OCEANIC®

Prodigy

owner's guide

R5

RESPONSIBLE COMPUTER DIVING

- **Always Make Your Deepest Dive First**
- **Always Make The Deepest Part Of Every Dive, First**
- **Check Your Computer Often**
- **Do A Safety Stop On Every Dive**
- **Adequate Surface Interval Between Each Dive**
- **Adequate Surface Interval Between Each Day Of Diving (12 Hours Or Until Your Computer Clears)**
- **Read And Understand This Owner's Guide Before Using the Prodigy**

Pay special attention to items marked with this WARNING symbol

DECOMPRESSION MODEL

The programs within the PRODIGY simulate the absorption of nitrogen into the body by using a mathematical model. This model is not magic, merely a way to apply a limited set of data to a large range of experiences. The PRODIGY dive computer model is based upon the latest research and experiments in decompression theory. Still, using the PRODIGY, just as using the U.S. Navy (or other) No-decompression Tables, **is no guarantee of avoiding decompression sickness, i.e. "the bends."** Every diver's physiology is different, it even varies from day to day. No machine can predict how your body will react to a particular dive profile.

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

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R5

THE PRODIGY
IS
EASY TO USE

Fig. 1 – Surface Mode

INTRODUCTION

The PRODIGY was designed to be extremely easy to use and understand. This owner's guide is divided into five sections designed to make it easy to learn how to use the *PRODIGY*. The first two sections will show you how it performs in most diving situations. Section three describes extreme condition performance such as deep or decompression diving. Sections four and five present care & maintenance procedures and reference material. Start here to begin learning about the PRODIGY.

REGULATOR ATTACHMENT

If you have purchased the PRODIGY in a console version, you will need to have it attached to your regulator by an Authorized Oceanic Dealer.

ACTIVATING THE DISPLAY

You can activate the PRODIGY by pressing and releasing the button under its display (Fig. 1a). After a diagnostic check (10 seconds), it enters "*Surface Mode*" signified by the Surface Display Icon (Fig. 1b).

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

PLANNING YOUR DIVE

Surface mode shows the Surface Display Icon, the number of the most recent dive you have made, surface interval, and residual nitrogen. After 20 seconds, then once every minute, it alternates with another mode called the *"Pre Dive Planning Sequence"* (Fig. 2) signified by the Pre Dive Planning Identification Icon (Fig. 2a). When planning your next dive, the Pre Dive Planning Sequence (PDPS) provides adjusted no-decompression limits based upon previous dives made. The PDPS shows depths from 30 to 160 feet (9 to 48 meters) in 10 foot (3 meter) intervals and the available no-decompression time for each. This makes dive planning extremely simple because you know exactly how much time you can spend at each depth without making any table calculations.

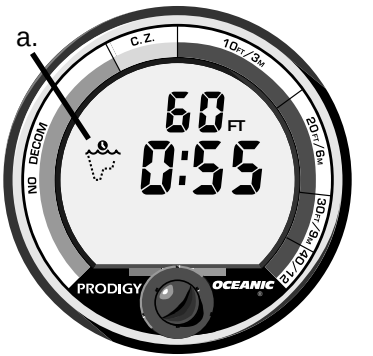

Fig. 2 – Pre Dive Planning Sequence

MAKING A DIVE

Once you enter the water and descend to a depth below 5 feet (1.5 meters), the PRODIGY changes to the "*No-decompression Dive Mode*" (Fig. 3) signified by the No Decompression Identification Icon (Fig. 3a). This mode displays current depth, elapsed dive time (and Elapsed Dive Time Icon), no-decompression time remaining, maximum depth for this dive (and Max Depth Icon), nitrogen loading (and Tissue Loading Bar Graph) and ascent rate (and Variable Ascent Rate Indicator).

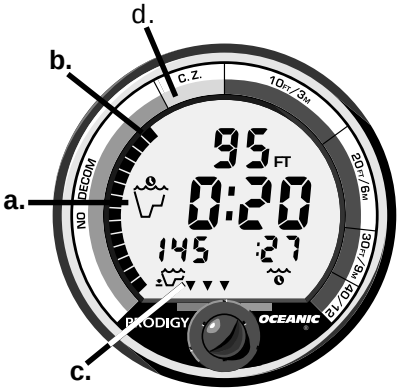

Fig. 3 – No-decompression Dive Mode

USING THE "GRAPHIC DIVER INTERFACE"

To make it easy to check your dive status on the PRODIGY, a color-coded system of graphic displays is used. This "*Graphic Diver Interface*" is made up of two bar graphs that have green, yellow and red markers to indicate normal, caution, and danger zones, respectively. The two graphic displays represent ascent rate and nitrogen loading.

When underwater, you can make quick status checks by glancing at the two bar graphs and making sure that they are "***in the green.***" With one quick glance you can make sure you're not getting too close to the no-decompression limit or ascending too fast.

ASCENDING TO THE SURFACE

A graphic representation of nitrogen absorption can be seen in the *"Tissue Loading Bar Graph"* (Fig 3b). This green, yellow, red bar graph shows how close you are to the no-decompression limit. It "fills–up" with segments as your depth and bottom time increase, simulating the absorption of nitrogen. Upon ascent to shallower depths, the Tissue Loading Bar Graph (TLBG) will begin to recede giving a visual representation of nitrogen off–gassing. The TLBG also provides a way to easily manage decompression by indicating four red *"ceiling"* depths. This is discussed fully in the "*Handling the Extremes"* section beginning on page 27.

When rising towards the surface, the *"Variable Ascent Rate Indicator™"* (Fig. 3c) shows how fast you are ascending. The Variable Ascent Rate Indicator (VARI) will alert you with a flashing display if you enter the red zone, which represents ascent rates over 60 feet (18 meters) per minute. Immediately slow your ascent whenever this is seen.

If you have not entered decompression, a safety stop made between 15-20 feet (4.5-6 meters) is strongly recommended as a standard procedure before completing your ascent. Many divers do this to provide a wider zone of caution from the no-decompression limit. The TLBG gives a visual representation of just how close you are to the no-decompression limit with a yellow *"Caution Zone"* (Fig. 3d). This Caution Zone portion of the TLBG allows you to make a decision regarding safety stop duration or necessity. While you cannot provide a guarantee against the occurrence of decompression sickness, you may choose your own personal zone of caution based on age, physique, excessive weight, etc., to reduce the statistical risk.

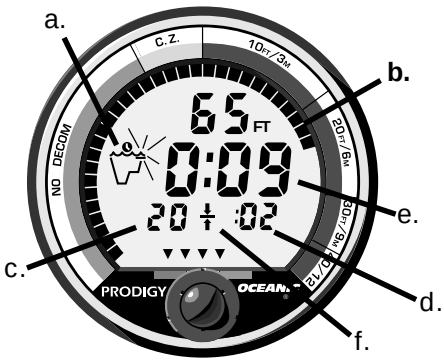

Fig. 4 – Decompression Dive Mode

EMERGENCY DECOMPRESSION

If your depth or bottom time is such that the TLBG enters the red zone, the PRODIGY will switch to the *"Decompression Dive Mode"* (Fig. 4) signified with the flashing Decompression Dive Identification Icon (Fig. 4a). A decompression stop "*ceiling*" will be indicated by the TLBG (Fig. 4b), digital display (Fig. 4c), and Stop Ceiling Icon (Fig. 4f). You must stay below the

Fig. 5 – Decompression Dive Mode-Alternate

ceiling depth indicated or risk decompression sickness. Also indicated by digital displays are current depth, decompression time for current stop (Fig. 4d) and total decompression stop time (Fig. 4e). You must stay at or a few feet below the TLBG indicated ceiling depth until the bar graph recedes into the next shallower zone before ascending any further.

An *alternate* display (Fig. 5) appears automatically for 3 seconds at 12 second intervals during a decompression dive. The display replaces individual stop information with maximum depth (and Max Depth Icon, Fig.5a) and elapsed dive time (and Elapsed Dive Time Icon, Fig. 5b).

PLANNING FOR THE NEXT DIVE

After reaching three feet upon ascent, the Surface Mode will display once again. After 10 minutes, and at one minute intervals, it alternates with the Pre Dive Planning Sequence. The Pre Dive Planning Sequence will show adjusted no-decompression limits based on the nitrogen absorbed during your last dive. The longer the surface interval, the more dive time available in the PDPS.

IT'S REALLY JUST THAT SIMPLE!

The PRODIGY is designed to help you stay out of trouble with quick visual reference during all modes of operation. Just *"keep it in the green"* and you'll greatly reduce your exposure to decompression sickness.

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

OTHER SPECIAL FEATURES

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

LOGGING YOUR DIVES

Immediately after a dive, various information is stored in the PRODIGY's memory and can be accessed in the *"Dive Log Mode."* Recalling this information gives you a chance to record it in your log book. Your latest 10 dives are stored and can be accessed by pressing the activation button.

Dive Log Mode signified by the Dive Log Identification Icon (Fig. 6a) will automatically scroll through the latest ten dives starting with the most

Fig. 6 – Dive Log Mode

recent dive first. The log displays dive number, surface interval, maximum depth (and Max Depth Icon), bottom time (and Elapsed Time Icon), and maximum ascent rate (VARI). It also displays end–of–dive tissue loading (TLBG). This is handy when making decisions about future dive plans.

ALTITUDE DIVING

The PRODIGY automatically compensates for decreased ambient pressure when activated at high altitudes up to 14,000 feet (4,268 meters). Its program contains a high altitude algorithm that reduces no-decompression limits to add a larger zone of caution. Whenever it is activated above 3,000 feet (915 meters), it will automatically recalibrate itself to measure depth in feet of fresh water.

KNOWING WHEN TO FLY

Due to the present lack of a complete data set derived from actual human testing, there are different recommendations cited by various scientific organizations for the amount of time a diver should wait before flying after diving. The PRODIGY follows one of the more conservative of these, cited by Divers Alert Network (DAN); that divers wait at least 12 hours before flying in pressurized commercial aircraft, and at least 24 or more if making repetitive multi-day or decompression dives. The PRODIGY easily tracks how much surface time has elapsed with the *Time to Fly* display.

The Time-to-Fly display (Fig. 7) begins a 24 hour countdown starting 10 seconds after a dive. During the last 12 hours, the countdown can be deactivated and subsequent diving continued by pressing the activation switch. This reactivates the PRODIGY and begins the Surface Display/Pre Dive Planning Sequence over again. After the timer reaches zero, 24 hours have elapsed. You may choose when to fly according to the type of diving you have done, consulting your PRODIGY to determine the amount of surface time that has elapsed. To learn more about flying after diving and DAN's guidelines, see page 24.

DETAILED OPERATIONS GUIDE

The next section describes the PRODIGY's Operational Modes and Informational Displays in detail, describing exactly what you can expect to see above and under water. Refer to this section when you have specific questions about PRODIGY operation.

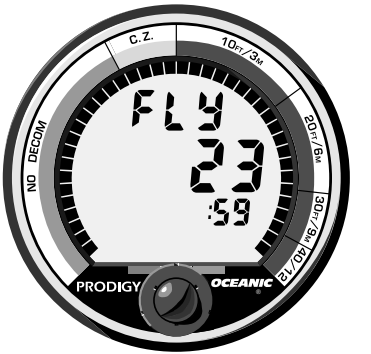

Fig. 7 – Time-to-Fly Mode

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DETAILED OPERATIONS GUIDE

OPERATIONAL MODES

The PRODIGY operates in ten different modes and the visual difference between them is quite evident. Mode Icons, described in detail beginning on page 19, identify the various displays to eliminate confusion.

Fig. 8 – Diagnostic Mode

DIAGNOSTIC MODE/ACTIVATION

Diagnostic Mode is displayed immediately following activation. After pressing and releasing the activation button, Diagnostic Mode will display all "eights" followed by dashes, and then a countdown from 9 to 0. It will then enter Surface Mode signalling a successful diagnostic check. During the countdown, the PRODIGY checks its display functions and battery voltage to ensure everything is working properly. If battery voltage is below the level sufficient for a day's operation, the Battery Icon, located to the upper left of the Time Display, will be displayed and will flash continuously. After decreasing to 15% of rated voltage all graphic displays will shut off except the Battery Icon which will flash 15 final times prior to shutdown of the PRODIGY.

WARNING - Never activate the PRODIGY if the computer is underwater. This may result in inaccurate depth and no-decompression time displays. Activation is not possible deeper than ten feet underwater.

If two hours elapse after activation without making a dive, the PRODIGY will deactivate to save battery power.**Be sure to check your computer**

before entering the water to ensure it doesn't need reactivation.

WARNING - If a Low Battery condition is indicated immediately upon activation, Oceanic strongly recommends that you DO NOT dive until you have obtained battery replacement, described on pages 47-50. Activating the External Access(EA) mode, described on page 59, when a Low Battery condition is initially indicated will cause the flashing Low Battery Icon to disappear implying satisfactory voltage. DO NOT dive until batteries are replaced.

SURFACE MODE

Surface Mode, identified by the Surface Display Icon to the left of the Surface Time display, immediately follows Diagnostic Mode after initial activation (Fig 9). It also appears after a dive when you ascend shallower than 3 feet (1 meter). Information provided includes, the number of the most recent dive made, elapsed surface time and tissue loading (TLBG), if any.

Fig. 9 – Surface Mode

PRE DIVE PLANNING SEQUENCE™ (PDPS) MODE

Pre Dive Planning Sequence Mode, identified by the Pre Dive Planning Icon to the left of the Time Display, follows after 20 seconds in Surface Mode (Fig. 10). For 40 seconds this mode automatically scrolls through depths from 30 to 160 feet (9 to 48 meters), in 10 foot (3 meter) increments, showing theoretical no-decompression dive times based upon your previous dive

Fig. 10 – Pre Dive Planning Sequence

profiles. The PDPS automatically replaces Surface Mode every minute. Information provided includes depths and no-decompression dive times.

WARNING – The Pre Dive Planning Sequence predicts only no-decompression times for subsequent dives. Depending on tank size and air consumption, you may have *less time available* than shown in the PDPS because of air limitations.

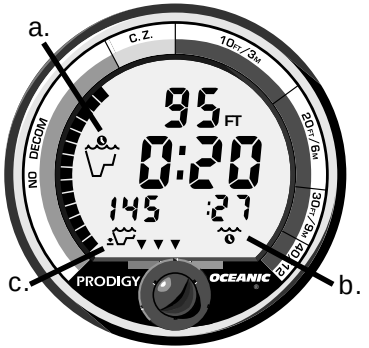

Fig. 11 – No-decompression Dive Mode

PDPS no-decompression times are displayed only for depths where there is at least one minute available. This takes into account a descent rate of 75 feet per minute. Before a "*clean*" dive (no dives in 24 hours), the PDPS no-decompression limits are those found on page 54 in the Reference section.

NO-DECOMPRESSION DIVE MODE

No-decompression Dive Mode, identified by the No Decompression Icon to the left of the Time Display (Fig. 11a), appears when the diver descends deeper than five feet. Information provided includes current depth, elapsed dive time (and Elapsed Dive Time Icon-Fig. 11b), no-decompression dive time remaining, and maximum depth for this dive (and Max Depth Icon-Fig. 11c). The Graphic Diver Interface is also active, displaying nitrogen loading (TLBG) and ascent rate (VARI).

DECOMPRESSION DIVE MODE

The PRODIGY 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, as these practices will greatly increase your risk of decompression sickness.

Decompression Dive Mode, identified by the Decompression Dive Icon (Fig. 12a) located to the left of the Time Display, activates when the theoretical no decompression dive time/depth limits are exceeded causing the TLBG to enter a red decompression zone (Fig. 12). Information provided includes current depth, current decompression stop ceiling depth and time (and Stop Ceiling Icon - Fig. 12b), and total decompression stop time at all ceilings combined. The Graphic Diver Interface will continue to display the VARI bar graph and the TLBG, that now acts as a Decompression "*ceiling*" indicator showing the ceiling depth that you must stay below. An *alternate* display (Fig. 13) appears automatically for 3 seconds at 12 second intervals displaying individual stop information with maximum depth and elapsed dive time.

After entering decompression, you must immediately change the focus of your dive to getting back to the surface. Upon seeing the TLBG enter the 10 FT (3 M) STOP zone, you should immediately begin a 60 foot (20 meter) per

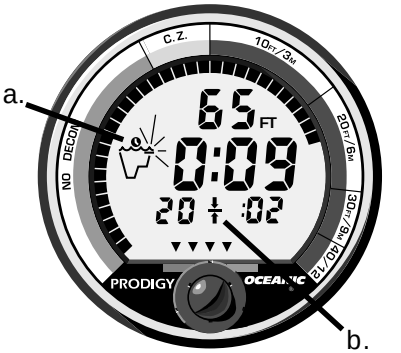

Fig. 12 – Decompression Dive Mode

Fig. 13 – Decompression Dive Mode-Alternate

minute or slower ascent to a depth slightly deeper than or equal to 10 feet (3 meters). 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 PRODIGY into a Conditional Violation Mode (see page 30) and greatly increase your risk of decompression sickness. Often while coping with surge and swell, it is difficult to stay at a chosen depth. To ensure that you do not enter a violation mode you should stay close to, but no shallower than, the decompression ceiling depth. If the PRODIGY requires a 10, 20, 30, or 40 foot (3, 6, 9, or 12 meter) 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 new indicated ceiling.

Once you have performed the required decompression, the PRODIGY will switch to No-decompression Dive Mode allowing additional time underwater. After Total Decompression Stop Time reaches zero and the TLBG recedes into the yellow Caution Zone (C.Z.), the diver can surface. However, to add a greater margin of protection, Oceanic strongly recommends that you wait until the TLBG segments are well within the green No Decom zone, unless a low air condition requires you to surface. At the end of all decompression dives, 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 andon the surface - before your next dive.

VIOLATION MODES

The PRODIGY enters one of three different Violation Modes when you exceed its ability to predict an ascent procedure. These modes are explained fully in the “Handling the Extremes” section beginning on page 27.

GAUGE MODE

If the PRODIGY enters a Permanent Violation Mode, it will operate only in Gauge Mode on subsequent dives. The PRODIGY removes displays that no longer provide correct information because of the violation (see page 35). No dives must be made for 24 hours for the PRODIGY to reset itself.

DIVE LOG MODE

Dive Log Mode, identified by the Dive Log Icon (Fig. 14a) located above the Surface Display Icon, can be accessed on the surface by pressing the button on the front of the PRODIGY (Fig. 14b). Pressing and releasing the button will start the*Automatic Dive Log Sequence.* Dive Log Mode displays information of your latest ten dives, and will retain the information indefinitely, even if the batteries are removed. After exceeding ten dives, the PRODIGY will add the most recent dive while deleting the oldest.

Information provided includes dive number, surface interval, max depth (and Max Depth Icon), bottom time (and Elapsed Time Icon), maximum ascent rate (VARI), and end of dive tissue loading (TLBG).

Dive Log Mode recalls dives in reverse order from the one most recently

Fig. 14 – Dive Log Mode

recorded to the oldest of the most recent ten. Thus, your most recent dive will always be the first shown in the log sequence, the second most recent will appear next, etc. When accessing Dive Log Mode, you can choose to either press and release, or press and hold, the button on the face of the PRODIGY. As mentioned, pressing and releasing the button initiates the Automatic Dive Log Sequence, showing previous dives for about four seconds each.

Pressing and holding the button will freeze the information on the display giving you a chance to write it down in your logbook (A sample logbook page is provided on page 63 of this guide that can be photo duplicated for this purpose). Releasing and then holding the button again will display the next earlier dive, and so on.

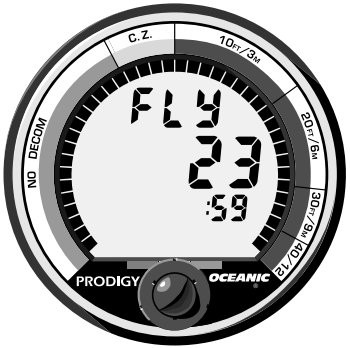

Fig. 15 – Time to Fly Mode

TIME TO FLY MODE

The longer you wait to fly after diving, the more you will reduce your exposure to decompression sickness. A Time to Fly countdown sequence begins automatically at the beginning of the Pre Dive Planning Sequence. Ten minutes after the last dive has ended the Time to Fly Mode (Fig. 15) will display the word “FLY” with a timer below it that starts a 24 hour countdown to assist you decide when enough surface time has elapsed to fly.

During the last twelve hours, the Time to Fly countdown can be deactivated and subsequent diving continued by pressing the activation switch. This reactivates the PRODIGY and begins the Surface Display/Pre Dive Planning Sequence over again.

After a surface interval of 12 hours, you may choose to fly, provided that your dive profile(s) did not enter decompression. If your diving could be considered as decompression or repetitive, multi-day, it is strongly recommended that you wait the full 24 hours after your last dive to add a greater degree of protection. (See page 24 for more information about flying after diving and DAN's guidelines).

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

TELLING THE DIFFERENT MODES APART

The PRODIGY's different operating modes are easy to tell apart. Each is clearly identified with graphic Mode Icons (Fig. 16) which provide quick visual reference during the various modes of operation. You will not see Decompression Dive, Violation, or Gauge Modes unless you dive to extremes. Diagnostic and Dive Log Modes are displayed upon request by pressing the activation button. The modes you will see underwater are No-decompression, or Decompression and Alternate Decompression Dive. Above water, you will see the Pre Dive Planning Sequence, Surface Display, and Time to Fly Modes. Become familiar with all modes so that you understand exactly what information the PRODIGY is providing you at any specific time.

a. log book
b. battery
c. surface/dive
d. max depth
e. stop ceiling
f. elapsed dive time

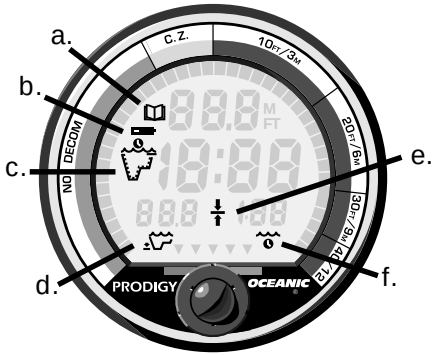

Fig. 16 – Mode Icons

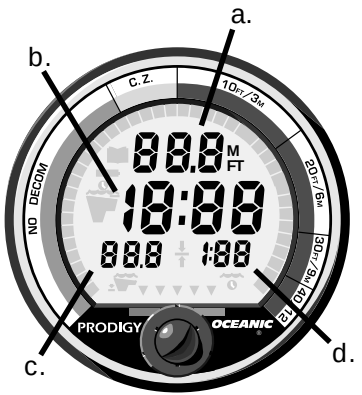

Fig. 17 – Display layout

INFORMATIONAL DISPLAYS

Each PRODIGY numeric or graphic display represents a unique piece of information. The following section describes each display in detail.

Depth Display

The top portion of the LCD (Fig. 17a) contains the current Depth display. The dive number display replaces the depth display in the Surface or Dive Log modes. Maximum depth is displayed in the lower left portion of the LCD (Fig. 17c). A current decompression stop ceiling depth replaces max depth in the decompression dive mode. These displays indicate depths from 0 to 250 feet (0 to 76 meters) in 1foot (.5 meter) increments.

Time Display

The center of the LCD (Fig. 17b) contains the Time display indicating elapsed surface time, theoretical dive time available, no-decompression dive time remaining, or total decompression stop time. Elapsed dive time, decompression time for the current stop, or total dive time is displayed in the lower right portion of the LCD (Fig. 17d). Displays are shown in **hour:minute** format (i.e. 1:06, one hour and six minutes *not 106 minutes!*). The colon that separates hours and minutes blinks once per second when the display is in "*real time*." Elapsed Surface Time and Bottom Time are *real time* displays. Dive Time Available or Remaining are calculated projections of time and use a solid (non-blinking) colons. This helps you tell the different time displays apart.

GRAPHIC DIVER INTERFACE™

Two different bar graphs are located around the perimeter of the PRODIGY LCD (Fig. 18). They are color coded green, yellow, and red to denote normal, caution and danger zones, respectively. The Graphic Diver Interface allows you to make quick status checks underwater of your no-decompression status and ascent rate. By keeping these bar graphs ***"in the green"*** at all times, you'll greatly reduce your exposure to decompression sickness. A detailed description of each graph follows.

Tissue Loading Bar Graph (TLBG)

The semicircular graph found on the perimeter of the display is the TLBG (Fig. 18a). It monitors twelve different tissue compartments simultaneously and displays the one that is highest. The TLBG is divided into three main sections; green no decompression (No Decom) zone, yellow caution zone (C.Z.), and red decompression zone. The red decompression zone is further divided into four decompression "ceiling" zones of 10, 20, 30, and 40 feet (3, 6, 9, and 12 meters). By referring to the TLBG, you can see a visual representation of nitrogen absorption and use it to help avoid or, if necessary,manage decompression.

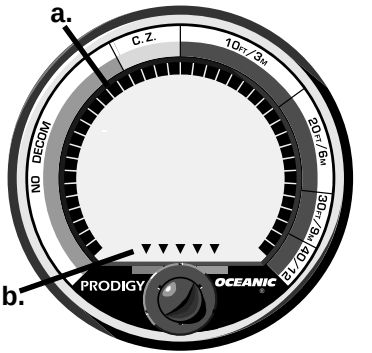

Fig. 18 – Graphic Diver Interface

WARNING - Oceanic advocates responsible diving practices and does not recommend decompression diving or diving below 130 feet (40 meters).

Fig. 19 – No-decompression Dive Time Remaining

Variable Ascent Rate Indicator™- (VARI)

The VARI occupies the bottom portion of the PRODIGY display (Fig. 18b). The purpose of the VARI is to assist the diver in preventing too rapid an ascent by providing a visual indication of ascent speed. The bar graph is made up of 5 triangular segments and is analogous to an ascent rate *speedometer*. There are various speed *"zones"* that are color–coded green, yellow, and red. The actual speeds that the VARI segments represent are listed on page 58. Flashing VARI segments alert the diver of an ascent rate that has exceeded 60 feet (18 meters) per minute (red VARI zone). The Variable Ascent Rate Indicator currently holds a U.S. Patent.

DIVE TIME REMAINING DISPLAY

One of the most important pieces of information on the PRODIGY is the no-decompression dive time remaining display (Fig. 19a). The PRODIGY constantly monitors theoretical loading of twelve different tissue compartments and calculates no-decompression time based on the amount of nitrogen absorbed by these hypothetical compartments. The rates at which 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 theoretical value will be displayed as the No-Decompression Time Remaining display and the TLBG.

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.

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

ALTITUDE DIVING

The mathematical model in the PRODIGY accounts for the reduced no-decompression time available at higher elevations based on National Oceanic and Atmospheric Administration (NOAA) guidelines. When diving in high altitude lakes or rivers from 3,000 to 14,000 feet (915 to 4,268 meters), the PRODIGY will automatically adjust to these conditions providing corrected depth and reduced no-decompression times. Over 3,000 feet (915 meters) depth calibration automatically changes to read in feet of freshwater rather than feet of seawater.

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

FLYING AFTER DIVING

In 1990 the Undersea and Hyperbaric Medical Society (UHMS) published a set of guidelines aimed at minimizing the possibility of decompression sickness due to flying too soon after diving. The UHMS suggests[1] divers using standard air tanks and exhibiting no symptoms of decompression sickness wait 24 hours after their last dive to fly in aircraft with cabin pressures up to 8,000 ft.
The only two exceptions to this recommendation are:

1) If a diver had less than 2 hours total accumulated dive time in the last 48 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 introduction of the 1990 UHMS guidelines, data from the Diver's Alert Network (DAN) was introduced that resulted in DAN's position[2] that "A minimum surface interval of only 12 hours would be required in order to be reasonably assured a diver will remain symptom free upon ascent to altitudes up to 8,000 feet (2,439 meters) in a commercial jet airliner. Divers who plan to make daily multiple dives for several days, or make dives that require decompression stops, should take special precautions and wait for an extended surface interval beyond 12 hours before flight."

* excerpted from 1. UHMS Flying After Diving Workshop, and 2. DAN's Current Position on Recreational Flying After Diving

Both the UHMS and DAN agree that, "**There can never be a flying after diving rule that is guaranteed to prevent decompression sickness completely.** Rather, there can be a guideline that represents the best estimate for a conservative

. . . surface interval for the vast majority of divers. There will always be an occasional diver whose physiological makeup or special diving circumstances will result in the bends."

The *Time to Fly* display (Fig. 20) provides a way to choose your own degree of protection by providing a 24 hour countdown sequence which is activated upon surfacing from a dive. The display is first shown 10 minutes after start of the pre dive planning sequence indicating the word "FLY" and a digital countdown from 24 to 0 hours. The TLBG will be displayed during the first 12 hours. During the last 12 hours the countdown can be deactivated and subsequent diving continued by pressing the activation button to reactivate the PRODIGY.

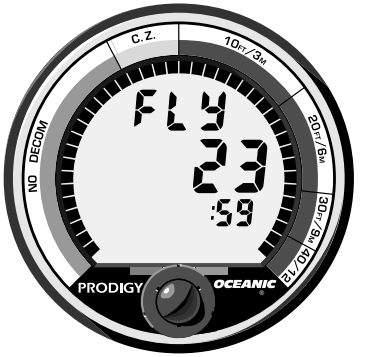

Fig. 20 – Time to Fly Display

THE PRODIGY AT A GLANCE

Figure 21 on the following page shows the PRODIGY's various displays "At-A-Glance" for quick visual reference or review of display features.

Fig. 21 –The PRODIGY At–A–Glance

HANDLING THE EXTREMES

Fig. 22 – Out of Range display

PRODIGY MAXIMUM DEPTH

The PRODIGY will display a maximum depth of 250 feet (76 meters). If you exceed that depth, the Depth, Max Depth, and Dive Log readouts will display dashes signifying that you descended out-of-range (Fig. 22). For that dive, you will not see a numeric depth display over 250 feet (76 meters) or a Max Depth indication other than the three dashes.

Although the PRODIGY will withstand the pressures found at 250 feet (76 meters), the depth that you can still use all its features can be *much* shallower. Before going further, read this warning:

WARNING - The maximum recommended sport diving limit is 130 feet (40 meters). Any deeper dive should be avoided. Special training and equipment are necessary for this type of diving. Oceanic strongly recommends against diving to depths below 130 feet (40 meters) or decompression diving.

On a first "*clean*" dive, no residual nitrogen from previous dives, the PRODIGY will allow a maximum of 7 minutes no-decompression dive time available at 160 feet (48 meters). The PRODIGY will continue to calculate residual nitrogen for up to 24 hours. Depending on your descent rate, 7 minutes at 160 feet (48 meters) 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 meters). If you exceed 160 feet (48 meters), watch the

PRODIGY closely because you will enter decompression***rapidly***. Upon entering decompression the TLBG will enter the red zone and the decompression dive icons will be displayed (Fig. 23).

EMERGENCY DECOMPRESSION

After entering decompression (especially at deeper depths) the TLBG may fill the 10, 20, 30, and 40 FT (3, 6, 9, and 12 M) STOP decompression zones rapidly. Once you've entered decompression,**it is imperative that you immediately begin an ascent at a safe rate of 60 feet (18 meters) per minute or slower toward the required decompression ceiling. If you continue to dive at a deeper depth, your exposure to decompression sickness will increase, and you risk entering a violation mode and losing information needed to properly ascend.**

Whether at 160 feet (48 meters) on a first dive, or 60 feet (18 meters) on a third dive, it is possible to quickly enter decompression if you're not careful. Decompression is to be avoided because you cannot ascend directly to the surface without potentially dire consequences. If your equipment failed, requiring you to surface immediately, you would risk decompression sickness. Your buddy would be unable to lend assistance without also risking decompression sickness. Decompression diving requires special training and equipment to be done properly. For these reasons, decompression sport diving should be avoided.

Fig. 23 – Decompression warning

VIOLATION MODES

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

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

CONDITIONAL VIOLATION MODE

Before a situation that may ultimately result in loss of nitrogen monitoring functions, the PRODIGY will enter a *Conditional* Violation Mode. If properly handled, the Conditional Violation Mode will not only assist you in getting back to the surface, but will also **allow continued use** of the PRODIGY. There is one situation that will force the PRODIGY to enter a Conditional Violation Mode:

Ascending Shallower than Decompression Ceiling

The PRODIGY will enter a Conditional Violation Mode if you ascend shallower than the decompression ceiling indicated by the TLBG (Fig. 24a). A mo-

mentary rise above the ceiling, such as with a surge or swell, will cause this to happen. Therefore you must stay slightly deeper than the exact ceiling depth, watching the PRODIGY closely when managing decompression. **The PRODIGY will alert you to a Conditional Violation by flashing the Total Decompression Stop Time display until you descend below the required decompression ceiling.**

Once the PRODIGY enters a Conditional Violation Mode, no off-gassing credit will be given. For every minute in the Conditional Violation Mode, 1.5 minutes of penalty time is added to decompression stop time for greater protection.

The PRODIGY will stay in the Conditional Violation Mode for up to 5 minutes of being shallower than the decompression ceiling. After 5 minutes, it will enter *the Delayed* Violation Mode (see next section). But, if the Conditional Violation is corrected before 5 minutes have elapsed (meaning you descend below the ceiling depth), the PRODIGY 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 PRODIGY will revert to the No-Decompression Mode.

Fig. 24 – Depth less than required ceiling causes a Conditional Violation

PERMANENT VIOLATION MODES

If you exceed the boundaries of a Conditional Violation Mode, or exceed a 40 FT (12 M) stop requirement, one of two Permanent Violation Modes will be entered; "Delayed Violation Mode" or "Immediate Violation Mode." Either of these Permanent Violation Modes will result in loss of some computer functions for 24 hours after the last dive.

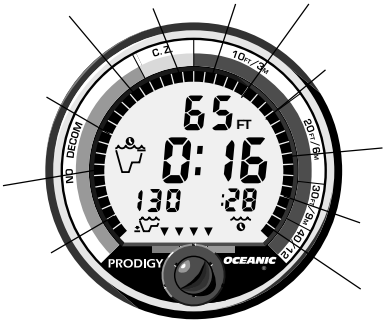

Fig. 25 – Delayed Violation Mode

DELAYED VIOLATION MODE

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

#1 - Requiring a Decompression Ceiling Deeper than 40 FT (12 M)

If the necessary decompression requires a ceiling depth deeper than 40 feet (12 meters), a Delayed Violation mode will be entered. Once a diver enters this mode, the entire TLBG will flash (Fig. 25).**In this situation, the amount of decompression time needed to get back to the surface will still be displayed numerically as the Total Decompression Stop Time.** To get back to the surface, the diver must ascend t***just deeper than 40 feet (12 meters)*** staying as close to 40 feet (12 meters) as possible without causing the Total Decompression Stop Time display to flash. The display may flash at depths slightly deeper than 40 feet (12 meters) in some situations. If this happens, descend to the shallowest depth below 40 feet (12

meters) where the flashing stops.

After waiting until the TLBG recedes into the 30 FT (9 M) zone, the diver can then ascend to not less than 30 feet (9 meters) and continue decompression. After more time, the TLBG will recede into the 20 FT (6 M) and then 10 FT (3 M) zones after which the diver can ascend to not less than 20 or 10 feet (6 or 3 meters) respectively. After Total Decompression Stop Time reaches zero and the TLBG recedes into the yellow Caution Zone (C.Z.), the diver can surface. However, to add a greater margin of protection, Oceanic strongly recommends that you wait until the segments are well within the green No Decom zone, unless a low air condition requires you to surface. After 5 minutes of surface time, the PRODIGY will enter an Immediate Violation and will then revert to the Gauge Mode (see page 35) for 24 hours.

#2 - Spending More than 5 Minutes Above Decompression Ceiling

If you stay above the decompression ceiling for more than 5 minutes, you will enter Delayed Violation Mode. At this time the TLBG will flash (Fig. 25, page 32). If you descend back beneath the ceiling after this 5 minute time window, it is still possible to get back to the surface with the assistance of the PRODIGY. 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 TLBG segments are well inside of the green No Decom

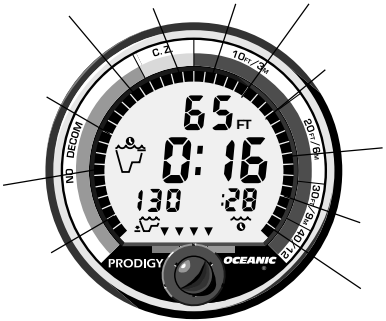

Fig. 26 – Immediate Violation Mode

zone. **After 5 minutes of surface time, the PRODIGY will enter an Immediate Violation and will then revert to the Gauge Mode (see page 35) for 24 hours.**

IMMEDIATE VIOLATION MODE

The PRODIGY 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 PRODIGY design. **If you are following these dive profiles, Oceanic advises that you do not use a PRODIGY dive computer.** Immediate Violation Mode occurs as follows:

Requiring a Decompression Stop *Much Deeper* than 40 Feet (12 meters)

The PRODIGY cannot calculate decompression ceilings deeper than 40 feet (12 meters). If a ceiling ***much deeper*** than 40 feet (12 meters) is required, Immediate Violation Mode is entered (Fig. 26). This situation would be preceded by entering the Delayed Violation Mode. The PRODIGY offers no indication of how much time spent underwater would result in the need for deeper than a 40 FT (12 M) decompression ceiling. Watch the display closely to keep from exceeding the TLBG's capabilities and losing assistance getting back to the surface.

GAUGE MODE

The PRODIGY will operate with limited functions in what is called "Gauge Mode" up to 24 hours after a dive in which any Immediate or Delayed Violation Mode was entered. Gauge Mode turns the PRODIGY into a digital instrument without any decompression monitoring functions. Figure 27a illustrates the changes effected in Gauge Mode.

When in Gauge Mode underwater (Fig. 27b), the PRODIGY flashes the TLBG. If the PRODIGY changes to Gauge Mode while underwater, you have entered an Immediate Violation Mode. Be sure to read the Violation section thoroughly beginning on page 30.

Above water, Gauge Mode is indicated by the lack of a Pre Dive Planning Sequence or Time to Fly display. Twelve hours after surfacing, a countdown timer with a "single dash" display will inform you of the number of hours remaining before normal operation can resume (Fig. 28).

a.

FUNCTION	STD. MODES	GAUGE MODE
underwater displays		
Dive time avail	Yes	No
TLBG	Yes	No
All other displays	Yes	Yes
surface displays		
Surface Time	Yes	Yes
Dive Log	Yes	Yes
PDPS	Yes	No
Time to Fly	Yes	No

b.

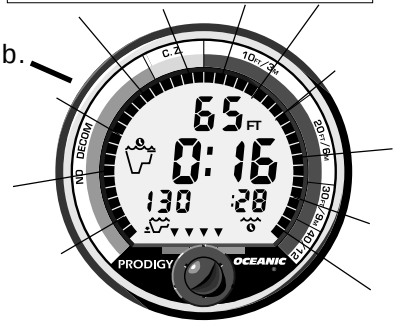

Fig. 27 – Effects of an Immediate Violation: a. Gauge Mode Functions & b. Underwater Display

CAUTION ZONE – C.Z.

When you learned how to dive, you were taught not to get too close to the No-decompression limits. The Caution Zone (C.Z.) offers you a way to consistently monitor how close you are to the no-decompression limit**Oceanic recommends always leaving the water with the TLBG well inside of the green No Decom zone.**

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

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

Fig. 28 – Gauge Mode
(above water display)

WHAT TO DO IF YOUR DIVE COMPUTER QUITS WORKING

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

Consider the cost to benefit ratio. No other piece of diving equipment gives you additional dive time like a dive computer. It is now possible to dive easier, and longer, because of these technological marvels. Yet, as with all new technology - especially high-tech products used in harsh environments - unforeseen things happen. If you do not prepare for the unknown, you might be sorry later. Who would want to drive a car without a spare tire, for instance? If you dive in situations where your trip would be ruined or your safety would be jeopardized by losing the use of a dive computer, an analog or digital backup system is highly recommended.

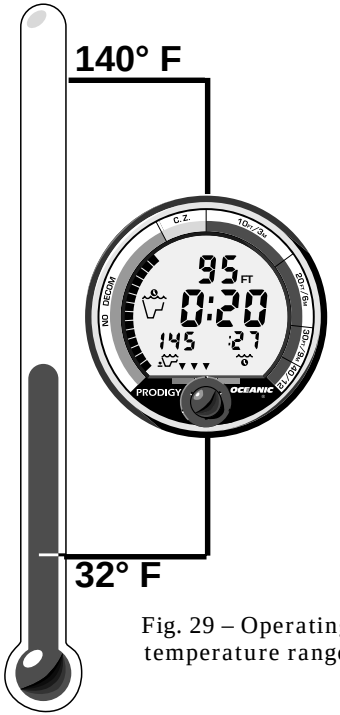

Fig. 29 – Operating temperature range

OPERATING TEMPERATURE

The PRODIGY will operate in almost any temperature diving environment in the world (Fig. 29) between 32° and 140° F (0° and 60° C). You may notice the liquid crystal display becoming sluggish at extremely low temperatures. This is normal and will not affect the computer's accuracy. If stored or transported in extremely low temperature areas (below freezing), you should warm with body heat before diving.

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

NIGHT DIVING WITH THE PRODIGY

The PRODIGY uses a high contrast liquid crystal display with large numerals for easy readability in low light conditions. However, the display is not internally illuminated for night diving because of the excessive power consumption that would be required. This means that on night dives, in caves, or any other low light situation you must use your dive light to illuminate the display. If your dive light were to fail, you would be unable to read information about your dive on the PRODIGY.

Oceanic recommends that you carry a backup dive light, in case of primary light failure.

SHARING THE PRODIGY

The PRODIGY provides information based upon your personal dive profile and therefore must not be “shared” between divers. You should never, under any circumstances, swap your computer with another unit between dives, or share your computer with another diver underwater. Your computer's dive profile tracking of previous dives will be pertinent to you only, and it is impossible for two divers to stay precisely together underwater.

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

A FINAL WORD OF CAUTION

Although the PRODIGY represents the latest in user-friendly dive computer technology, it cannot force you to understand how to use it. Before diving with the PRODIGY, be sure you thoroughly understand its functions and displays. Take the quiz on pages 60 and 61 to test your knowledge. Call your local Authorized Oceanic Dealer or Oceanic Customer Service at (510) 562-0500 if you have a question. Above all remember, technology is not a substitute for training, experience, and *common sense!*

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CARE & MAINTENANCE

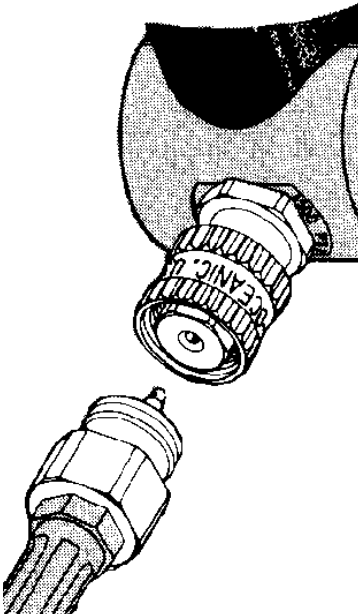

Fig. 30 – DataLink high pressure quick disconnect

CARE AND MAINTENANCE

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

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

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

BEFORE THE DIVE

If diving with a console version of the PRODIGY, be careful not to leave it lying on a boat deck where it might be damaged. Many dive computers (and dive trips) are ruined by encounters between carelessly tossed computers and weight belts or tanks. If the PRODIGY is attached to a tank in a rack, tuck the computer into a B.C. pocket, or between the B.C. waistband and the bladder. Keep it off the deck and protected from undue shock. Better yet, attach a DataLink (Fig. 30) high pressure quick disconnect between your

computer console and first stage allowing easy removal when not in use (if you have a console version). This allows you to keep the PRODIGY nearby when recording dives in your log book or planning the next dive.

DURING THE DIVE

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

AFTER THE DIVE

Soak the PRODIGY in fresh water after each dive. If possible, use luke-warm 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 PRODIGY under gently running water. Be sure to flush any holes or slots on the rear of the boot. Towel dry the computer before storing. Transport the PRODIGY cool, dry, and protected.

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

ANNUAL DEALER INSPECTIONS & FACTORY SERVICE

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

If you are in doubt about the accuracy of your PRODIGY's depth readings, DO NOT attempt to dive with it until it has been inspected by an Authorized Oceanic Dealer. Some dive stores who provide this service do not have test gauges on their pressure chambers as accurate as the depth sensor in the PRODIGY. Therefore, if you are requesting a depth check, it is best to verify that the test chamber's gauge is accurate to within plus or minus 1% of full scale.

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

WARNING - Never pressure test the PRODIGY in an air environment. Doing so may damage the depth sensor; possibly resulting in erroneous depth or time readings.

The PRODIGY must be placed completely underwater when being pressure tested to protect the depth sensor. If your local facility does not have the special tools or ability to follow these procedures, have the Authorized Oceanic Dealer send your PRODIGY directly to Oceanic, or an Oceanic regional distribution center for service (Fig. 31).

HOW TO OBTAIN SERVICE

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

1. Remove the PRODIGY module from its wrist or console boot (see instructions on page 47). Be sure to remove all accessories.
2. Package carefully using a cushioning material.
3. Authorized Oceanic Dealers should use an **Oceanic Product Return Form** (If one is not available, then go to step 4.)
4. Include a legible note with specific reason for return, your name, address, daytime phone number, serial number,**and copy of original sales receipt.**

OCEANIC CORPORATE H.Q.
San Leandro, California
Tel: 510-562-0500; Fax: 510-569-5404

OCEANIC HAWAII
Ewa Beach, Hawaii
Tel: 808-682-5488; Fax: 808-682-1068

OCEANIC EUROPE
Pomezia, Italy
Tel: 39-6-910-4148; Fax: 39-6-910-4163

OCEANIC SW, LTD
Devon, England
Tel: 44-884-84-0001; Fax: 44-884-84-1770

OCEANIC DIVING AUSTRALIA PTY LTD
Sorrento, Victoria, Australia
Tel: 61-59-84-4770; Fax: 61-59-84-4307

OCEANIC ASIA PACIFIC PTE LTD
Singapore
Tel: 65-779-3853; Fax: 65-779-3945

Fig. 31 – Oceanic regional distribution centers

5. Send prepaid and insured to the nearest Oceanic facility.
6. If you have any questions regarding PRODIGY service, call Oceanic's Parts & Service Dept. direct at (510) 562-0500. Please allow two to four weeks for service not counting travel time to and from Oceanic when estimating your "down" time.

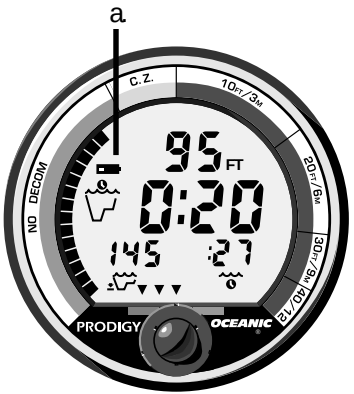

Fig. 32 – Low Batt mode

LOW BATT DISPLAY

The Battery Icon on the PRODIGY (Fig. 32a) alerts you to the impending need for a battery change by flashing continuously. Usually, the PRODIGY will only activate if there is enough battery power to complete one full day of diving. The remaining battery life may be suddenly shortened by a sudden change in temperature, however, and it is therefore advised that you DO NOT attempt to dive when the Battery Icon is present and flashing. Furthermore, Oceanic strongly recommends that you replace the batteries with new prior to any extended, multi-day dive trip.

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

⚠ WARNING - Damage from improper battery replacement is not covered under the PRODIGY's limited 2-year warranty.

PRODIGY BATTERY REPLACEMENT INSTRUCTIONS

Removing the Module From Its Boot

1. If the module is in a wrist boot, it will be necessary to peel the lips of the boot downward off the gauge while applying pressure from underneath, working it out slowly. If in a console, bend the rubber console boot back to expose the edge of the module. If the console boot is flexible enough to permit, you may bend it back far enough to scoop the module out with your index finger. Otherwise, it may be necessary to insert a blunt screwdriver until the tip rests just underneath the module. DO NOT pry the module from the console! Slowly increase the pressure under the module by releasing the tension on the rubber boot. The module will slide up the screwdriver and exit the console.

2. Verify that your PRODIGY contains user replaceable batteries by examining the case back to find the battery hatch (Fig. 33a).

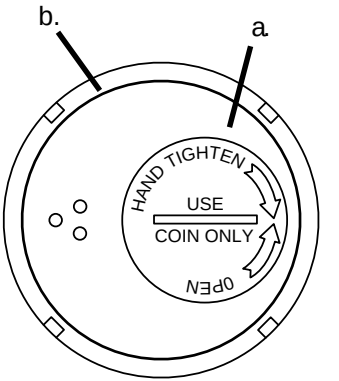

Fig. 33 – PRODIGY
battery hatch

WARNING - Removal of the PRODIGY's batteries will clear all stored memory of tissue loading. If you have been diving immediately prior to replacing the batteries, you must wait 24 hours before diving again.

1. Apply a nickel or quarter (not a screwdriver) to the recessed slot of the battery hatch, and turn the hatch out counterclockwise to remove from the case back. **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.

2. Remove the o-ring from the battery hatch and discard. DO NOT use tools.

3. Closely examine the threads of the battery hatch and the case back to check for any signs of damage which might impair proper threading. If found, return your PRODIGY to your Authorized Oceanic Dealer or Oceanic Parts & Service, and DO NOT attempt to use until it has received service. You may otherwise proceed to the next step.

WARNING - DO NOT attempt to remove the outer case back ring (Fig. 33b). Doing so may cause a dangerous malfunction, resulting in possible injury or death; and void the warranty.

4. Turn the unit over to drop out the two 3 volt lithium batteries. Discard, regardless of age or amount of use. Closely examine the metal contacts inside the battery compartment, checking for any signs of stress (bending or breakage) or corrosion which may indicate the entrance of moisture into the unit. If found, return your PRODIGY to your Authorized Oceanic Dealer or Oceanic Parts & Service, and DO NOT attempt to use until it has received service. You may otherwise proceed to the next step.

5. Install two new 3 volt lithium batteries (Duracell® DL 2032, Radio Shack® 23-162, Maxell® CR 2032, or Panasonic® CR 2032) into the battery compartment directly on top of each other with the positive (+) side of both facing up. **NOTE:** Use caution to avoid touching either the battery contacts or the flat surfaces of the batteries, as skin oil will impair correct contact.

6. Lubricate and install a new o-ring onto the battery hatch, checking to ensure that it is evenly seated inside the groove at the base of the threads. DO NOT roll the o-ring over the threads of the battery hatch. Instead, stretch it slightly to work it down over one thread at a time**NOTE:** This o-ring must be a genuine Oceanic Part, purchased from your Authorized Oceanic Dealer. Use of a non-Oceanic o-ring will void the warranty.

7. Carefully thread the battery hatch into the case back turning clockwise by hand until snug. Using a nickel or quarter, tighten until the outer surface of the hatch is flush with the outer surface of the case back.

Returning the Module To Its Boot

1. Replace the rubber spacer into the boot, if previously removed.

2. Orient the module over the hole in the boot, and dip the bottom edge into the hole while pressing the top edge with the palm of your hand. Stop pressing when the bottom edge has just entered the rubber boot.

3. Correct the alignment of the module as needed so that it is straight.

4. Press the module completely into place with your thumbs, watching the alignment, until it “snaps” into place.

Final Inspection

1. To ensure that the battery installation was successful, activate the unit and watch carefully as it performs a full diagnostic and battery check. Initially, the display will display all 8's, with the TLBG loading down until the unit enters Surface Mode, followed by the Pre Dive Planning Sequence (PDPS). If Low Battery is indicated, return the unit to your Authorized Oceanic Dealer for a complete inspection before attempting to use it.

2. Observe 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 the unit to your Authorized Oceanic Dealer or Oceanic Parts & Service to receive factory service.

REFERENCE

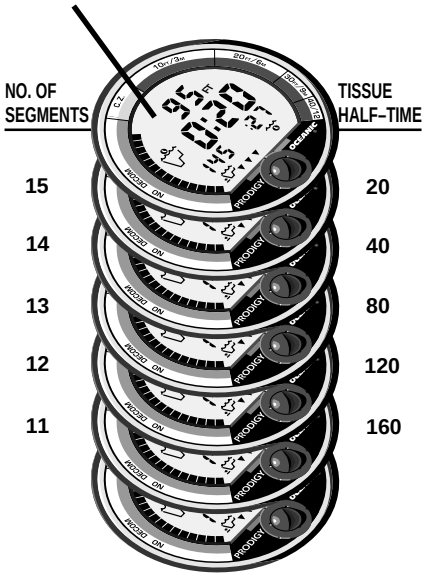

Fig. 33 – Think of the 12 tissues as overlaid clear displays showing only the maximum bar graph reading reached

MULTIPLE TISSUE TRACKING

The PRODIGY 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. 33). 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 34 illustrates the point at which one compartment "hands over" control to another at a different depth. Though two tissues were controlling the diver at different depths, the TLBG remains the same because it displays only the highest loading of the 12 compartments.

As time goes on, or you reach a new depth, there may be sufficient off gassing of the tissue compartments to reduce the overall number of bar graph segments. The TLBG display that was recorded at the end of the dive will be displayed in the Dive Log mode.

REPETITIVE DECOMPRESSION DIVING

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

dives deeper than 90 feet (27.5 meters), or decompression dives. PRODIGY decompression predictions are therefore based on U.S. Navy theory due to the present unavailability of statistical data. Therefore, pay special attention to the following warnings.

WARNING – Oceanic advocates responsible diving practices and does not recommend decompression diving or diving below 130 feet (40 meters). The decompression capabilities of the PRODIGY are intended strictly for emergency use. Decompression diving is inherently hazardous and greatly increases your risk of decompression sickness - even when performed according to the computer's calculations. In the event that you must make an emergency decompression dive, you must not make another dive for at least 24 (twenty-four) hours.

WARNING – Using the PRODIGY, just as using the U.S. Navy (or other) No-decompression Tables, is no guarantee of avoiding decompression sickness, i.e. "the bends."

DISPLAY AS SEEN BY DIVER

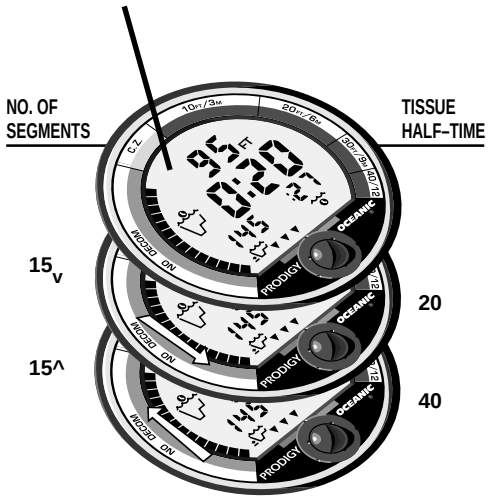

Fig. 34 – As one tissue recedes, another increases with the maximum reading being the only one displayed

Depth ft (m)	Prodigy mins.	U.S. Navy mins.
30 (9)	260 (283)	- -
35 (10.5)	- - (- -)	310
40 (12)	137 (144)	200
50 (15)	78 (82)	100
60 (18)	55 (57)	60
70 (21)	40 (41)	50
80 (24)	31 (31)	40
90 (27)	25 (26)	30
100 (30)	20 (21)	25
110 (33)	17 (17)	20
120 (36)	13 (14)	15
130 (39)	11 (11)	10
140 (42)	9 (9)	10
150 (45)	8 (8)	5
160 (48)	7 (7)	5
170 (51)	—*	5
180 (54)	—*	5
190 (57)	—*	5

* The Pre Dive Planning Sequence will not scroll past 160 feet (48 meters), or when projected bottom /descent time is less than one minute.

Fig. 36 – No-decompression limits

NO DECOMPRESSION LIMITS

The no-decompression limits for the PRODIGY are contrasted with the U.S. Navy limits in Fig. 36. You will notice that at all but three depths, the PRODIGY allows less time than the U.S. Navy Tables. Though the PRODIGY no-decompression limits may be less than the U.S. Navy, you will receive greatly increased bottom times if you follow a multi-level dive profile; sometimes two or three times, as much bottom time!

MAXIMUM NO-DECOMPRESSION DIVE PROFILE

Many people ask, “Just how deep can I go, and how long can I stay, with the PRODIGY?” The answer depends on many factors including air supply, previous dives made, etc. Assume for a minute that no previous dives were made, and that the diver had an unlimited air supply. Figure 37 shows a maximum no-decompression dive profile that is possible with the PRODIGY. In this example, the PRODIGY was taken to a depth where the No-decompression Dive Time Remaining reached three minutes. It was then taken to a shallower depth where it received one minute of no-decompression time credit. When the no-decompression time neared zero at this new depth, the PRODIGY was taken to the next shallower depth. This continued until 33 feet (10 meters), where there was obviously more no-decompression time available than possible air time with even the largest scuba tank. A safety stop was added as a precaution to round out this simulated dive.

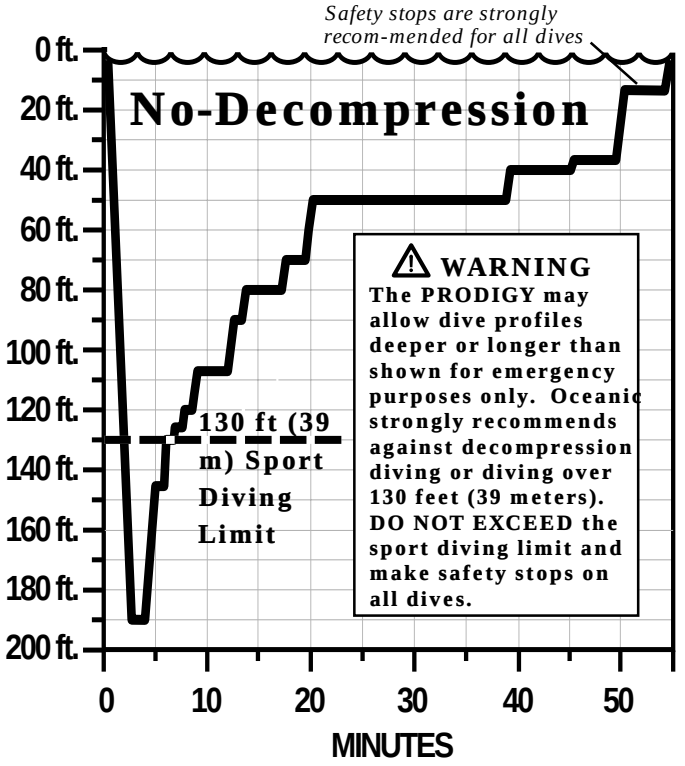

Fig. 37 – Maximum No-decompression Profile (approx).

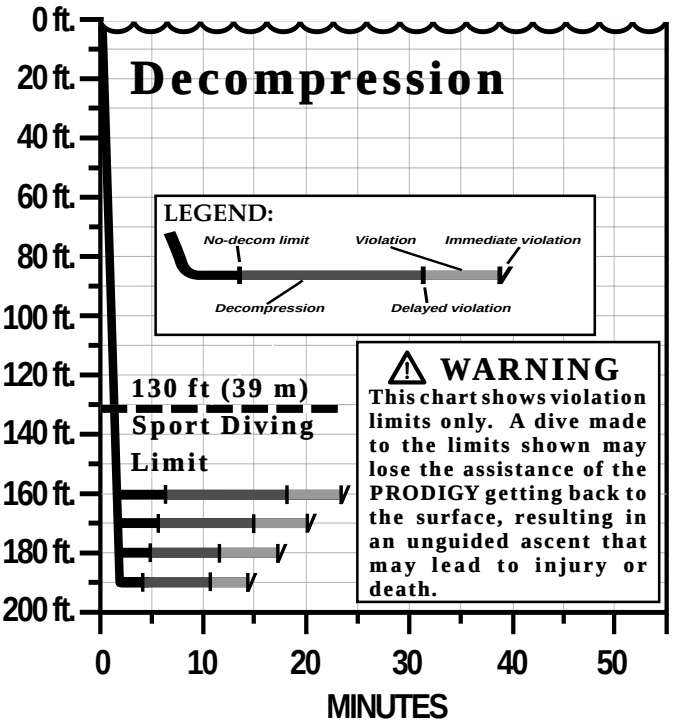

Fig. 38 – Decompression Violation Limits

DECOMPRESSION VIOLATION LIMITS

As described on pages 32 – 35, the PRODIGY has two permanent violation modes that will result in the loss of some computer functions if entered. These are termed, *Delayed* and *Immediate* Violation Modes. Figure 38 shows a chart which details where those limits occur on extreme dive profiles between 160 and 190 feet (48 and 57 meters)on a first dive. The chart is meant as a reference and not a suggestion for planning a dive.

It is possible to exceed these limits at much shallower depths, especially on repetitive dives. Watch the PRODIGY closely to avoid entering decompression, or entering a violation mode.

⚠ WARNING – Oceanic recommends that you follow the rules of responsible diving on every dive, and strongly recommends against decompression diving, or diving below 130 feet (39 meters).

CONCLUSION

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

NOTES

SPECIFICATIONS

NO-DECOMPRESSION MODEL

Basis

- Modified Haldanean Algorithm
- 12 tissue compartments

Data Base

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

Performance

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

Decompression Capabilities

- Decompression ceilings at 10, 20, 30, & 40 feet (3, 6, 9, & 12 meters)

Altitude Algorithm

- Based on National Oceanic & Atmospheric Administration (NOAA) tables

OPERATIONAL MODES & DISPLAY RANGE/RESOLUTION

Modes

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

Numeric Displays	**Range**	**Resolution**
• Dive Number	0 - 10 dives	1 dive
• Depth	0 - 250 feet (76 meters)	1 foot (.5 meters)
• Maximum Depth	250 feet (76 meters)	1 foot (.5 meters)
• No-decompression Time	0 – 9 hrs. 59 mins.	1 minute
• Decompression Time	0 – 9 hrs. 59 mins.	1 minute
• Bottom Time	0 – 9 hrs. 59 mins.	1 minute
• Surface Time	0 – 11 hrs. 59 mins.	1 minute
• Dive Log Surface Interval	0 – 11 hrs. 59 mins.	1 minute
• Time to Fly	23 hrs. 59 mins. – 0*	1 minute
	(starting 10sec. after the dive)*	

Graphic Diver Interface	**Range**	**Resolution**
• **Tissue Loading Bar Graph (TLBG)**		
No decompression (green)	16 segments	1 segment
Caution Zone (yellow)	4 segments	1 segment
Decompression (red)	20 segments	1 segment

- **Variable Ascent Rate Indicator (VARI)**

	feet/min	meters/min
Red zone	61+	19+
Yellow zone	51 - 60	16 - 18
	41 - 50	13 - 15
Green zone	31 - 40	10 - 12
	21 - 30	7 - 9
	0 - 20	0 - 6

Special Displays	Occurrence
• Diagnostic Display	Activation
• Out of Range	250+ feet (76+ meters)
• Gauge Mode Countdown Timer	12 - 24 hours after violation
• External Calibration Access (EA)	If activation button is held for 8 seconds during Surface or PDPS mode.

OPERATIONAL PERFORMANCE

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

Dive Counter
- Displays Dives 1 - 10 then recycles to 1 (and continues 1 - 10)
- Resets to Dive 1, upon diving, after twelve hours surface time
- Cycles to next dive at 5 foot (1.5 meter) depth after a surface interval

Dive Log Mode
- Stores latest 10 dives in memory
- After 10 dives, adds latest dive to memory, deletes oldest dive (the 10 most recent dives are retained in memory)

Altitude

• Altitude range	0 - 14,000 feet (4,268 meters) above sea level
• Modes	Full functions up to 14,000 feet (4,268 meters)

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

Power

• Battery	Two 3 volt lithium cells
• Life expectancy	Approx. 1 year, or 50 - 1 hour dives* (whichever occurs first)
• Shelf life	Up to five years depending on storage environment*
• LOW BATT	Replace as soon as possible

Activation
- Needed before the first dive only.
- Battery Saver feature automatically shuts off the computer if no first dive is made in 120 minutes after initial activation. Reactivation is required.
- PRODIGY cannot be shut off manually.

External Access Mode
- Not needed by the user, this mode is used by the factory for diagnostic information retrieval.
- Activation occurs during the Surface or PDPS Mode when the activation button is held for 8 seconds.
- Activation when a Low Battery condition is initially indicated will cause the flashing Low Battery Icon to disappear implying satisfactory voltage. Batteries must be replaced prior to diving. (See WARNING on page 13)
- The letters 'EA' appear as the lower left display and a countdown appears as the lower right display. After counting down from 6 to 0, the PRODIGY shifts back to the Surface or PDPS Mode.

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

GLOSSARY

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

Algorithm - A step-by-step mathematical formula designed to accomplish a particular result (i.e. Dive Time Remaining in the PRODIGY)
Altitude Dive - A dive made at an elevation above sea level where a different set of no-decompression tables is used (3,000+ feet/915 meters)
Ascent Rate - The speed that a diver ascends toward the surface
Boot - A protective rubber covering that surrounds an instrument module
Bottom Time - The total time spent underwater during a dive between 5 feet on initial descent to 3 feet on final ascent
C.Z. - Abbreviation for Caution Zone
Caution Zone - The yellow section of the Tissue Loading Bar Graph that gives a visual warning of a diver's proximity to decompression
Ceiling - See decompression ceiling
Clean Dive - A dive preceded by 24 hours of no diving activity
Compartment - A term applied to the hypothetical modeling of nitrogen absorption in the tissues (more accurate than the term "tissue" because dive computer models have no direct relation to human tissues)
DCS - Abbreviation for decompression sickness, i.e., *"the bends"*
DEC - Abbreviation for Decompression

Decompression Ceiling - The shallowest depth a diver may reach upon ascent without risking decompression sickness (also see TLBG)
Decompression Stop - The depth(s) at which a diver *must* pause during ascent to allow absorbed nitrogen to escape naturally from the tissues
Depth Sensor - An electro-mechanical device that converts water pressure into an electrical signal, that is converted to a visual depth display
Diagnostic Mode - The first display seen on dive computers after initial activation during which time a self–check for internal faults is performed
Display - A visual readout of information
Dive Log Mode - A computer display of previous dive information
Dive Time Remaining - A display of the time before a diver must surface based on no-decompression status or tank pressure
Graphic Diver Interface™ - A feature of Oceanic dive computers. Easily understandable color coded bar graphs that indicate diver status; green = normal, yellow = caution, red = danger.
Icon - a small pictorial representation of an operational mode
LCD - Abbreviation for liquid crystal display, an easily viewed low voltage display found on dive computers
Maximum Depth - The deepest depth attained during a dive
Mode - A specific set of functions in a dive computer
Modular Dive Computer - A dive computer that is not connected to the diver's air supply
Multiplexing Display - A display on an instrument that alternates to show different information relating to separate events

Multi-level Dive - A type of dive profile where the diver spends various times at different depths (opposite of a "Square Wave" dive profile)
NO DEC - Abbreviation for No-decompression
NO DEC Time Remaining - The amount of dive time remaining based on no-decompression status
No-Decompression - Any part of a dive where the diver can surface without requiring a decompression stop
Out of Range - The point that a dive computer can no longer supply correct dive information
PDPS - Abbreviation for Pre Dive Planning Sequence
Pre Dive Planning Sequence™ - A display of available dive times at ten foot intervals from 30 to 160 feet (9 to 48 meters) used when dive planning
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 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 PRODIGY that shows ascent rate as a bar graph alongside a color–coded indicator (part of the Graphic Diver Interface)

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PRODIGY ANNUAL INSPECTION RECORD

Serial Number _____

Date of purchase _____

Purchased from _____ To be filled in by Authorized Oceanic Dealer:

Date	Dealer Name & Number	Technician Name

THE CODE OF THE
RESPONSIBLE DIVER:

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

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

⚠ WARNING

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

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

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

R5

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