and Maximum Depth (35e). 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 TLBG reading recorded at the end of the dive, and the maximum value reached on the VARI and the ACI bar graphs.
7. Press either button to advance to the date stamp screen of the next dive.

To exit Log Mode, it will be necessary to advance through all recorded dives, after which you will automatically return to Surface Mode.
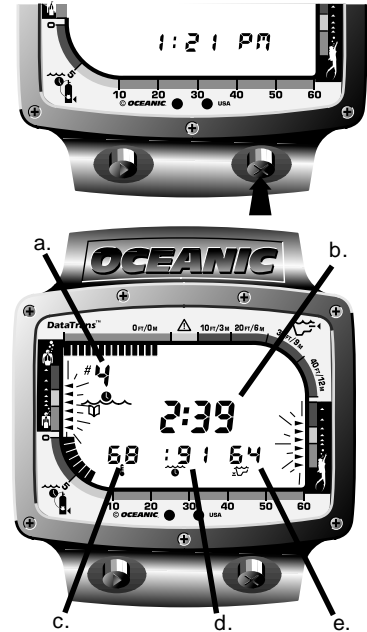

Fig. 35 – Dive Log Information

41

TIME TO FLY MODE

The longer you wait to fly after diving, as you should be aware from your own training, the more you will reduce your exposure to decompression sickness. The Time To Fly counter begins counting down ten 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 PDPS when you access Plan Mode, and shows the word "FLY" with a countdown that starts at 23 hours and 50 minutes (Fig. 36).

Twelve hours after the last dive, the Surface Mode will disappear from the screen, and the Time to Fly Mode will display continuously, counting down the remaining twelve hours to zero. After a surface interval of twelve hours, you may choose to fly, provided that your dive profile(s) did not enter decompression. If your diving involved decompression or a repetitive, multiday profile, it is strongly recommended that you wait a full twenty four hours after your last dive to add a greater degree of protection. See page 53 for more information about flying after diving and DAN's guidelines.

⚠️ **WARNING: During the final twelve hours, the DataTrans is in a countdown mode only and must be reactivated before it can be used for another dive.**

Fig. 36 - Time to Fly Countdown

HISTORY MODE

The History Mode offers a complete history of your DataTrans computer since it was originally purchased or last received factory service, including total

number of dives, total decompression dives, total bottom time in hours, deepest maximum depth, and total violations.

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

1. Press the Advance button to enter the Mode Menu. MODE:PLAN will appear, with PLAN flashing, indicating that Plan Mode is the first available option.

2. Press the Advance button 2 more times to advance to the History Mode (MODE:HIST will appear, with HIST flashing). If you accidentally pass the History Mode, you will need to press the Advance button repeatedly until MODE:HIST appears. Press the Select button to select the History Mode.

3. Screen #1 will show the No Decompression Icon, total number of dives (Fig. 37a), total bottom time (Fig. 37b), and max depth (Fig. 37c).

4. Press the Advance button once to view screen #2 that shows the Decompression Icon and the total number of Decompression dives. Total bottom time and maximum depth will remain on display (Fig. 38).

5. Press the Advance button again to view a third and final screen (#3) which displays the Dive Mode Icon and the total number of dives during which the DataTrans entered a Violation Mode (Fig. 39).

6. To return to Surface Mode, press either button.

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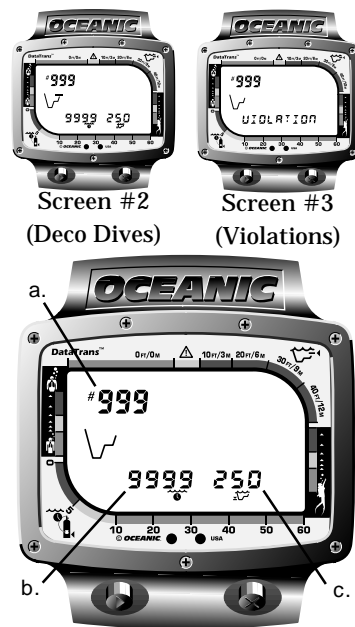

Screen #2 (Deco Dives) Screen #3 (Violations)

Fig. 37 – History Mode Screen #1 (Totals)
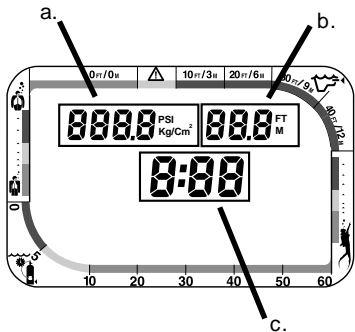
43

Fig. 38 - External Access Mode

a.
b.
c.

Fig. 39 - Primary Numeric
Displays

44

EXTERNAL ACCESS MODE (EACC)

"EACC," referred to as the External Access Mode, is the last mode selection in the main Mode Menu before Surface Mode (Fig. 38). This special mode enables you to download recorded log and history information from your DataTrans computer to an IBM compatible PC using an OceanLink™ download interface kit that may be purchased separately from your Authorized Oceanic Dealer. Complete instructions for this procedure are included with the kit.

INFORMATIONAL DISPLAYS

It is imperative that you understand the formats, ranges, and values of the information represented by the DataTrans' numeric and graphic displays to avoid any possible misunderstanding that could result in an error. This section describes each display in detail.

Cylinder Pressure Display

The cylinder Pressure Display, located in the upper left portion of the LCD (Fig. 39a), indicates how much air is in your cylinder, up to 5,000 PSI (352 Kg/Cm^2) to the nearest 10 PSI (.5 Kg/Cm^2).

Depth Display

The Depth Display, located in the upper right portion of the LCD (Fig. 39b), indicates depth from 0 to 250 feet (76 m) in 1 foot (.5 m) increments. In the event that you descend deeper than 250 feet (76 m), this display will show three dashes

to indicate that you have gone out of range until you ascend to 250 feet (76 m) or shallower.

Time Display

The Time Display, located in the middle of the LCD (Fig. 39c, page 44), indicates Air Time Remaining, No Decompression Dive Time Remaining, Bottom Time, Total Decompression Ceiling Stop Time or Surface Time, depending on the mode that the DataTrans is in. Time displays are in hour:minute format, i.e.; 1:06= one hour and six minutes (<u>not</u> 106 minutes). The colon that separates the hour and minute display blinks once per second when indicating real time, such as Surface Time and Bottom Time. Dive Time Remaining is a calculated projection of time and uses a solid (non-blinking) colon to indicate that it is counting down, rather than counting up.

UNIVERSAL GRAPHIC DIVER INTERFACE®

Four different bar graphs are located around the perimeter of the DataTrans LCD (Fig. 40). They are color coded green, yellow, and red to denote normal, caution and danger zones, respectively. The Graphic Diver Interface provides you with quick visual reference underwater to your no decompression status, ascent rate, air time remaining, and relative air consumption. By keeping these bar graphs "in the green" at all times, you'll greatly reduce your exposure to decompression sickness or an out of air situation. A detailed description of each graph follows.
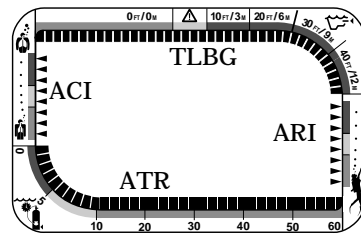

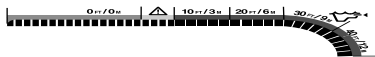Fig. 40 - Graphic Diver Interface (Bar Graphs)
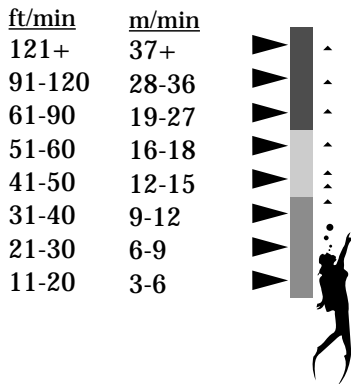
Fig. 41 - Tissue Loading Bar Graph

ft/min	m/min		
121+	37+		
91-120	28-36		
61-90	19-27		
51-60	16-18		
41-50	12-15		
31-40	9-12		
21-30	6-9		
11-20	3-6		

Fig. 42 - Variable Ascent Rate Indicator (VARI) Bar Graph

46

Tissue Loading Bar Graph® (TLBG)

The Tissue Loading Bar Graph (TLBG), located at the top of the display (Fig. 41) monitors 12 different nitrogen compartments simultaneously and displays the one that is in control of your dive. The TLBG is divided into 3 sections; green No Decompression zone, yellow Caution Zone (C.Z.), and red Decompression zone. The red Decompression zone is further divided into 4 Decompression "ceiling" zones of 10FT/3M, 20FT/6M, 30FT/9M, and 40FT/12M. The TLBG provides you with a visual representation of nitrogen loading to help you avoid, or easily manage, decompression.

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

Variable Ascent Rate Indicator™ (VARI)

The Variable Ascent Rate Indicator (VARI), identified by the ascending diver icon located at the right side of the display (Fig. 42), is provided to help you to avoid excessive ascent rates by providing a visual representation of ascent speed. The LCD displays eight triangular segments that may be considered an ascent rate speedometer. The various speed "zones" are color coded green, yellow, and red. Actual speeds represented by the VARI segments are at the left. An Audible

Alarm and flashing VARI segments will alert you if your ascent rate exceeds 60 ft./min (18 m/ min). The Variable Ascent Rate Indicator is a unique DataTrans feature that has been granted a U.S. Patent.

Air Consumption Indicator (ACI)

After the DataTrans calculates low and high parameters based on your personal rate of air consumption, The Air Consumption Indicator (ACI), identified by the partially and fully expanded lung icons at the left of the display, will provide you with continuous visual indication of your breathing rate as it slows or increases (Fig. 43). Use of Oceanic's patented air consumption calculation method makes information accurate even during sudden changes in depth.

Air Time Remaining Bar Graph (ATR)

The Air Time Remaining bar graph (Fig. 44), identified by the cylinder/clock icon located at the bottom of the display, provides you with a quick visual indication of remaining air times of 60 minutes or less, based on your pre selected Air Alarm Set Point. The LCD segments above the green, yellow, and red zones represent different amounts of time per each segment. The bar graph is more precise as air time decreases. More information about how the DataTrans calculates Air Time Remaining is presented in the next section titled, "Dive Time Remaining."
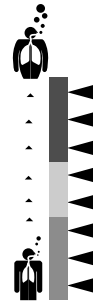

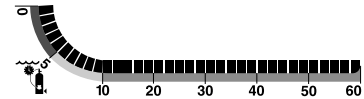Fig. 43 - Air Consumption Indicator (ACI) Bar Graph

Fig. 44 - Air Time Remaining (ATR) Bar Graph

47

DIVE TIME REMAINING

One of the most important pieces of information on the DataTrans is the patented Dive Time Remaining numeric display. To numerically display Dive Time Remaining, the DataTrans constantly monitors two critical pieces of information; no decompression status and rate of air consumption. The Dive Time Remaining display will indicate whichever time is more critical for you at that particular moment in time, either Air Time Remaining or No Decompression Dive Time Remaining, whichever is least available. The indicated Dive Time Remaining is easily identified by the icon displayed to the left of the numeric display (Fig. 45).
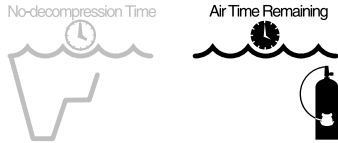
Knowing that you have 20 minutes of no decompression time remaining is not as important to you as knowing that you only have 10 minutes of air time remaining. Conversely, even if you have 20 minutes of air time remaining, more important would be knowing that you have only 10 minutes no decompression time remaining. The DataTrans presents a clear, concise, and uncluttered display of information that is considered to be of primary importance. This feature is unique to Oceanic dive computers and has been granted a U.S. Patent.

Air Time Remaining

Air Time Remaining will appear as the numeric Dive Time Remaining display (Fig. 46a, page 49) only when it is less than No Decompression Time Remaining. Air Time Remaining of 60 minutes, or less, will be continuously displayed by the

Fig. 45 - Dive Time Remaining Identification Icons

Air Time Remaining (ATR) bar graph regardless of what is displayed in the numeric Dive Time Remaining display. The ATR bar graph will provide the only source of Air Time information if you are in a decompression or violation mode.

The DataTrans calculates Air Time Remaining using a patented algorithm that is based on a diver's individual air 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 air required for a safe ascent including any required decompression stops.

Air consumption and depth are continuously monitored, and Air 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, the DataTrans will recognize this change and adjust your Air Time Remaining accordingly.

Remember, the Air Time Remaining is the time you can remain at the present depth and still surface with your own personally selected tank pressure reserve (Air Alarm Set Point). When the ATR indicates zero, you should initiate an immediate ascent. However, there is no reason to panic. The DataTrans has allowed for the air necessary for a safe ascent including any decompression stops.
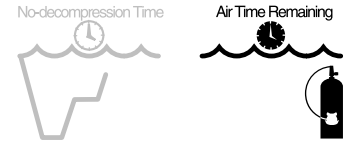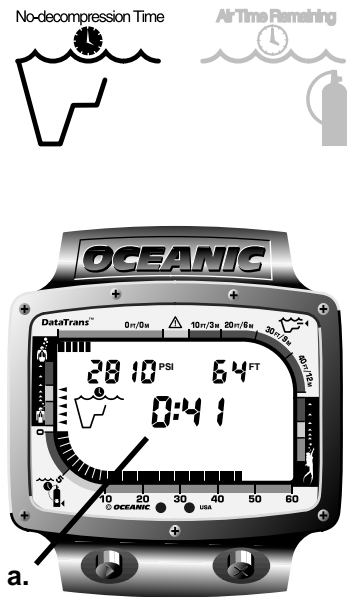

Fig. 46 - Air
Dive Time Remaining

49

Fig. 47 - No-Decompression
Dive Time Remaining

No Decompression Dive Time Remaining

No Decompression Time is calculated based on the amount of nitrogen absorbed by twelve hypothetical tissue compartments. The rates each of these compartments absorb and release nitrogen is mathematically modeled and compared against a maximum allowable nitrogen level. Whichever one of the twelve is closest to this maximum level, known as the no decompression limit, will be considered the controlling compartment for that depth. Its resulting value will be displayed in the No Decompression Time Remaining display (Fig. 47a) and the TLBG.

As you ascend from depth following a dive that has approached the no decompression limit, the TLBG 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 offers.

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

AUDIBLE ALARM

When you are approaching dangerous situations, the DataTrans alerts you to check the Message Box, Graphic Diver Interface, and numeric displays. There are two primary and two secondary Audible Alarms (Fig. 48, page 51).

PRIMARY ALARMS

1. Potential Danger – One Double Beep

During situations that may pose potential danger, one Double Beep is emitted from the DataTrans. These situations are as follows:
• Entry into decompression.
• Decreasing to 5 minutes of Air Dive Time Remaining.
• Air Time Remaining is within 5 minutes of required Decompression time.

2. Immediate Danger – continuous One Beep per Second

When the DataTrans 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.
• Conditional violation.
• Ascent rate that exceeds 60 ft./min (18 m/min) - VARI red zone.
• Air Time Remaining equals required Decompression time.
• Air Time Remaining equals zero (0:00).

SECONDARY ALARMS

1. 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 two Violation rules are broken:
• Depth is shallower than the Decompression ceiling for more than 5 minutes.

PRIMARY

1. POTENTIAL DANGER:

BEEP!
BEEP!

2. IMMEDIATE DANGER:

BEEP°°°
BEEP°°°
BEEP°°°

SECONDARY

1. VIOLATION:

BEEEEEEP!

2. TRANSITION:

BEEP!

Fig. 48 – Audible Alarms

51

• Required Decompression exceeds a 40 FT/ 12 M ceiling.

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

MESSAGE BOX
The Message Box (Fig. 49) provides an unmistakable explanation of what is occurring when the audible alarm sounds, working in conjunction with the Depth and Air Alarm Set Points, as well as Decompression and Violation Modes, and the VARI. The messages, "TOO FAST," "TOO DEEP," "AIR ALARM," ceiling depth/stop time, "EXCEEDED CEILING," and "VIOLATION" flash on display when needed. See page 93 for a language cross reference.
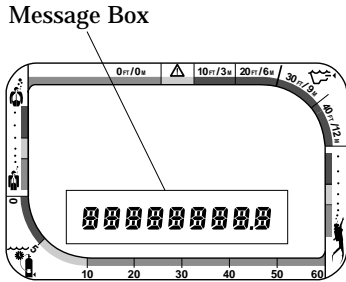
ALTITUDE DIVING
The mathematical model within the DataTrans accounts for the reduced No Decompression time available at higher elevations based on NOAA (National Oceanic and Atmospheric Administration) guidelines. When diving in high altitude lakes or rivers from 3,000 to 14,000 feet (915 to 4268 m), the DataTrans will automatically adjust to these conditions providing corrected depth and reduced No Decompression times. Over 3,000 feet (915 m), depth calibration is automatically changed to read in feet of freshwater rather than feet of seawater.

Message Box

Fig. 49 – Message Box

52

⚠ WARNING: Until it has shut itself off, you must not use the DataTrans 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. Reset is possible by battery removal and replacement.

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 ft.(2440 m).

The two exceptions to this recommendation are:

1) 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.

2) Following any dive that required a decompression stop, flying should be delayed for at least 24 hours, and if possible, for 48 hours.

Since the 1990 UHMS guidelines were introduced, data from the Diver's Alert Network (DAN) was introduced that resulted in DAN's position** that "A minimum surface interval of only 12 hours would be required in order to be

* excerpted from "The UHMS Flying After Diving Workshop"

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

reasonably assured a diver will remain symptom free upon ascent to altitude in a commercial jet airliner (altitude up to 8,000 ft./2440 m). Divers who plan to make daily, multiple dives for several days, or make dives that require decompression stops, should take special precautions and wait for an extended surface interval beyond 12 hours before flight".

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

The Time to Fly display provides a way to help you choose your own degree of protection by providing two twelve hour countdowns after the dive. The first display begins 10 minutes after the dive and is shown in the PDPS, displaying the word "FLY" with a countdown from twenty three hours and fifty minutes (23:50) to twelve hours (12:00). After the first twelve hours, the dive counter resets to zero and Surface Mode is shut down. A countdown from twelve hours (12:00) to zero (0:00) will then be displayed. Because the DataTrans provides two twelve hour countdowns, you can choose whether to fly after twelve hours of surface interval or wait additional time to add greater protection.

HANDLING THE EXTREMES

HANDLING THE EXTREMES

There are few legitimate excuses for making unplanned Decompression dives, and the consequences of this type of diving can be severe. 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 air 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.

By making an unplanned Decompression dive without the necessary preparation and training, you will have placed yourself in an unnecessarily dangerous situation. You may also find yourself drifting long distances in an ocean current before you can surface, due to the lack of an ascent line to hold onto. Your buddy is unable to provide assistance without also risking decompression sickness. It is easy to see how this one mistake can quickly be compounded by several others.

The DataTrans 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 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 DataTrans can provide you with limited information to help you ascend to the surface, if you follow the instructions given in this chapter. **Always remember, however, that the DataTrans cannot provide you with a backup air supply or the ascent line you will need, and it cannot provide a guarantee of avoiding decompression sickness.**

⚠️ **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 twenty four hours before reentering the water in the event a dive requiring decompression is made.**

DATATRANS MAXIMUM DEPTH

The maximum depth the DataTrans will display is 250 feet (76 m). If you exceed 250 feet (76 m), the Depth and Max Depth displays will indicate three dashes "– – –" signifying that you are 'out of range' (Fig. 50a). You will not see a numeric depth display until you ascend shallower than 250 feet (76 m). You will also enter the Delayed Violation Mode, immediately (see page 62). For that dive, Max Depth indication in the dive log will only display the three dashes.

Fig. 50 – Out of Range

57

Fig. 51- Decompression warning

The maximum depth at which you can still use all of the DataTrans' features is 250 feet (76 m).

⚠ **WARNING: The maximum recommended sport diving limit is 130 feet (39 m). Any deeper dive should be avoided. Special training and equipment are necessary for this type of diving. Oceanic does not advocate diving to depths below 130 feet (39 m), or decompression diving.**

On a first "clean" dive, the DataTrans will allow 7 minutes at 160 feet (48 m). A clean dive is one where there is no residual nitrogen from previous dives. The DataTrans will continue to calculate residual nitrogen for up to 24 hours. Depending on your descent rate, 7 minutes at 160 feet (48 m) can be a very short amount of time. It is much more practical to stay within the 11 minutes of no-decompression time allowed at 130 feet (39 m). If you exceed 160 feet (48 m), watch the DataTrans closely because you will enter decompression rapidly.

When you enter decompression, the DataTrans informs you of your status in several ways. As the TLBG enters the red zone (Fig. 51), the Audible Alarm will alert you with a Double Beep. The numeric display will change from No Decompression "dive time remaining" to Decompression "stop time required", identified by the Decompression Mode Icon with the flashing ceiling bar. The Message Box will alternately flash "CEILING" and the current ceiling depth with Decompression Stop Time required below that ceiling.

58

The time indicated in the Message Box represents only the Decompression Stop Time required below the current ceiling and at your present depth, whereas the total decompression time required for all decompression stops is presented in the primary numeric display (Fig. 52).

EMERGENCY DECOMPRESSION
After entering decompression (especially at deeper depths) the TLBG may fill the 10 FT/3M, 20 FT/6M, 30 FT/9M and 40 FT/12M decompression stop zones rapidly. Once you've entered decompression, it is imperative that you immediately begin a safe ascent toward the required decompression ceiling. **If you continue the dive at a greater depth, your exposure to decompression sickness will increase, and you will risk entering violation mode and losing the information needed to ascend properly.**
Whether at 160 feet (48 m) on a first dive, or 60 feet (18 m) on a third dive, it is possible to quickly enter decompression if you're not careful.

Fig. 52 - Ceiling Stop Message

59

VIOLATION MODES

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

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

CONDITIONAL VIOLATION MODE

The DataTrans 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. The situation that will force the DataTrans to enter a Conditional Violation Mode is:

Ascent to Shallower than the Required Decompression Ceiling

The DataTrans will enter the Conditional Violation Mode if you ascend shallower than the decompression ceiling indicated by the TLBG (Fig. 53). A momentary rise above the ceiling, such as with a surge or swell, will cause this to happen. Therefore you should stay slightly deeper than the exact ceiling depth, watching the DataTrans 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 depth.

Once the DataTrans enters a Conditional Violation Mode, no off-gassing credit will be given. For each minute in Conditional Violation Mode, $1^1/_2$ minutes of penalty time is added to decompression stop time.

For the first five minutes during which the required decompression ceiling is exceeded, the DataTrans will remain in the Conditional Violation Mode. At five minutes, it will enter the Delayed Violation Mode (see next section). If the Conditional Violation is corrected before five minutes have elapsed (meaning you descend below the ceiling depth), the DataTrans will continue to function as if no violation had occurred. In this case, the added penalty decompression time will have to be "worked off" first before obtaining off-gassing credit. Once the penalty time is worked-off, and off-gassing credit begins, the TLBG will recede towards the Caution Zone. Upon entry into the Caution Zone the DataTrans will revert to the No Decompression Mode.

Fig. 53 – Conditional Violation Mode

DELAYED VIOLATION MODE

When the DataTrans enters the Delayed Violation Mode, it retains the capacity to tell you how to get back to the surface. A Delayed Violation Mode will be encountered in the following situations:

Spending More than Five Minutes Above Required Decompression Ceiling -

As previously described, if you stay above the decompression ceiling for more than five minutes, you will enter the Delayed Violation Mode. If you descend below the ceiling after this five minute time window, it is still possible to get back to the surface with the assistance of the DataTrans. As previously described, you would then need to follow the ceiling toward the surface as the TLBG recedes toward the Caution Zone. Upon reaching zero Decompression Time Remaining, you should continue decompressing until the bar graph segments are well inside of the green No Decompression zone. **Five minutes after reaching the surface, the DataTrans will enter the Immediate Violation Mode and will revert to Gauge Mode for twenty four hours.**

A Required Decompression Ceiling Greater than 40 feet (12 m), but Less than 50 feet (15 m) -

If your necessary decompression requires a ceiling depth between 40 feet (12 m) and 50 feet (15 m), you will enter a Delayed Violation Mode. The Audible Alarm will emit One Long Beep, the TLBG will flash, and the Message Box

62

alternately flashes "EXCEEDED" and "CEILING" (Fig. 54) four times. In this situation, the amount of decompression time needed to get back to the surface will still be displayed numerically in the Decompression Time display. To get back to the surface, you must safely ascend to just deeper than 40 feet (12 m) staying as close to 40 feet (12 m) as possible without causing the Message Box to flash.

After waiting until the TLBG recedes into the 30 FT/ 9 M zone, you can then ascend to, but no shallower than 30 feet (9 m) and continue decompressing. After more time, the bar graph will recede into the 20 FT/ 6 M and then 10 FT/ 3 M zones after which you can ascend to less than 20 feet (6m) or 10 feet (3m) respectively. After Decompression Time reaches zero and the TLBG recedes into the yellow Caution Zone (C.Z.), you can surface. **However, to add a greater margin of protection, Oceanic strongly recommends that you wait until the segments are well within the green No Decompression zone, unless a low air condition requires you to surface. Five minutes after reaching the surface, the DataTrans will enter the Immediate Violation Mode and will then revert to Gauge Mode for 24 hours** (see page 65).

Descent to a Depth Greater than 250 feet (76 m). Below this depth, the TLBG will flash and the depth display will only indicate three dashes until ascent to a depth above 250 feet (76 m). **Five minutes after reaching the surface, the DataTrans will enter the Immediate Violation Mode and will then revert to Gauge Mode for 24 hours** (see page 65).

Fig. 54 – Delayed Violation Mode

63

IMMEDIATE VIOLATION MODE

⚠️ **Warning: The DataTrans 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 design. If you are following these dive profiles, Oceanic advises you not use a DataTrans dive computer.**

Immediate Violation Mode occurs when - **a Decompression Stop depth greater than 50 feet (15 m)is required**.

The DataTrans cannot calculate decompression ceilings greater than 40 feet (12 m). If a ceiling greater than 40 feet (12m) is required, an Immediate Violation Mode is entered, and you will be alerted by a Single Long Beep (Fig. 55). This situation would be preceded by entering Delayed Violation Mode, previously described. The DataTrans offers no indication of how much time spent underwater would result in the need for greater than a 40 FT (12M) decompression ceiling.

Fig. 55 – Immediate Violation Mode

PERMANENT VIOLATION MODES

Entering the Immediate Violation Mode, then Gauge Mode, will result in loss of some DataTrans functions for twenty four hours after that dive. This condition which involves loss of some decompression monitoring functions is considered Permanent Violation.

GAUGE MODE

The DataTrans will operate with limited functions in Gauge Mode during the twenty four hours after a dive in which a Permanent Violation occurred. Gauge Mode turns the DataTrans into a digital instrument without any decompression monitoring functions. Figure 56a illustrates the changes effected in Gauge Mode.

When in Gauge Mode underwater, the DataTrans flashes the TLBG, while the Message Box flashes "VIOLATION" (Fig. 56). The numeric Dive Time Remaining will be absent from the screen. The Alternate Dive Mode may still be accessed underwater by pressing the Select button. If the DataTrans changes to Gauge Mode while underwater, you have entered an Immediate Violation Mode, a required decompression stop greater than 50 feet (15 m).

Above water, Gauge Mode is indicated by the lack of a PDPS or Time to Fly display. A countdown timer beginning ten minutes after the dive at 23:50 with a "triple dash" display (Fig. 57, page 66) will inform you of the number of hours remaining before normal DataTrans operation can resume.

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

a.

Fig. 56 – Gauge Mode

65

AIR TIME REMAINING DURING DECOMPRESSION

Oceanic strongly recommends that you avoid entering decompression. The DataTrans cannot provide you with a backup air supply for emergencies or the ascent line you will need, and decompression diving greatly increases your risk of decompression sickness.

If you inadvertently exceed no decompression limits, the DataTrans will provide critical information regarding your remaining air supply. When the Air Time Remaining is five minutes, the cylinder pressure numerals will flash and a Double Beep will sound. This means that only five minutes remain before your air supply will be reduced to the minimum level necessary to perform the required decompression stops and still provide a tank pressure reserve.

When the Air Time Remaining decreases to zero, the Audible Alarm will continuously beep once per second, signaling the need for an immediate ascent to your first decompression stop. However, there is no need to panic. The DataTrans has allowed for the air you will consume during a safe ascent including the required decompression stops and still provide the surfacing tank pressure reserve you have chosen, e.g. 300 psi.

Once you are in a decompression mode, the numerical data displayed by the DataTrans will be limited to decompression times, and you will need to refer to the Air Time Remaining bar graph for Air Time Remaining information.

Fig. 57- Triple Dash Display

CAUTION ZONE (C.Z.)

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

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

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

MESSAGE BOX WARNINGS

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 your ascent rate *and* ascending above a required ceiling. In these situations, the DataTrans will decide which Message Box warning is the most important message to display at that time, allowing more important warnings to displace others of lesser importance (Fig. 58).

Fig. 58 - Message Box Hierarchy

67

Fig. 59 – Operating
temperature range

WHAT TO DO IF YOUR DATATRANS QUITS WORKING

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

Consider the cost to benefit ratio. No other piece of diving equipment can maximize your bottom time like a dive computer. It is now possible to dive easier, and longer, because of these technological marvels. Yet, 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, an analog or digital backup system or use of standard air tables is highly recommended.**

OPERATING TEMPERATURE

The DataTrans will operate in almost any temperature diving environment in the world, between 32° and 140° F (0° and 60° C), Fig. 59. You may notice the LCD becoming sluggish at extremely low temperatures. This is normal and will

not affect the DataTrans' accuracy. If stored or transported in areas below freezing, you should warm with body heat before diving.

Even though the DataTrans will operate in a wide range of temperatures, it is possible to damage the electronics if left exposed to direct sunlight, or in a hot confined space like a car trunk. After a dive, cover the DataTrans and keep it out of the sun. If inadvertently left in the direct sunlight the LCD may become totally black. If this occurs, immediately immerse the DataTrans 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 2 year limited warranty.

SHARING THE DATATRANS

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

The DataTrans provides information based upon a diver's personal dive profile and breathing rate, and therefore must not be "shared" between divers. You should never, under any circumstances, swap your computer with another unit between dives, or share your computer with another diver underwater. It is impossible for two divers to stay precisely together underwater, and your computer's dive profile tracking of previous dives will be pertinent to you only. Nitrogen loading of a second user may be significantly different and thus swapping dive computers could lead to inaccurate and potentially dangerous

predictions of decompression status. This rule applies to the use of all dive computers, but is especially important when using the DataTrans, due to the very personal information it provides.

A FINAL WORD OF CAUTION
   Although the DataTrans represents the latest in user friendly dive computer technology, it cannot force you to understand how to use it. Before diving with the DataTrans, 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!

DECOMPRESSION RULES

ARE NOT MEANT

TO BE BENT

CARE and MAINTENANCE

CARE AND MAINTENANCE

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

The DataTrans' 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. The propellants may chemically attack the plastic.**
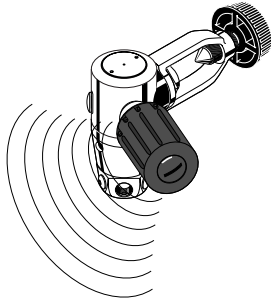
BEFORE THE DIVE

Be careful not to place the DataTrans 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 your DataTrans display 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

72

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 under gently running water and towel dry before storing. Transport your DataTrans cool, dry, and protected.

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

ANNUAL DEALER INSPECTIONS & FACTORY SERVICE

Your DataTrans 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 recommends that you continue to have this inspection performed every year to ensure your DataTrans 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.

73

Fig. 60 – Oceanic regional distribution centers

⚠ **WARNING: If you are in doubt about the accuracy of your DataTrans' depth readings, DO NOT attempt to dive with it until it has been inspected by Oceanic Customer Service (Fig. 60).**

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

⚠ **WARNING: Never pressure test the DataTrans 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 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 to Oceanic:
1. Remove the transmitter from the regulator.
2. Package the display module and transmitter together, using a cushioning material to keep them isolated from each other.
3. Authorized Oceanic Dealers should use an Oceanic Product Return Form

74

4. Include a legible note stating specific reason for return, your name, address, daytime phone number, serial number, and a <u>copy</u> of your original sales receipt.
5. Send prepaid and insured to the nearest Oceanic service facility (Fig. 60).
6. If you have any questions regarding DataTrans service, call Oceanic Customer Service at (510) 562-0500, 8 to 5 PST.

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

BATTERY LIFE

The DataTrans 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 air to the transmitter is purged and the display unit 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 Transmitter battery, and approximately 100 dives with the recommended Display Module battery. This is still considered to be substantial given the convenience of the user replaceable feature.

Oceanic recommends that the batteries be removed during extended periods of inactivity (several weeks) and during air travel that is not conducted during repetitive dive surface intervals.

NOTE: The disposable batteries supplied with the DataTrans dive computer are not covered by the DataTrans' 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 or Display Module (Fig. 61). Usually, the DataTrans will only activate if there is enough battery power to complete one full day of diving. Remaining battery life may also be reduced by low temperatures.

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

Fig. 61 – Low Battery

76

to any extended multi-day dive trip.

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

BATTERY INSTALLATION/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.

⚠ **WARNING: Damage due to improper battery replacement is not covered by the DataTrans' limited 2 year warranty.**

• 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 metal contact area inside the battery compartment for any signs of corrosion indicating entrance of moisture into the unit. If found, return your DataTrans to an Authorized Oceanic Dealer or Oceanic Customer
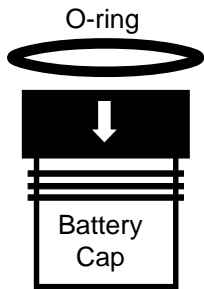
Service, and DO NOT attempt to use until it has received service.

• Inspect the cap o-ring for nicks or deterioration. To remove the o-ring press the sides with your fingertips to cause it to protrude slightly from the groove of the battery cap, then lift it over the slotted end of the cap. DO NOT use tools to remove.

• To install a battery cap o-ring, lubricate it lightly with silicon grease, then stretch it slightly to work it down over the head of the cap (Fig. 62). Ensure that it is evenly seated inside the groove above the cap threads. DO NOT roll it over the threads.

• 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 to an Authorized Oceanic Dealer or Oceanic Customer Service, and DO NOT attempt to use until it has received service.

• Insert the spring into the battery cap with the large end first (small end facing out), and insert the battery into the housing (Fig. 63, page 79). 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 assembled 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.

O-ring

Fig. 62 - O-ring
Installation

78

Final Inspection

• Activate the DataTrans 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. If there are any portions of the display missing or appearing dim, return your DataTrans to an Authorized Oceanic Dealer or Oceanic Customer Service to receive factory service.

FLOODED BATTERY COMPARTMENT

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

If you are performing 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. Allow to dry over night, 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 at the inside base of the compartment.
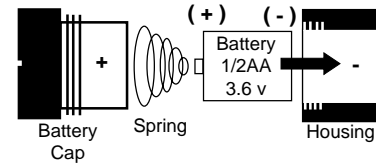
Transmitter
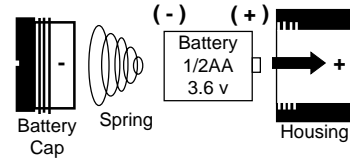
Display Module

Fig. 63 - Battery Installation

79

⚠️ **NOTE: The retainer ring cannot be removed or replaced by the user.**

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

TRANSMITTER INSTALLATION INSTRUCTIONS

Prior to using the DataTrans as an air integrated unit the transmitter must be connected to your regulator first stage.
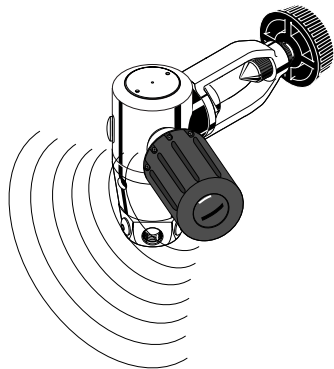
⚠️ **CAUTION: Installing the transmitter improperly to your regulator first stage may damage the transmitter, regulator, or both. Oceanic strongly recommends that installation should be done by an Authorized Oceanic Dealer.**

To install the Transmitter to your regulator first stage.

• Remove your current pressure gauge, 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 food grade silicon grease, and 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 to test the connection. Open the cylinder valve slowly, listening for air escaping around the fitting. If air is leaking, take the complete regulator system to an Authorized Oceanic Dealer for inspection.

REFERENCE

DISPLAY AS SEEN BY DIVER

NO. OF SEGMENTS		TISSUE HALF-TIME
15		20
14		40
13		80
12		120
11		160

etc.   *etc.*

Fig. 64 – Think of the 12 tissues as overlaid clear displays showing only the maximum bar graph reading reached

82

MULTIPLE TISSUE TRACKING

The DataTrans tracks twelve tissue compartments with halftimes ranging from 5 to 480 minutes. The TLBG always displays the controlling compartment that is the only one important at that time. Think of the TLBG as twelve separate transparent displays laid on top of one another (Fig. 64). 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 65 on page 83 illustrates the point at which one compartment "hands over" control to another at a different depth. This feature of the Decompression Model is the basis of multilevel diving, one of the most important contributions the DataTrans offers you. Take advantage of this feature and make all of your dives multilevel dives.

After the dive, the TLBG reading that was recorded at the end of the dive is recorded in the Dive Log.

REPETITIVE DECOMPRESSION DIVING

The decompression model used by the DataTrans 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 (27m) or Decompression dives. Due to the present unavail-
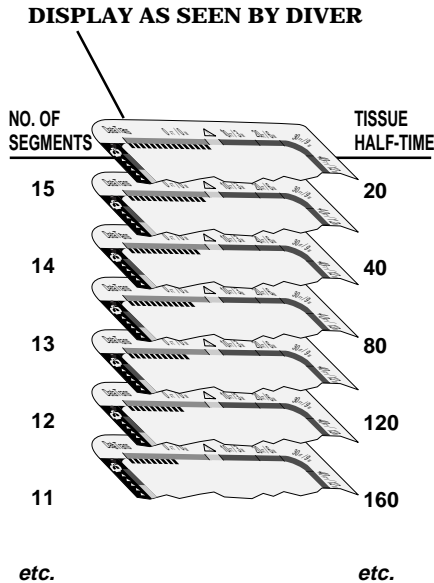
ability of statistical data, DataTrans decompression predictions are based on U.S. Navy theory . Therefore, pay special attention to the following warnings.

⚠ **WARNING: Oceanic advocates responsible diving practices and does not recommend decompression diving or diving below 130 feet (39m). The decompression capabilities of the DataTrans 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 twenty four hours.**

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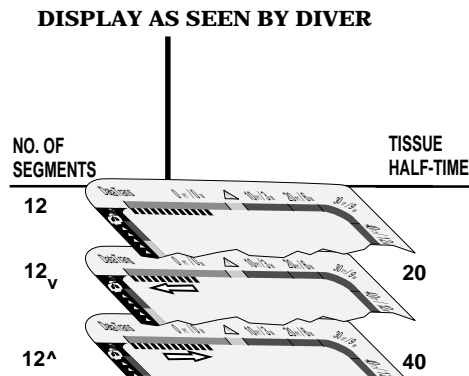

Fig. 65 – As one tissue recedes, another increases with the maximum reading being the only one displayed

83

NO DECOMPRESSION LIMITS

Note how the No Decompression limits for the DataTrans are contrasted with the U.S. Navy limits (Fig. 66). For most depths, the DataTrans 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.

MAXIMUM NO DECOMPRESSION DIVE PROFILE

Many people ask, "Just how deep can I go, and how long can I stay, with the DataTrans?" Of course the answer depends on many factors including air supply, air consumption, previous dives made, etc. Assume for a minute that no previous dives were made, and that the diver had an unlimited air supply. Figure 67 on page 85 shows the maximum No Decompression dive profile that is possible with the DataTrans on a first dive. In this test, the DataTrans was taken to a depth where the No Decompression Dive Time Remaining reached zero minutes. It was then taken to a shallower depth that gave it one more minute of no decompression time. When the no decompression time reached zero at this new depth, it was taken to the next shallower depth. This continued until 33 feet (10m), where there was obviously more no decompression time available than possible air time with even the largest scuba cylinder. A safety stop was added as a precaution to round out this simulated multilevel dive.
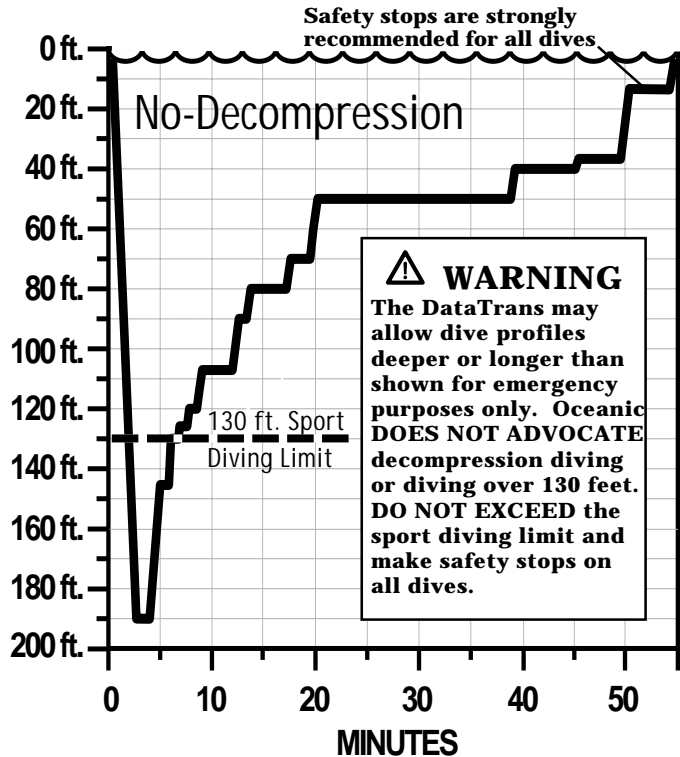
Depth	Data Trans	U.S. Navy
feet	mins.	mins.
30	260	– –
35	– –	310
40	137	200
50	78	100
60	55	60
70	40	50
80	31	40
90	25	30
100	20	25
110	17	20
120	13	15
130	11	10
140	9	10
150	8	5
160	7	5
170	––*	5
180	––*	5
190	––*	5

The PDPS will not scroll past 160 feet (48 meters) or if projected bottom /descent time is less than one minute.

Fig. 66 No Decompression Limits
(DataTrans)
vs.
(U.S. Navy Tables)

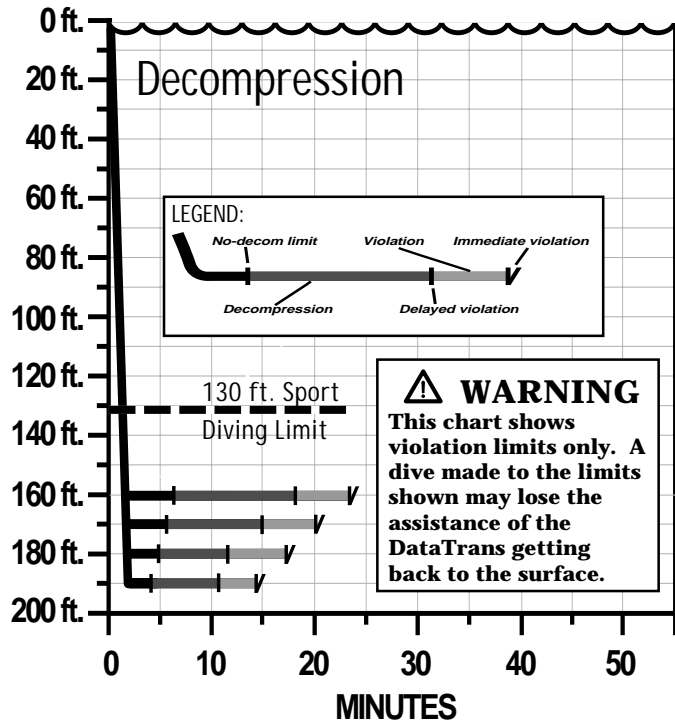Fig. 67 – Maximum First Dive No Decompression Profile

Fig. 68 – First Dive Decompression Violation Limits

85

DECOMPRESSION VIOLATION LIMITS

As described earlier, the DataTrans has two permanent violation modes, Delayed and Immediate. If either mode is entered underwater, your DataTrans will loose some functions. Figure 68, page 85 provides a graph indicating where permanent violation modes occur on an extreme first dive profile between 160 and 190 feet (49 and 58 m). **The graph is only an example and not a suggestion for planning a dive.**

It is possible to exceed the limits shown in Fig. 68 at much shallower depths, especially on repetitive dives. Watch the DataTrans closely to avoid entering decompression, or a violation mode.

⚠️ **WARNING: Oceanic recommends that you follow the rules of responsible diving on every dive and not share or swap your dive computer with any other diver. Oceanic also strongly recommends against decompression diving or diving below 130 ft (39m).**

CONCLUSION

The DataTrans will provide you with information to help plan your dives, make mid-dive decisions, and enjoy your time underwater. However, it is only an informational tool whose entire worth depends on using it correctly. **Learn how to use it and use it wisely.** Have fun with the DataTrans, your guide to the Ocean frontier, and **thank you for being a responsible diver!**

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 FT (3, 6, 9 & 12 M)

Altitude Algorithm:
• Based on NOAA tables

OPERATIONAL MODES & DISPLAY RANGE/RESOLUTION

Modes:
• Diagnostic/Activation Mode
• Surface Mode
• Plan Mode (PDPS)
• Log Mode
• History Mode

• Set Mode -
  • Time (hour, minute, am/pm)
  • Date (month, day, year)
  • Unit (imperial / metric)
  • Alarm (depth, air, on/off)
  • Link (serial no.)
  • Language (English, Italian, German, Spanish, French)
• EACC Mode (External Access)
• No Decompression Dive Mode
• Alternate No Decompression Dive Mode
• Decompression Dive Mode
• Alternate Decompression Dive Mode
• Violation Modes (conditional, delayed, & immediate)
• Gauge Mode
• Time to Fly Mode

Numeric Displays:	Range:	Resolution:
• Dive Number	0 – 9 (12 dives)	1 dive
• Depth	0 – 250 ft. (0 – 76 m)	1 ft. (.5 m)
• Maximum Depth	250 ft. (76 m)	1 ft. (.5 m)
• Air Time Remaining	0 – 9 hr. 59 min.	1 min.
• No Decompression Time	0 – 9 hr. 59 min.	1 min.
• Decompression Time	0 – 9 hr. 59 min.	1 min.
• Bottom Time	0 – 9 hr. 59 min.	1 min.
• Surface Time	0 – 11 hr. 59 min.	1 min.
• Dive Log Surface Interval	0 – 11 hr. 59 min.	1 min.
• Cylinder Pressure	0 – 5000 psi	10 psi
	(0 - 352 kg/cm²)	(.5 kg/cm²)

Specifications (continued) -

Graphic Diver Interface: Range:

- Tissue Loading Bar Graph (TLBG) -
  Green zone (No Decom)   16 segments
  Yellow zone (Caution)   4 segments
  Red zone (Decom)   20 segments

- Air Time Remaining Bar Graph (ATR) -
  Green zone   28 segments
  Yellow zone   2 segments
  Red zone   5 segments

- Variable Ascent Rate Indicator (VARI) -

	feet/min.	(meters/min.)	
Red zone	121+	(37+)	►
	91 – 120	(28 – 36)	►
	61 – 90	(19 – 27)	►
Yellow zone	51 – 60	(16 – 18)	►
	41 – 50	(12 – 15)	►
Green zone	31 – 40	(9 – 12)	►
	21 – 30	(6 – 9)	►
	11 – 20	(3 – 6)	►

- Air Consumption Indicator Bar Graph (ACI) -
  Red zone   3 segments
  Yellow zone   2 segments
  Green zone   3 segments

Special Displays:	Occurrence:
• Audible Alarm Access	On demand
• Diagnostic Display	Activation
• Out of Range	250+ feet (76+ m)
• 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 minute per day

Dive Counter:
- Displays Dives - 1, 2, 3, 4, 5, 6, 7, 8, 9, 0, 1, 2, etc.
- Resets to Dive '0' twelve hours after last dive
- Cycles to next dive at 5 foot depth after 10 minute surface interval

Dive Log Mode:
- Stores 12 most recent dives indefinitely (until next dive or factory service)
- If more than 12 dives, adds most recent dive in memory, deletes first dive

Altitude:
- Altitude range   0 - 14,000 ft. above sea level (0 - 4267 m)
- Modes   Full computer functions up to 14,000 ft. (4267 m)

Recalibration to fresh water depth readings over 3,000 ft. (915 m) elevation

Specifications (continued) -

CONSTRUCTION & MATERIALS

Display Module (receiver):
- Weight   7.9 ounces (224 grams)
- Length   3.9 in. (9.9 cm)
- Width   3.3 in. (8.4 cm)
- Depth   1.1 in. (2.8 cm)

Transmitter unit:
- Weight   4.1 ounces (128 grams)
- Length   2.7 in. (6.9 cm)
- Width   1.5 in. (3.8 cm)

Power (Transmitter):
- Battery   1 - 3.6 v, 1/2AA, TADIRAN® Lithium Model TL-2150
- Shelf life   Up to 10 years
- Low Battery   Replace immediately
- Replacement   User replaceable. Annual replacement recommended.
- Life expectancy   100 dives, or 1 year, whichever comes first.

Power (Display Unit - Receiver):
- Battery   1 - 3.6 v, 1/2AA, TADIRAN® Lithium Model TL-2150
- Shelf life   Up to 10 years
- Low Battery   Replace immediately
- Replacement   User replaceable. Annual replacement recommended.
- Life expectancy   100 dives, or 1 year, whichever comes first.

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

Activation:
- Needed before first dive and after a 12 hour surface interval.
- Battery Saver feature automatically shuts unit off if no first dive in 120 minutes after initial activation. Reactivation required.
- Cannot be shut off manually.
  (Nitrogen calculations for repetitive dives will be lost when the batteries are removed).

OCEANIC. DiveLog Instructions

0 ft.
20 ft.
40 ft.
60 ft.
80 ft.
100 ft.
120 ft.
140 ft.
160 ft.
180 ft.
200 ft.
90

DIVELOG INSTRUCTIONS:
Make photocopies of following page. Put in small binder to make log book. Then...

1. Plot PDPS as dots connected by lines. (unless 1st dive in 24 hours already shown in grey)
2. Sketch dive plan with dotted line.
3. Draw actual dive profile using solid line.
4. Fill-in Dive Log readings on DataTrans display (as shown).

0   10   20   30   40   50
MINUTES

	0 FT / 0 M	⚠	10 FT / 3 M	20 FT / 6 M	30 FT / 9 M

	TODAY	CUMULATIVE
Dive No.	**2**	**84**
Dive Site	**Dive Site Name**	
Location	**City, State or Country**	
Date	**Today's Date**	
Visibility	**Vis in feet or meters**	
Purpose	**Why you're there**	
Max Depth	**From Dive Log Mode**	
Bottom Time	**From Dive Log Mode**	
Rate Dive Site	**Your Personal Rating Scale**	
Buddy	**Your Buddy's Name**	
Buddy Cert. #	**Your Buddy's #**	

A S C E N T

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OCEANIC DiveLog
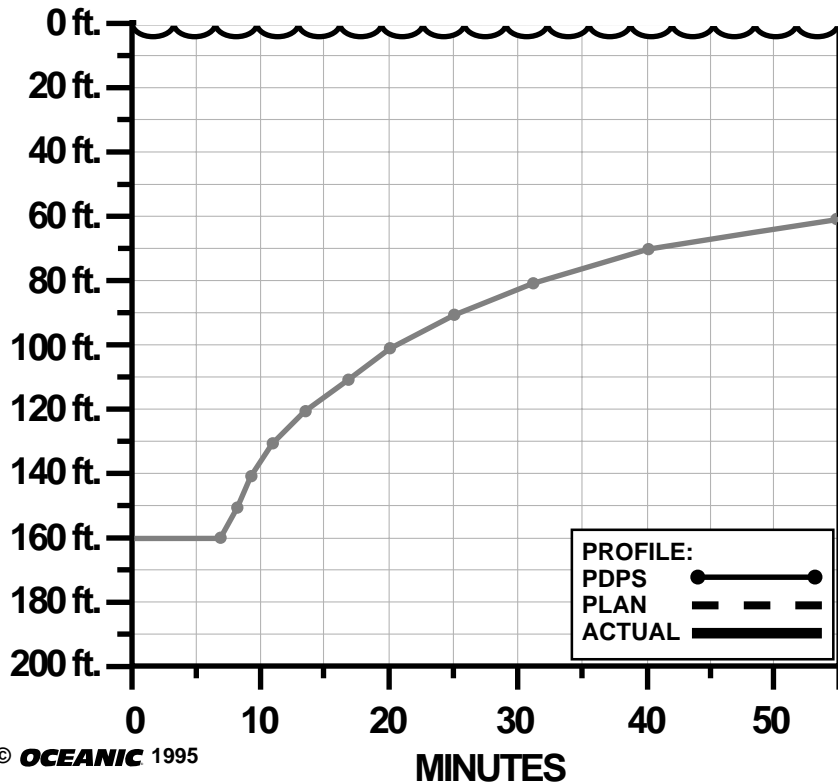
	TODAY	CUMULATIVE
Dive No.		
Dive Site		
Location		
Date		
Visibility		
Purpose		
Max Depth		
Bottom Time		
Rate Dive Site		
Buddy		
Buddy Cert. #		

PROFILE:
PDPS ●——————●
PLAN ━ ━ ━ ━
ACTUAL ━━━━━

0 ft.
20 ft.
40 ft.
60 ft.
80 ft.
100 ft.
120 ft.
140 ft.
160 ft.
180 ft.
200 ft.

0   10   20   30   40   50

MINUTES

91
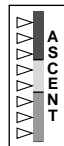
RESPONSIBLE COMPUTER DIVING

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, 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 VARI bar graph 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.**

Responsible DIVER

92

LANGUAGE CROSS REFERENCE

ENGLISH	**ITALIANO**	**DEUTSCH**	**ESPANOL**	**FRANCAIS**
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: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:PRNF	ALRM:PROF
ALRM:AIR	ALRM:AIR	ALRM:LUF	ALRM:AIR	ALRM:AIR
ALRM:ON	ALRM:ON	ALRM:AN	ALRM:ON	ALRM:OUI
ALRM:OFF	ALRM:OFF	ALRM:AUS	ALRM:OFF	ALRMLNON
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

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
AIR ALARM	ARIAALARM	LUFTALARM	AIREALARM	AIR 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
DIVE	DIVE	DIVE	SUBM	PLNG
LOW WBATT	LOW WBATT	LOW WBATT	LOW WBATT	LOW WBATT
LOW TBATT	LOW TBATT	LOW TBATT	LOW TBATT	LOW TBATT

GLOSSARY

Diving terms to become familiar with. Many apply specifically to the DataTrans.

ACI - Abbreviation for Air Consumption Indicator.

Air Consumption Indicator - A graphic display of air consumption rate.

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

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

Altitude Dive - A dive made at an elevation above sea level (3,000+ ft. / 915+ m.) where a different set of no decompression tables is used .

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

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

ATR - Abbreviation for Air Time Remaining.

Audible Alarm - A computer emitted tone that alerts the diver to potential danger.

Bottom Time - The total time spent underwater during a dive between 5 ft. (1.5m) on initial descent to 3 ft. (1m) on final ascent.

C.Z. - Abbreviation for Caution Zone.

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

96

proximity to decompression.

Ceiling - See decompression ceiling.

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

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".

DEC - Abbreviation for Decompression.

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

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

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

Diagnostic Mode - The first display seen on dive computers after initial activation during which time a self–check for internal faults is performed.

Display - A visual readout of information.

Dive Log Mode - A computer display of previous dive information.

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

tank pressure.

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

Icon - a small pictorial representation of an operational mode

LCD - Abbreviation for liquid crystal display, an easily viewed low voltage display usually found on dive computers

Maximum Depth - The deepest depth attained during a dive.

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).

No Dec - Abbreviation for No Decompression.

No Dec Time Remaining - The amount of dive time remaining based on no-decompression status.

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

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

PDPS - Abbreviation for Pre Dive Planning Sequence.

Pre Dive Planning Sequence™ - A display of available dive times at 10 ft. (3m) 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 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.

VARI - Abbreviation for Variable Ascent Rate Indicator.

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

INDEX

DATATRANS ANNUAL INSPECTION RECORD

Serial Number _____

Date of purchase _____

Purchased from _____

Below to be filled in by an Authorized Oceanic Dealer:

Date	Dealer Name & Number	Technician Name

NOTES