

No-Stop Dive Times	
Depth	Time
	99
40	99
50	65
60	46
70	34
80	24
90	19
100	16
110	13
120	11
130	9
140	8
150	7
160	7

BRIDGE™ II Owner's Manual



Eager to Get Going?

Do you already know a lot about dive computers? • Are you the type who hates to read manuals? • Turn to our special "Quick Start" section on page 3-12!



Dive Rite Manufacturing, Inc.

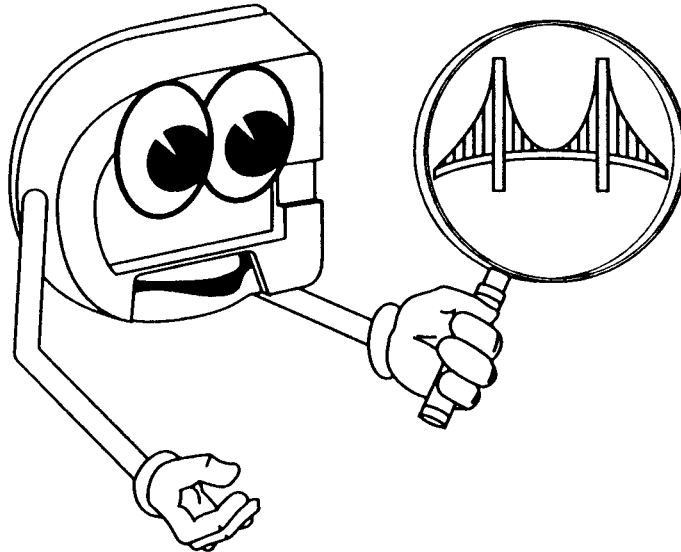
Dive Rite BRIDGE™ II Limited Warranty

- Dive Rite Manufacturing, Incorporated, will—at its sole discretion—repair or replace BRIDGE™ II system components proved to be damaged by faulty manufacture or material, at no cost, for a period of up to one year (365 days) from the date of purchase.
- This warranty applies only to the original retail purchaser. It does not cover commercial or rental use, nor does it extend to units purchased from other than an authorized Dive Rite dealer.
- This warranty specifically excludes battery depletion or other conditions resulting from misuse, negligence, alteration, accident or unauthorized repair.
- To make a claim under this warranty, the owner must have completed and returned the Warranty Registration card in the back of this manual at the time of purchase. He or she must then return the damaged items to Dive Rite Manufacturing, Inc., along with a copy of the original purchase invoice or receipt. *No warranty service will be performed for other than registered owners.*
- This warranty becomes void if the BRIDGE™ II system components are damaged by anything other than normal recreational diving use, or if they have been serviced or repaired by other than authorized Dive Rite dealers.
- Repairs made under this warranty will not extend the warranty period.
- All further claims, especially for damage after diving accidents, are excluded from coverage under this warranty.
- Dive Rite Manufacturing, Inc., has no obligation to honor any extension of this warranty.

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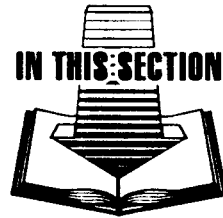
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Section I: Introduction

Your BRIDGE™ II is a sophisticated and powerful dive-planning and recording tool. Simple, rugged and reliable, it features several functions not found in other dive computers.



- Design Features . . . 1-3
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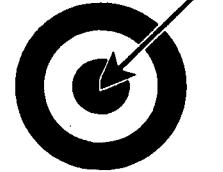
What you should be able to do after reading this section:

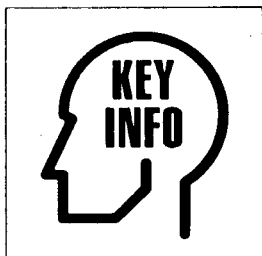
- Describe many of the features that are unique to your BRIDGE™ II.
- Explain the basic layout and design features of this manual, and how you can get the most from it.
- Describe, in general terms, the things you must either do, or avoid doing, to use your BRIDGE™ II in as safe a manner as possible.

Why you will find this of value:

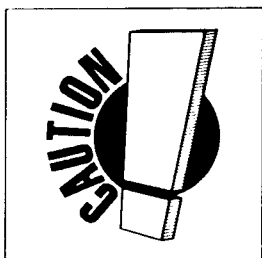
- Your understanding of the knowledge and skills covered in Section I will help you get the most from this *Owner's Manual*, and to use your BRIDGE™ II properly while diving.

GOALS





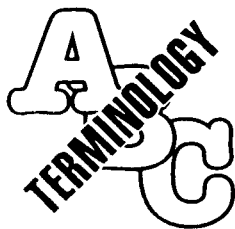
Because of this sophistication, however, *you cannot learn how to use your BRIDGE™ II simply by toying with it.* You will need to set aside time to sit down and thoroughly read, study and review this manual in order to master its many features and—more importantly—use it safely and correctly. You will find that your investment of time in doing so, however, pays off in terms of your better understanding and enjoyment of this precision device.



Because of the hazards involved in using your BRIDGE™ II without the proper understanding and skills, we need to repeat this point: *Do not* attempt to use your BRIDGE™ II under water without first thoroughly reading and studying this manual in its entirety. To do otherwise will cause you to risk *serious personal injury* or, possibly, *death*.

This introductory section is divided into three parts.

- Design Features*—Things that make your BRIDGE™ II unique.
- How This Manual is Designed*—Information regarding its instructional design which will make learning to use your BRIDGE™ II easier and more enjoyable.
- Warnings and Disclaimers*—This is some of the most crucial information. It outlines many of your responsibilities as a BRIDGE™ II user, and the steps you must follow to make using it as safe and possible.



Nitrox Terminology

- Throughout this manual, we use the terms *Enriched Air Nitrox*, *Enriched Air* and *Nitrox*, and the acronym *EAN_x* synonymously. *EAN₃₂* is synonymous with NOAA Nitrox I (NN I); *EAN₃₆* with NOAA Nitrox II (NN II). To designate mixes other than NOAA Nitrox I and II, we substitute the *x* in *EAN_x* with the percentage value of the Partial Pressure of Oxygen in that mix.
- We use the abbreviations *FO₂* for Fraction of Oxygen, *FN₂* for Fraction of Nitrogen and *PO₂* for Partial Pressure of Oxygen. □

Design Features

Here are some of the many features that make your BRIDGE™ II unique among dive planning and recording instruments.

Automatic Activation

Your BRIDGE™ II has no *on/off* switch. Unless you are in the midst of setting important parameters such as date, time, Fraction of Oxygen (FO₂) and Altitude Rank, your BRIDGE™ II is essentially ready to go diving any time—even when it appears to be turned off. (As you will see, however, we recommend that you first activate your BRIDGE™ II before taking it under water. This allows you to check to make sure everything is functioning properly and that its FO₂ and Altitude Rank are set correctly.)

Field Programmability

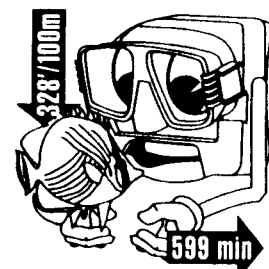
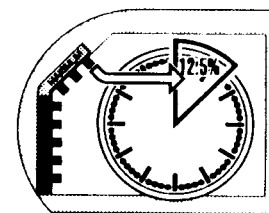
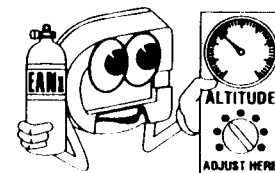
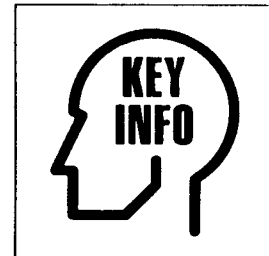
Not only can you use your BRIDGE™ II to dive both air and Nitrox (EANx), you can program it for Nitrox mixes ranging from EAN21 to EAN50, without special tools. This is something you can even do while in the water, at the surface.

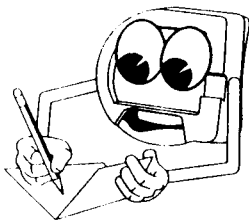
When you dive Nitrox, your BRIDGE™ II employs the concept of Equivalent Air Depth (EAD). If, for example, you are breathing EAN32 at a depth of 109 feet/33 meters, your BRIDGE™ II's nitrogen algorithm will treat this the same as breathing air at 90 feet/27 meters.

Additionally, your BRIDGE™ II employs a separate algorithm to track your exposure to oxygen. This algorithm displays its results on a unique Oxygen Limit Index (OLI) Bar Graph. Further, in addition to tracking your cumulative exposure to O₂ during dives, it also tracks how you do something comparable to “off gassing” oxygen during surface intervals.

Extensive Range

Your BRIDGE™ II will function as deep as 328 feet/100 meters. It can calculate decompression stops as deep as 90 feet/27 meters. It can also keep track of dives with Actual Bottom Times as long as 599 minutes.

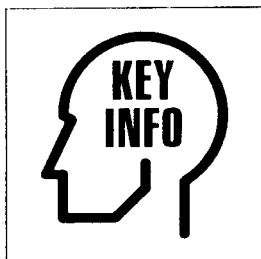




Extensive Logging Capabilities

Your BRIDGE™ II can maintain a detailed log on up to six dives. Log information not only includes date, start/stop times and water temperature, but also depth/time profiles in three-minute increments.

Not only can your BRIDGE™ II display this information on command, it can also upload this data to a personal computer using the optional Personal Computer Interface and BRIDGE™ Windows™ software.



How This Manual is Designed

This manual is designed to help make learning to use your BRIDGE™ II as easy as possible. It is far more comprehensive than most dive equipment owner's manuals and covers significantly more information. To do this, it incorporates several unique features.

General Layout

This manual is divided into eight sections, plus an Appendix. (You can get a good idea of the contents of each section by taking a few minutes to review the Table of Contents.) The information presented in each section moves from the simple to the more complex. Later sections build on the information and skills covered in previous sections.

To get the most from this manual, you will want to read it through, one section at a time, in order. It may be helpful to first skim the book from front to back, pausing to look at the illustrations, charts, graphs and summaries of key points for each section. After doing so, however, you should return to the beginning and carefully read it through, in detail, from start to finish. Make sure you fully comprehend the information in each section before moving to the next.

Specific Design Features

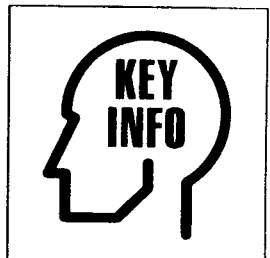
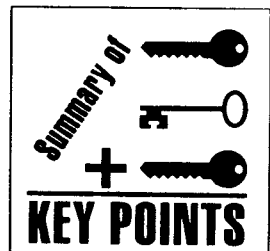
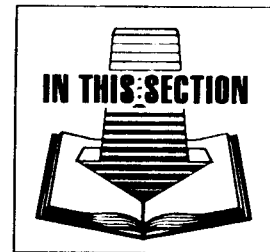
Your BRIDGE™ II *Owner's Manual* incorporates several unique design features. Many of these features are identified by special symbols or icons. Here is a description of what each icon means and how you can best use the information associated with it.

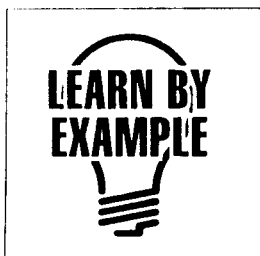
In This Section—As you saw at the beginning of this section, the *In This Section* box contains a summary of the main topic areas in each chapter. It functions like a miniature Table of Contents for each section.

Goals—The Goals box at the beginning of each section describes the new capabilities you should have after reading the section, and why having these abilities is valuable. You can test your comprehension of the material each section covers by turning each Goal statement into a question, and seeing if you can correctly answer it.

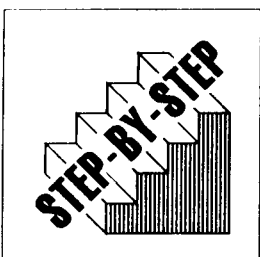
Summary of Key Points—The Summary of Key Points at the end of each section provides a quick review of the most important concepts covered. Reading this list helps reinforce what you studied earlier.

Key Info—This symbol helps identify the critical, need-to-know information that is the heart of each section. This is the information you should study most carefully and be doubly sure you understand.





Learn by Example—Information identified by this symbol provides practical, real-world examples of how the key concepts covered in the manual can be applied. It helps make some of the more abstract principles “come to life” as ideas and suggestions you can use in your everyday diving.



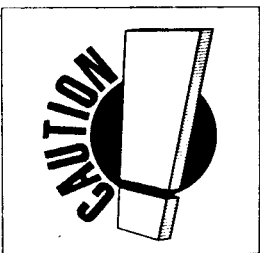
Step by Step—Using your BRIDGE™ II correctly involves a number of procedural skills, such as those involved in setting parameters such as date, time, FO₂ and Altitude Rank. This symbol is used to identify where these procedures are covered in a logical, step-by-step order. Should you need to refer to these procedures in the future, this symbol will help you find them.



Try This Now—Periodically, the manual will ask you to stop reading and actually try a particular function or procedure with your BRIDGE™ II. When it does, you will see this symbol.

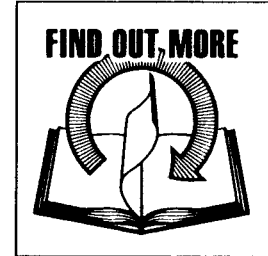


Background—Boxed information identified by this symbol generally represents additional information that, while nice to know, is not absolutely essential.



Caution—The information appearing in various *Caution* boxes throughout the manual is among the most important it contains. Failure to follow the warnings these boxes provide can lead to equipment damage or—worse—*personal injury or death*. Take these warnings seriously.

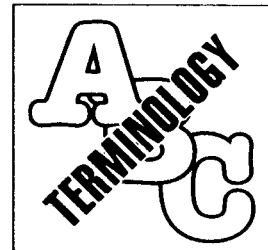
Find Out More—The information in these boxes act as a cross reference to related information in other parts of the manual. Think of them as a primitive form of hypertext link. They may be particularly valuable when you come back to review the manual in the future.



Metric—Information in boxes marked by the *Metric* symbol outlines how Metric BRIDGE™ IIs differ from Imperial (USA) models. In general, though, you will find we cover both models simultaneously.



Terminology—Periodically we will use boxes marked by this symbol to define terms in ways with which you may not be familiar. (Example: How and why we use the term *No-Stop Dive Time* instead of *No-Decompression Limit*?)

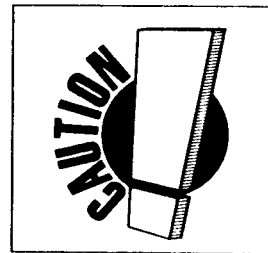


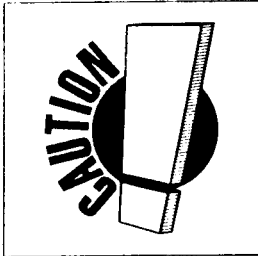
Warnings and Disclaimers

Before using your BRIDGE™ II under water, it is important you understand and follow all of the warnings appearing here and throughout this manual.

General Warnings

- Before attempting to use your BRIDGE™ II under water, it is important you read this manual in its entirety and make sure you fully understand the information and warnings it provides. *Failure to do so can lead to serious personal injury or death.* If you do not understand any of the information appearing in this manual, consult your local, authorized Dive Rite dealer. If this is not possible, contact Dive Rite directly.





- Scuba diving in general—and especially extended-range diving activities such as cave, wreck and deep diving, and any dives using gasses other than air—entails significant personal risk and requires special training. This manual assumes you have received the proper training and certification for diving on air and Nitrox, and for any specialized diving activities you will be doing. If you do not have such training and certification, obtain it from a qualified instructor before using your BRIDGE™ II under water.
- Experts still know relatively little about the exact causes of decompression illness (DCI). Susceptibility to DCI appears to vary from person to person and from day to day. Because of this, *no dive table or computer can be said to be "safe." Even though you use a dive table or computer correctly, you may still suffer DCI.* For this reason, you must be willing to accept full responsibility for any injury or death that befalls you while using the BRIDGE™ II.
- Your BRIDGE™ II is an electronic device that works theoretical mathematical formulas based on depth and time. It is not a medical device. It does not monitor the uptake or release of gas inside your body. It has no way of knowing whether you are any more or less susceptible to decompression illness or CNS oxygen toxicity than the average person. These are further reasons to use your BRIDGE™ II cautiously, and remain well inside what its No-Stop Dive Time and OLI Bar Graph displays recommend.
- Do not rely on the BRIDGE™ II—or any other instrument—as your sole means of dive planning. You should use your BRIDGE™ II in conjunction with back-up depth gauges, dive timers and dive tables, or with another dive computer. Always have a means of tracking your exposure to nitrogen and oxygen that is separate from your BRIDGE™ II. Having back-up information available can be extremely helpful in reducing the consequences of equipment failure and human error.

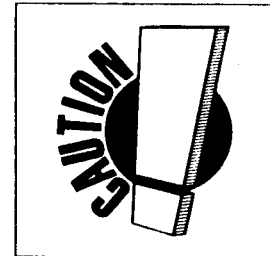
Pre-Dive Check Mode

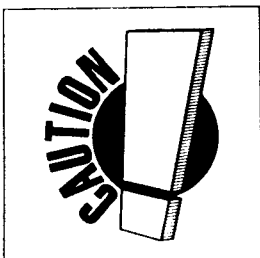
- Whenever your BRIDGE™ II's is in Sleep Mode, activate it and watch it go through Check Mode before using it to dive. Doing so helps you ensure that your BRIDGE™ II is functioning correctly and that vital parameters such as FO₂ and Altitude Rank are correctly set.
- Unless all pixels appear when your BRIDGE™ II exhibits its Full Segment Display, do not use it to dive. Doing so could cause it to display inaccurate information.

- If instead of displaying its normal Battery Indicator information, your BRIDGE™ II displays the word *LO*, or it displays fewer than five pixels, do not use it to dive. Under these circumstances, your BRIDGE™ II may not function correctly.

When Diving

- When diving Enriched Air Nitrox, always analyze your mix and enter the appropriate FO_2 value into your BRIDGE™ II. If you do not, your BRIDGE™ II cannot provide accurate information.
- For your BRIDGE™ II's OLI Bar Graph to accurately reflect your exposure to elevated partial pressures of oxygen (PO_2), you must set your BRIDGE™ II to the exact FO_2 of your breathing mixture. If you set your FO_2 to less than this, in an effort to gain more conservative No-Stop Dive Times, you must track your exposure to oxygen (CNS clock) separately, as what your BRIDGE™ II's OLI Bar Graph tells you will no longer be accurate.
- Do not “push” your BRIDGE™ II to its absolute No-Stop Dive Limits. Doing so with this—or any other dive table or computer—may substantially increase your risk of suffering Decompression Illness (DCI).
- Because so little is known about the exact causes of Decompression Illness—and because the risk of DCI appears to vary from person to person and from day to day—we do not recommend or encourage planned decompression diving. Experts believe such diving involves substantially more risk than dives made well within the No-Stop Dive Time limits.
- Although it is capable of providing mandatory decompression stop information to cover unplanned contingencies, the BRIDGE™ II is designed primarily for dives made well within the No-Stop Dive Time limits. It is not intended to be used as a decompression diving computer, or as a tool for commercial diving. Dive Rite does not recommend, encourage or endorse its use as such.
- Although the BRIDGE™ II is not intended nor designed for planned decompression, we strongly encourage that you make precautionary (“safety”) stops at the end of every dive. Such stops typically involve remaining for three to five minutes at depths of 10–20 feet/3–6 meters.





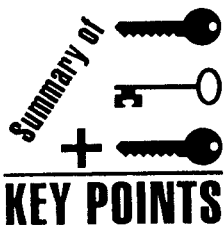
- As is true with all dive computers, the BRIDGE™ II should not be shared by two divers on a single dive, due to the fact there is no guarantee both divers will maintain identical profiles. Similarly, a single BRIDGE™ II should not be shared among divers making separate dives, as it cannot track their gas exposure separately.
- The BRIDGE™ II does not monitor a diver's gas supply. You should regularly monitor gas supply by means of a separate, submersible pressure gauge while diving and making stops.

Altitude Diving and Flying After Diving

- Do not fly in an airplane to climb to altitude until your BRIDGE™ II is no longer able to display its Surface Mode, and is able to return to Sleep Mode. Changing altitude before your body has the opportunity to rid itself of residual nitrogen increases the likelihood of suffering Decompression Illness.
- Do not make abrupt changes in altitude immediately before, between or after dives. Doing so may impair your BRIDGE™ II's ability to accurately account for changes in ambient pressure, and cause it to display erroneous information.

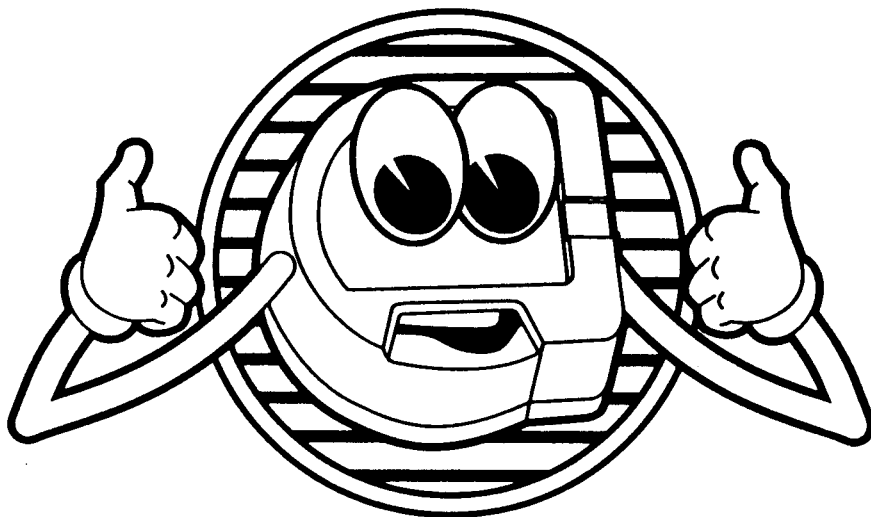
Maintenance and Care

- Do not use detergents, solvents, paints, adhesives or any other chemicals on your BRIDGE™ II. Doing so can cause it serious damage.
- Do not subject your BRIDGE™ II to pressure testing in air- or gas-filled chambers. Doing so can also cause it serious damage.



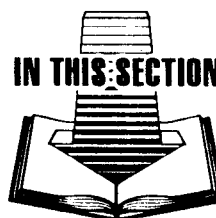
Summary of Key Points from Section 1

- Your BRIDGE™ II incorporates many powerful and sophisticated features. Because it does, you cannot learn to operate it safely and correctly unless you read and study this manual in its entirety.
- This manual incorporates several unique design features that will help you get the most from it and your BRIDGE™ II.
- There are several things you must either do, or avoid doing, to make using your BRIDGE™ II as safe as possible.



Section 2: Getting Started

At this point, you are probably eager to start using your BRIDGE™ II. Great! If you have not already done so, however, it is *very important* you read all of Section 1, as it contains vital information that will help you get the most from this and other *Owner's Manual* sections.



- The Display Modes Concept 2-2
- Activating Your BRIDGE™ II 2-5



What you should be able to do after reading this section:

- Explain how your BRIDGE™ II uses various display modes to present vital information.
- Use your BRIDGE™ II's three primary contacts to awaken it from Sleep Mode, and to set its FO₂ to 21 percent (air).

Why you will find this of value:

- Your understanding of your BRIDGE™ II's display modes is among the keys to using it safely and successfully.
- These abilities will also help you get your BRIDGE™ II ready to go diving.

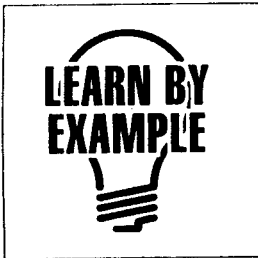
GOALS



In this section, we will explain the concepts behind your BRIDGE™ II's various *display modes*, as well as give you step-by-step instructions on how to activate your BRIDGE™ II, and set its *Fraction of Oxygen* (FO₂) to 21 percent (air).

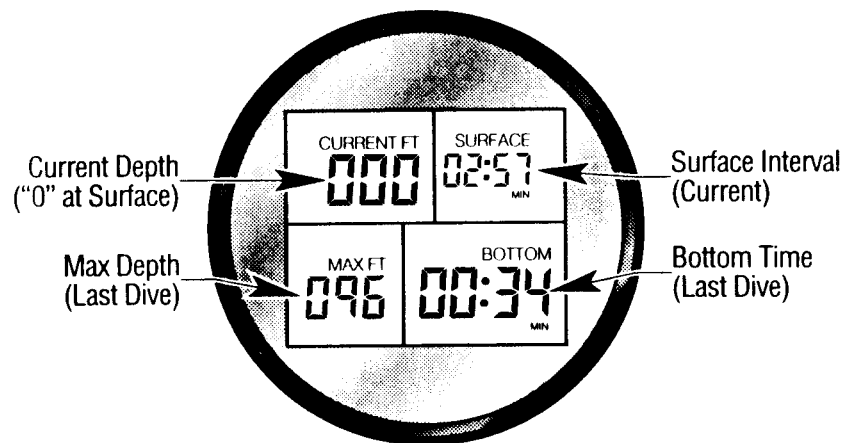
The Display Modes Concept

Among the most important things you need to understand about using your BRIDGE™ II is the concept of *display modes*. Depending on which mode it is in, your BRIDGE™ II will display widely varying types of data. Here is an example will help explain what these display modes are and why they exist.



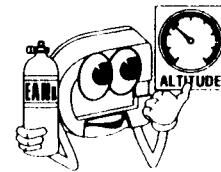
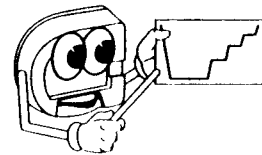
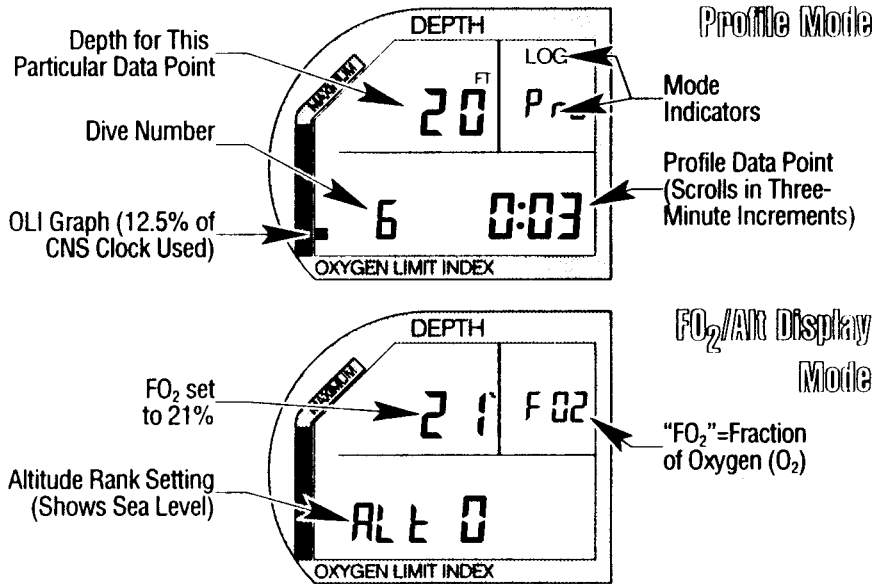
A Good Example

Consider, for a moment, a simple electronic dive timer and depth monitor, such as the one shown below. Whether on the surface or under water, this type of instrument will display basically the same information, in the same location, at all times.



Simple Depth/Time Monitor

In contrast, your BRIDGE™ II can display vastly different information, depending on which *mode* it is in. Below are two of your BRIDGE™ II's display modes. As you can see, in each mode, the BRIDGE™ II's face shows entirely different data.

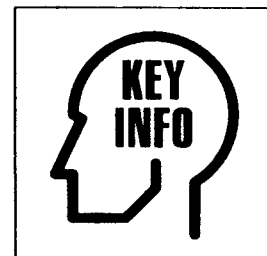


Unlike the simple depth monitor/timer shown on page 2-2, your BRIDGE™ II is capable of displaying much more information than could possibly fit on its face at one time. Thus, to help keep this information organized and accessible, your BRIDGE™ II utilizes over ten different displays.

How do you know which display is which? How do you get from one display mode to another? That's what this, and subsequent sections of your BRIDGE™ II *Owner's Manual* are largely about.

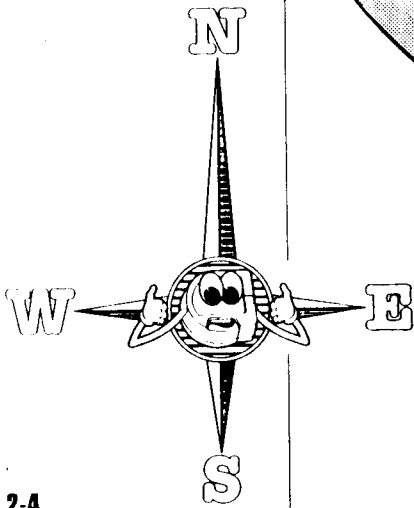
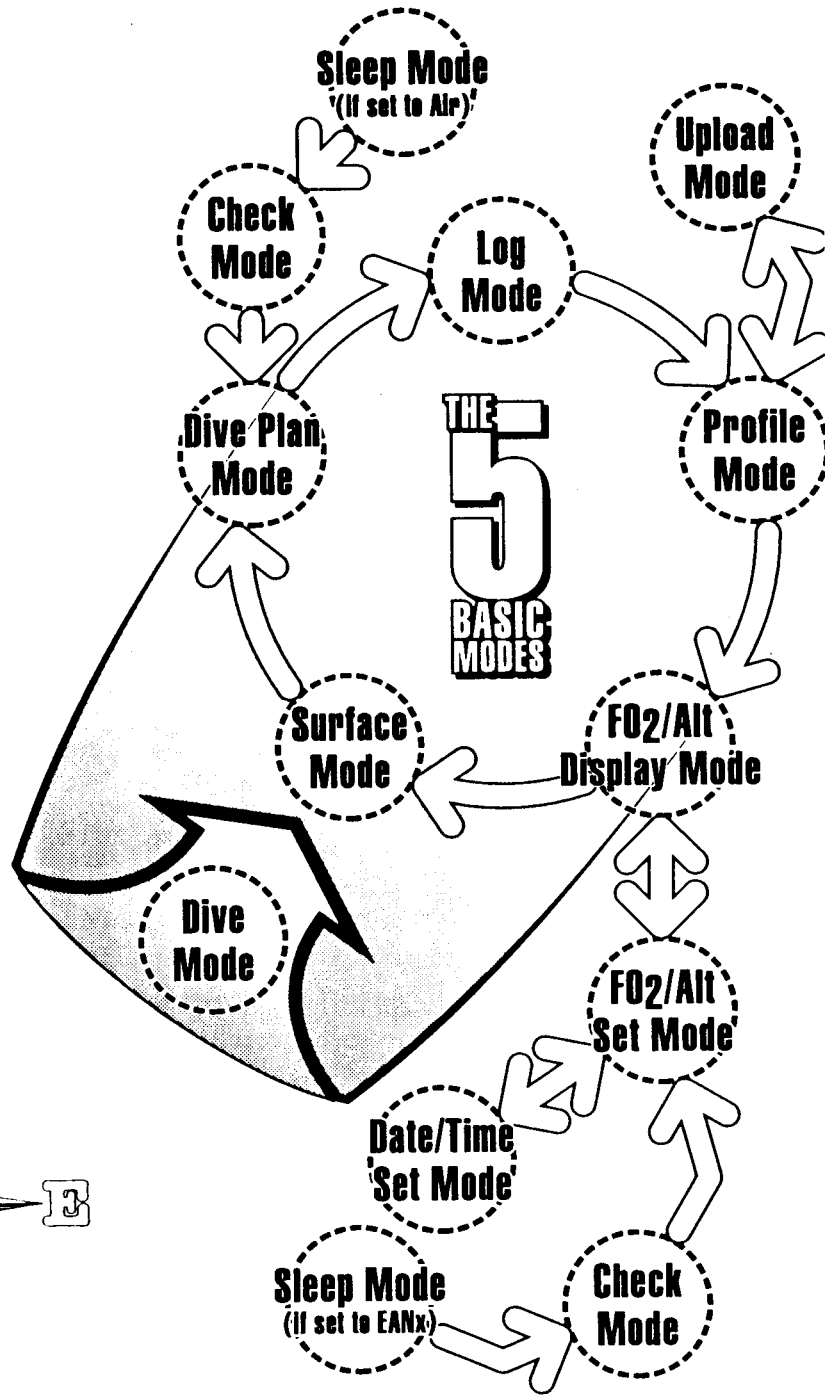
Learning Tools

To help you learn the function of each of your BRIDGE™ II's display modes, we use detailed illustrations, such as those appearing at the top of this page. We even provide symbolic representations of each mode, such as those shown on the right-hand side of this page, to help you learn to associate each of these display modes with their basic function.



"The" Map

The Master Guide
to Navigating
Your BRIDGE™ II



To help you learn to navigate from one mode to another, we provide the most basic navigation tool of all—a map (see opposite page). As we explain how to get to each of your BRIDGE™ II's various modes, we'll also show you the path you will follow on this map, as we do in the example on the right.

At first glance, navigating your BRIDGE™ II may appear complicated. However, after reading this section, following the examples it provides and trying the various exercises it outlines, you will discover that navigating your BRIDGE™ II is really a simple and intuitive process.

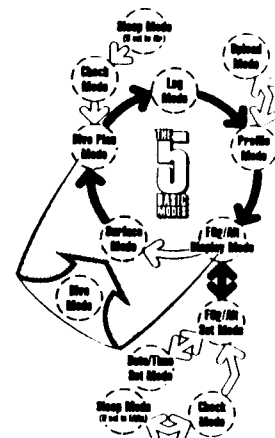
Activating Your BRIDGE™ II

Among the first questions any new BRIDGE™ II owner will have is, "How do I turn this thing on?" This what the balance of Section 2 addresses. We will begin by giving you a brief overview of what happens when you activate your BRIDGE™ II. We will then go through each step in greater detail.

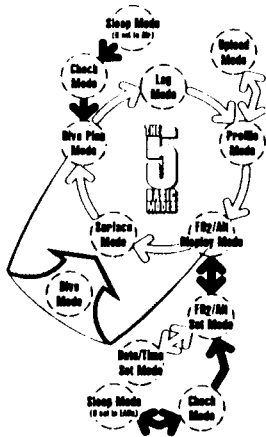
Overview

Here is a summary of what happens when you activate your BRIDGE™ II.

- You begin by "awakening" your BRIDGE™ II from its "Sleep" (Battery Saver) Mode by momentarily touching contacts *A* and *B*.
- Your BRIDGE™ II now enters Check Mode. This is your opportunity to make certain your BRIDGE™ II is functioning properly, prior to taking it under water, and to further ensure that vital parameters such as date, time, Fraction of Oxygen (FO₂) and Altitude Rank are set properly.

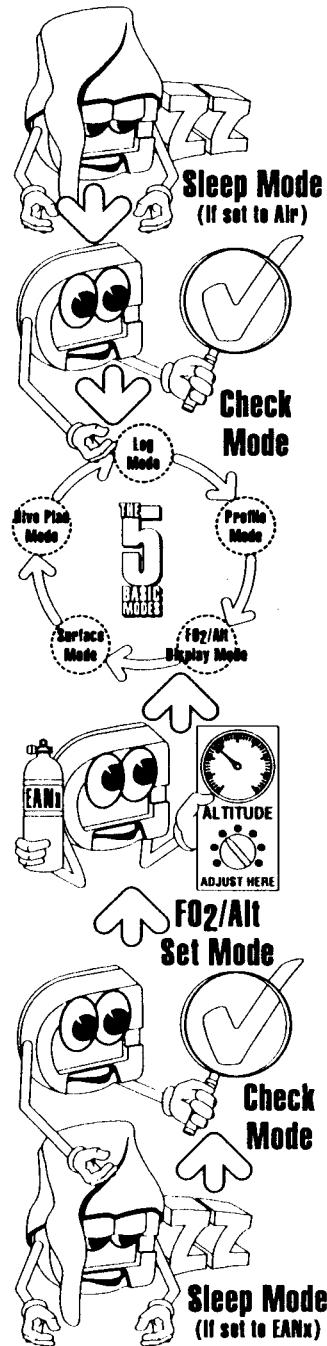


This map shows how you would get from Surface Mode to FO₂/Alt Set Mode



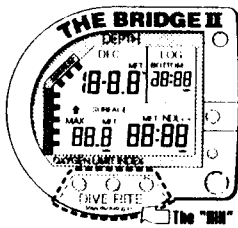
- The first thing you will see as you enter Check Mode is your BRIDGE™ II's Full Segment Display—a way of checking that all of the displays *pixels* (picture elements) are functioning properly.
- The next thing you see is your BRIDGE™ II's Battery Saving Indicator, which tells you approximately how much battery life you have remaining.
- Following this, you see the RAM (Random Access Memory) Indicator Displays. These tell you how much memory is being used to store dive information, and how much is available to store information on upcoming dives.
- Next your BRIDGE™ II will display its current date and time settings, so that you can make sure these are accurate.
- Finally, you will see your BRIDGE™ II's current FO₂ and Altitude Rank settings.

If you have previously entered an FO₂ value, and your BRIDGE™ II is holding this setting, it will complete its Check Mode functions and advance to Dive Plan Mode—one of the Five Basic Modes we cover in Section 3. If, on the other hand, your BRIDGE™ II is not currently holding an FO₂ setting (what we call being in *Default Mode*), you will have the opportunity to enter an FO₂ setting at this point.



Using Your BRIDGE™ II's Three Primary Contacts

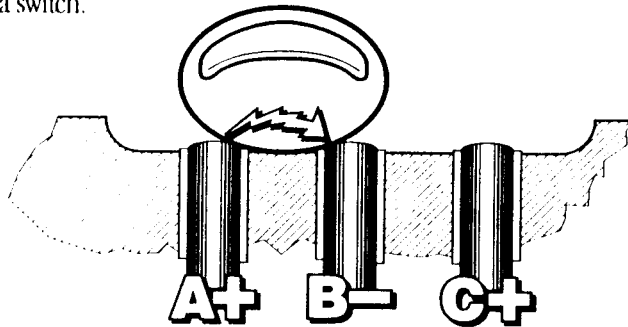
At the bottom of your BRIDGE™ II is an area we refer to, affectionately, as *The Hill*



Contained within *The Hill* are three electrical contacts. For simplicity, we refer to these contacts as *A*, *B* and *C*.

How do these contacts work? Contacts *A* and *C* are positive poles. Contact *B* is a ground.

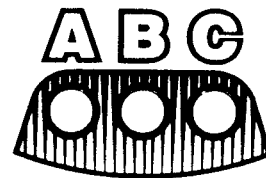
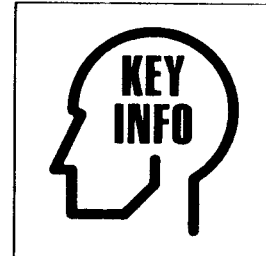
By touching *A* and *B*, or *C* and *B* simultaneously, you cause micro voltages of electricity to go from one contact to another. These, in turn, activate relays within your BRIDGE™ II's internal circuitry. The result is the same as throwing a switch.



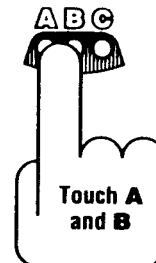
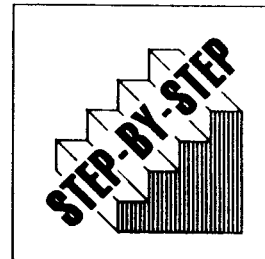
By touching your BRIDGE™ II's three primary contacts, in various combinations, you can not only activate your BRIDGE™ II, you can also navigate quickly from one display mode to another.

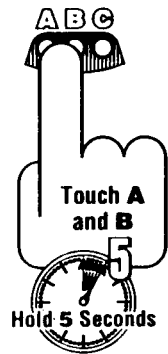
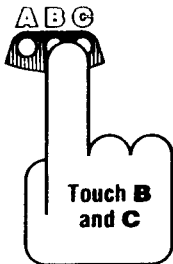
Contact Procedures—Throughout this manual, we will have you touch your BRIDGE™ II's contacts in one of six different ways. When we do, we will show you a symbol, such as those appearing here. Here is what each symbol means.

- Touch *A* and *B*—Wet your index finger, then use it to touch and cover contacts *A* and *B* simultaneously. Press down. Hold your finger in place until Something Happens. Technically speaking, this will take place at the speed of light, once solid contact occurs. Subjectively, it may *appear* to take about half a second, or less.



Note that these are electrical contacts—not push buttons





 □ *Touch B and C*—This is exactly the same as the procedure we just outlined; you simply touch contacts *B* and *C* instead. (Don't forget to moisten your fingers first.)

 □ *Touch A and B; Hold 5 Seconds*—This time, instead of touching contacts *A* and *B* momentarily, you are going to hold your finger in place for at least five seconds. It helps to count out loud what doing so—you know, “One thousand one, one thousand two...”



Ensuring Conductivity

The ability of human tissue to conduct electricity varies widely, depending on circumstances. Dry skin, for example, is generally a poor conductor of the micro voltages present in your BRIDGE™ II's electrical contacts. Moist skin is generally a better conductor; however, its degree of conductivity can depend largely on what you use to moisten it. If you moisten your fingers in the ultra-pure water of many springs, you may find they conduct electricity no better than dry fingers do.

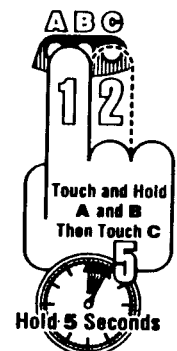
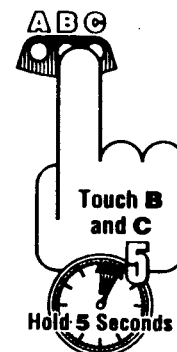
In contrast, saliva is an excellent conductor, containing salt and other minerals. As an added benefit, it is always available. The moral here is simple: *Give your fingers a good lick or two before touching your BRIDGE™ II's contacts.* By doing so, you'll help ensure the best possible conductivity. □

.....

Touch B and C; Hold 5 Seconds—At this point, you should be gleaming all you need to know simply by looking at the symbols. A good question to ask at this point is, *how will you know when five seconds is up?* Again, when five seconds has passed, Something Will Happen. That “something” will depend on what function you are trying to access.

.....

Touch and Hold A and B; Then Touch C; Hold 5 Seconds—This requires a minor amount of dexterity. After touching *A* and *B* with your index finger, and holding it firmly in place, touch *C* with your middle finger. Now hold both fingers firmly in place while counting five seconds. Again, don't release your fingers until Something Happens.



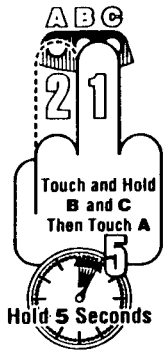
Okay, What About Those Other Two Contacts?

If you are wondering what those other two contacts on the right-hand side of your BRIDGE™ II's face are, here is your answer. They are what we call the *dive switch*.

When you go under water, you automatically short contacts *A*, *B* and *C* simultaneously. To help your BRIDGE™ II differentiate this from your trying to activate a particular display mode, we provide these two additional contacts. Only when current flows between all five contacts does your BRIDGE™ II decide that it may really be going for a dive. To confirm this, however, the pressure transducer on the side of your BRIDGE™ II must sense a pressure change of at least 5.0 feet/1.5 meters.

As an additional function, one of the two “dive switch” contacts is also used in uploading data to a personal computer running BRIDGE™ Windows™ software, using the optional Personal Computer Interface.

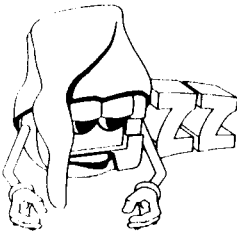




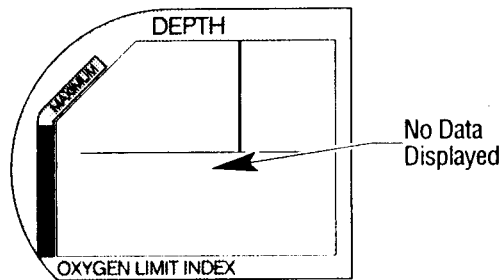
☐ *Touch and Hold B and C; Then Touch A; Hold 5 Seconds*—This is the opposite of the procedure we just described. The difference is, you begin by touching *B* and *C* with your middle finger (and, *no*, there is nothing symbolic going on here). Then touch *A* with your index finger. Hold everything in place for five seconds—and don't release them until Something Happens on your BRIDGE™ II's display.

Sleep Mode

When you first take it from its box, your BRIDGE™ II will most likely look this:



Sleep Mode



You might logically assume this lack of displayed data means your BRIDGE™ II is turned off. It is not. In fact, *there is nothing you can do to your BRIDGE™ II to turn it "off"*—unless, after extensive use, the battery finally dies.

When your BRIDGE™ II is not displaying data, it is in what we call *Sleep (Battery Saver) Mode*. Even though it appears to be turned off, your BRIDGE™ II will still be performing several functions. Among them, your BRIDGE™ II will sample the time, altitude and battery level every ten minutes. Your BRIDGE™ II will go into Sleep Mode:

☐ Whenever its algorithm calculates that, following a previous dive, the partial pressure of nitrogen in your body's tissues has effectively returned to a "normal" level, based on ambient atmospheric pressure. (Were you using dive tables, this would be comparable to having no more RNT—Residual Nitrogen Time.)

Why Can't I Turn This Thing Off?

Why is your BRIDGE™ II always "on?" Perhaps these stories will explain it best.

- Ten years ago, an instructor acquaintance of ours told us of being on a dive boat with the owner of one of the first commercially available dive computers—a unit that resembled an aluminum brick and which had a large *on/off* switch on the back. Shortly after the first dive, the instructor observed the computer owner using this switch to turn the unit off, then restart it. When asked why he was doing this, the diver replied, "It gives me more bottom time this way."

Dive computers, of course, possess no magical power to "give" divers more bottom time. All this diver was doing was foolishly erasing important residual nitrogen information from his computer's memory. Of course, without this information, the computer could not give accurate estimates of allowable No-Stop Dive Time for subsequent dives. The diver's computer might *appear* to give more optimistic bottom times; however, all the diver had accomplished by resetting his computer was to increase the odds of his having to make an expensive trip to the chamber.

- A graduate of one of Florida's many "30-day-wonder" instructor schools was leading her first group of certified divers on a guided dive along the outside wall of Molokini Crater off Maui's southwest coast. Had she paid closer attention to her computer's owner's manual, she would have realized how important it was to push its prominent *Start* button before entering the water.

Instead, she waited until she reached a depth of 40 feet to notice that her computer was not "on." At this point, she blithely pushed its *Start* button and continued to descend. By the time the computer "woke up" and put itself through its check routine, the instructor and her group was now considerably deeper. At this point, the computer sensed the ambient pressure and decided that a depth approaching three atmospheres absolute was the same as sea level.

The planned maximum depth of the dive was to be 65 feet (roughly 20 meters). By the time the new instructor's computer indicated this depth, her actual depth was over twice as deep. Fortunately, most of the divers she was guiding had the good sense to check their own depth gauges and not follow the instructor on her blissfully ignorant descent.

... continues, next page





□ If, after “awakening” your BRIDGE™ II from Sleep Mode, you do not take it in the water or touch any of its contacts for a period of several minutes, it will return to Sleep Mode. What do we mean by “several minutes?” If your BRIDGE™ II is in its *Default Mode*, described in Section 4, it will return to Sleep Mode after approximately two minutes of inactivity. If you have previously set your BRIDGE™ II's FO₂ to 21 percent, or to another percentage any time after midnight, it will return to Sleep Mode after approximately five minutes of inactivity. Again, this will only happen if your BRIDGE™ II calculates that there is no significant residual nitrogen present in your system from previous dives.

To help prevent the sort of accident described in the accompanying story, your BRIDGE™ II is capable of going instantly from Sleep Mode to *Dive Mode*, without having to go through a lengthy self-test procedure. Nevertheless, you should still put your BRIDGE™ II through its *Check Mode*, which we describe next, any time it goes to “sleep.”



Why Can't I Turn This Thing Off?

... continued from page 2-9

Incredibly, neither the water color, nitrogen narcosis nor rapid air consumption alerted this novice dive guide/instructor that her computer was in error. She simply assumed that, because her computer told her she was no deeper than 65 feet, that was how deep she really was. After her fourth dive of the day, the new instructor was puzzled why she felt “funny.” She spent the next five days in the recompression chamber in Honolulu, her new career ended for good, less than two weeks after it started.

These two stories illustrate why your BRIDGE™ II cannot be turned off. By having a dive computer that is always on, whether “awake” or in Sleep Mode, you help minimize the possibility of losing important residual nitrogen data, or going under water with a computer that is not instantly ready to start diving.

These stories also illustrate an equally important point: *Only a fool assumes that an electronic or mechanical device will never fail.* That's why, as reliable as we feel your BRIDGE™ II is, we still recommend you back it up with additional instrumentation and dive tables—and a healthy dose of common sense. □

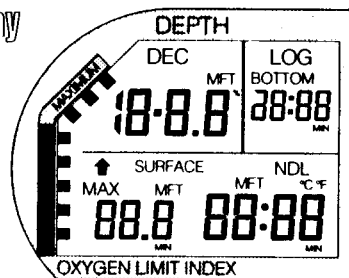
Check Mode

Unless you are in the midst of setting parameters such as date, time, altitude or Fraction of Oxygen (FO₂), or have your BRIDGE™ II set to upload data to a personal computer, you can take it under water and start diving immediately. Nevertheless, to ensure that your BRIDGE™ II is functioning correctly, and that its FO₂ is set to the correct percentage, you should first “awaken” it and allow it to go through its *Check Mode*. This takes only about 40 seconds, so it is hardly an inconvenience.

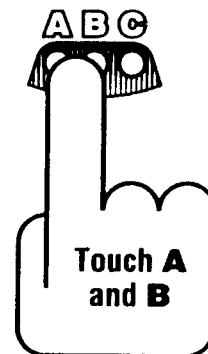
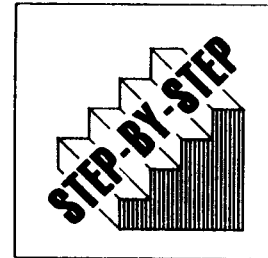
Activating Your BRIDGE™ II—Activating your BRIDGE™ II (“awakening” it from Sleep Mode) is simply a matter of touching contacts *A* and *B* simultaneously. (Do this now if you'd like. You can't hurt anything. Just understand that your BRIDGE™ II will go through its Check Mode faster than you can read about what is happening, and then—after a few minutes—go back to sleep.)

Full Segment Display—As soon as you “awaken” your BRIDGE™ II, the very first thing you will see is what we call the *Full Segment Display*. This display will remain on the screen approximately three seconds.

Full Segment Display

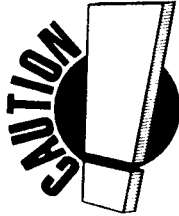


The Full Segment Display gives you the opportunity to make sure all of the *pixels* (picture elements) of your BRIDGE™ II's LCD (Liquid Crystal Display) are functioning properly. If, for some reason, they are not, *do not use your BRIDGE™ II to dive*. Return it, instead, to your local Dive Rite dealer for service.

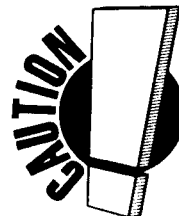


A graphic with the word "CAUTION" written in a curved path around a warning symbol (a triangle with an exclamation mark).

Important—Unless all pixels appear during your BRIDGE™ II's Full Segment Display, *do not use it to dive*. Doing so could cause your BRIDGE™ II to display *inaccurate information* and lead to *serious personal injury*.

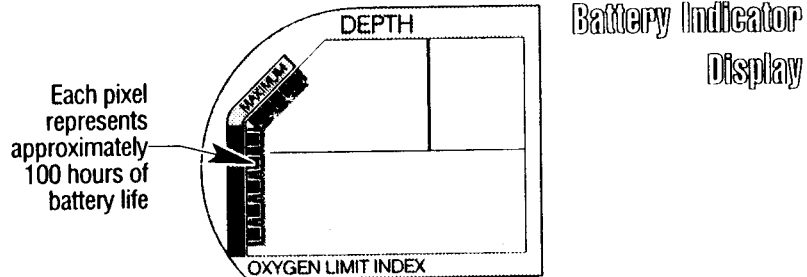


Important—Whenever your BRIDGE™ II is in Sleep Mode, activate it and watch it go through Check Mode before using it to dive. Doing so helps you ensure that your BRIDGE™ II is functioning correctly and that vital parameters such as FO₂ and Altitude Rank are correctly set.



Important—If instead of displaying its normal Battery Indicator information, your BRIDGE™ II displays the word *LO*, or fewer than five pixels, *do not use it to dive*. Under these circumstances, your BRIDGE™ II *may not function correctly*. Using it, therefore, could lead to *serious personal injury*.

Battery Indicator Display—The next thing you will see, after your BRIDGE™ II goes through its Full Segment Display, is its *Battery Indicator Display*. It, too, will last for about four seconds.



During its Battery Indicator Display, your BRIDGE™ II will show from one to eight square pixels along the left-hand side of its face. These pixels will flash about once every second.

Each pixel represents one unit of battery life. When new, your BRIDGE™ II's Battery Indicator Display should show eight pixels during Check Mode. Over time, the Battery Indicator Display will show fewer and fewer pixels. Eventually, when there is not sufficient battery life left to dive safely, your BRIDGE™ II may display the word *LO* instead of its Battery Indicator Display. At this point, none of your BRIDGE™ II's other functions will operate and you will not be able to use it for diving. (This may happen even before the word *LO* first appears, if fewer than five pixels show up during Check Mode.)

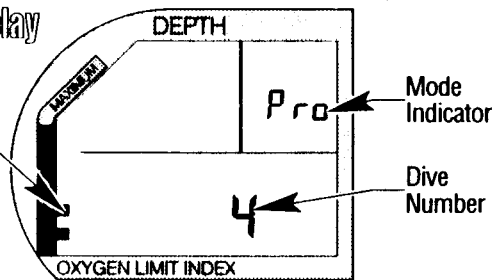
Well before this happens, you should return your BRIDGE™ II to your local Dive Rite dealer to arrange for battery replacement. This is covered in greater detail in Section 7. How long BRIDGE™ II's battery last will depend on how frequently you use it. If you were to not use it at all, the battery might last more than two years. On the other hand, if you dive so frequently that your BRIDGE™ II never goes into Sleep Mode, the battery will not last as long.

RAM Indicator Displays—The next set of displays your BRIDGE™ II will provide as part of its Check Mode shows how much of its *Random Access Memory* (RAM) is devoted to previous dives. Your BRIDGE™ II can store data on up to six previous dives. The total length of all these dives combined, however, cannot exceed six hours. For example, if your last three dives were each two hours in length, your BRIDGE™ II's RAM would not have sufficient capacity to store information on any more dives than these last three.

This is what a RAM Indicator Display looks like:

RAM Indicator Display

Two pixels, indicating approximately one hour of RAM used for dive number 4



Your BRIDGE™ II will show up to six of these in succession, depending on how many dives are currently stored in RAM.

So...?

Okay. What the heck would you ever need this information for? Let's say that, like the good diver you are, you keep a record of your dives. (This is called a *log book*—right?) Perhaps you maintain your log by uploading data from your BRIDGE™ II to your personal computer using BRIDGE™ Windows™ software and the optional Personal Computer Interface. Or, perhaps you simply put your BRIDGE™ II into its *Log* and *Profile Modes* (described in Section 3) and write down the data you see there by hand. In either instance, it is unlikely you will be able to upload or transfer data immediately after every dive. In fact, depending on circumstances, you might go a day or more without doing so.

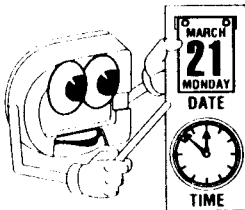
Now, let's say you've gone four or more dives without saving this data. During Check Mode, you note that your BRIDGE™ II is currently storing data on your last five dives. You total up the amount of RAM devoted to each of these dives and see that your upcoming dive will erase the two oldest dives from memory—one of which you have no record on. What you realize now is that, if you want to capture data on these dives, you better do so before jumping in the water.

Is capturing this data really *that* important? It is to many divers—especially given the fact log books are likely to play an increasing role in the recognition of diver skills and abilities. The day is coming when dive operators will care more about what is in your log book than they will about the fancy collection of C-cards you've acquired. Your BRIDGE™ II gives you the ability to develop a fairly impressive dive log—but only if you use it. □

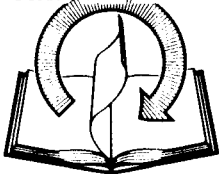


The 24-Hour Clock

12:00 PM	12:00 hours
1:00 PM	13:00 hours
2:00 PM	14:00 hours
3:00 PM	15:00 hours
4:00 PM	16:00 hours
5:00 PM	17:00 hours
6:00 PM	18:00 hours
7:00 PM	19:00 hours
8:00 PM	20:00 hours
9:00 PM	21:00 hours
10:00 PM	22:00 hours
11:00 PM	23:00 hours
12:00 AM	24:00 hours



FIND OUT MORE

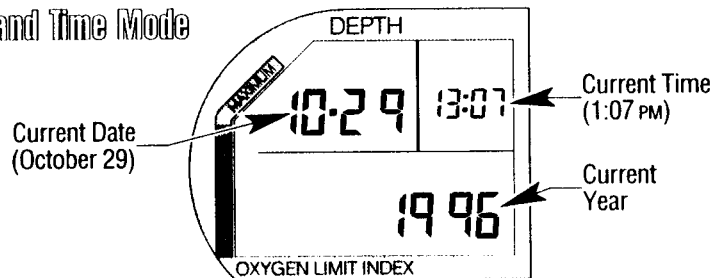


Learn to set date and time on pages 4-11 to 4-14.

- The number 1 indicates the least recent (oldest) dive stored in RAM; the last number shown will be the most recent dive.
- The individual display for each of the stored dives will last about four seconds.
- The pixels along the left-hand side of the screen indicate the amount of RAM used for each dive. Each pixel represents approximately 30 minutes of the available six hours of memory.
- As the greatest number of pixels your BRIDGE™ II can display is eight, the proper number of pixels for a dive greater than four hours in length (Ulp!) cannot be displayed. Assuming you ever make such a dive, all your BRIDGE™ II will be able to do is display all eight of its available pixels. (Hey, inquiring minds want to know...okay?)

Data and Time—After going through its RAM Indicator Displays, the next thing your BRIDGE™ II will show you, as part of its Check Mode, is its current data and time settings. This, too, will last about four seconds. Here is what you will see:

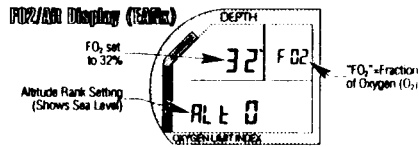
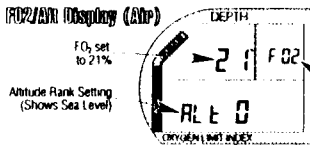
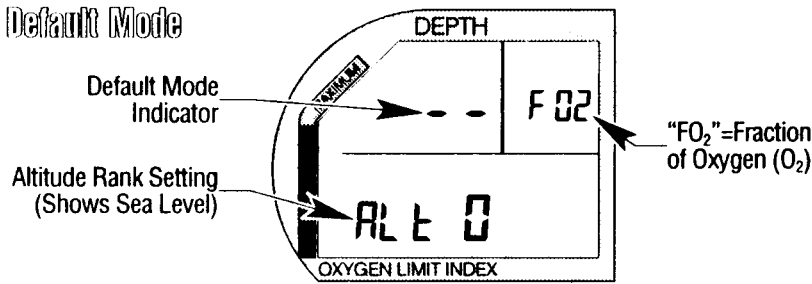
Date and Time Mode



Note that your BRIDGE™ II displays time using the 24-hour, military clock; i.e., 1:00 PM appears as 13:00 hours. If the displayed date and time is correct, fine. If it is not, we'll explain how to change it later on in Section 4.

FO₂/Alt Mode—As the final step in its Check Mode, your BRIDGE™ II will display its current *Fraction of Oxygen (FO₂)*/*Altitude Rank* settings. Exactly what you will see will depend on several factors. For example, you might see:

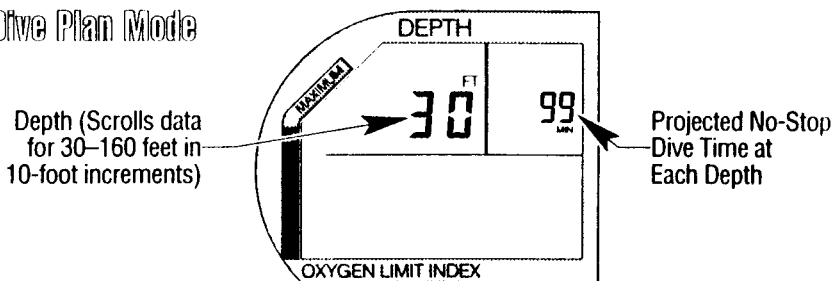
Default Mode



If your BRIDGE™ II looks like either of the lower two examples, it will display this information for approximately four seconds, then advance to what we call *Dive Plan Mode*. This is one of its *Five Basic Modes* described in Section 3. If, on the other hand, your BRIDGE™ II looks like the top display, there are some things you will need to do before we can continue.

.....
 If you have not done so already, activate your BRIDGE™ II now by touching contacts *A* and *B* simultaneously. Watch as your BRIDGE™ II goes through each of the steps just described. If your BRIDGE™ II ends up in Dive Plan Mode (possible—but not likely—at this point), as shown here, you can skip directly to page 3-1.

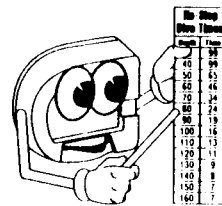
Dive Plan Mode



FIND OUT MORE

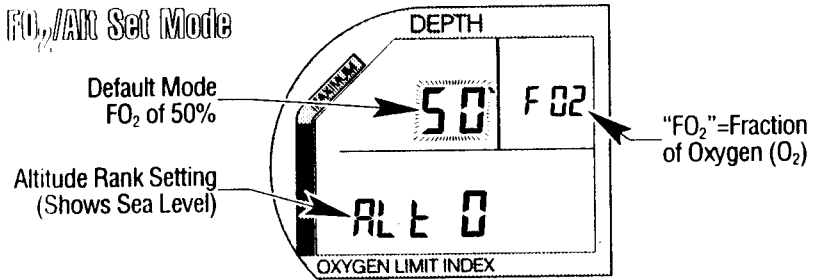
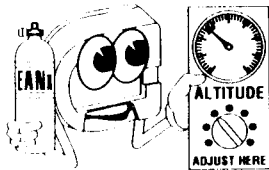
Turn to page 3-1 to find out more about your BRIDGE™ II's *Five Basic Modes*.

TRY THIS NOW



If this is the first time you've played with your BRIDGE™ II, it is more likely that, after going through Check Mode, it will end up in Default Mode (as shown earlier). Approximately four seconds later, it will go into *FO₂/Alt Set Mode* (shown here.)

FO₂/Alt Set Mode

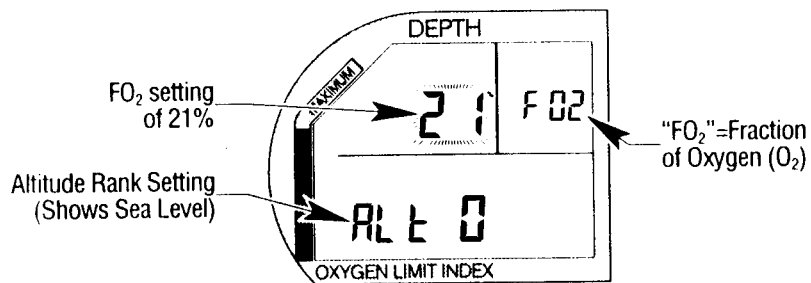


If your BRIDGE™ II looks like this, you need to set it for air (an FO₂ of 21 percent) before continuing. This is just a temporary action, so that you will be able to follow the examples and exercises appearing in the balance of this section. In Section 4, we will show you how to set your BRIDGE™ II for FO₂s other than 21 percent.

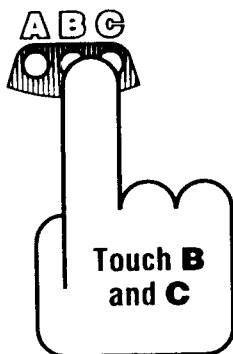
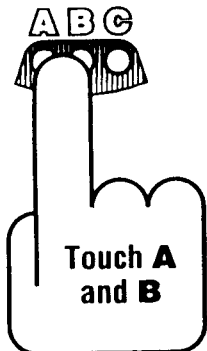
Setting Your BRIDGE™ II for Air

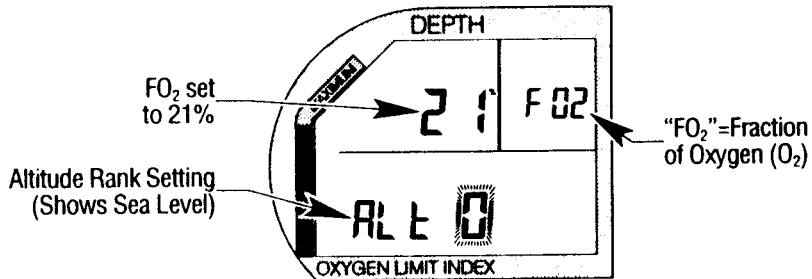
If your BRIDGE™ II has gone to sleep while you've been reading the last several paragraphs, simply restart it and wait about 40 seconds. After completing its Check Mode, your BRIDGE™ II's face should again like the example at the top of the page. Now it is time to follow these steps:

1. Touch contacts *A* and *B* once. Your BRIDGE™ II should now look like this:

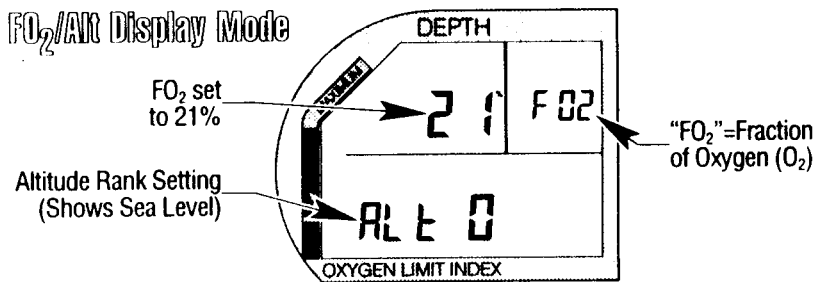


2. Now touch and hold contacts *B* and *C* simultaneously. The number *21* will stop flashing and the *0* next to the word *ALT* will begin flashing, as shown at the top of the next page.

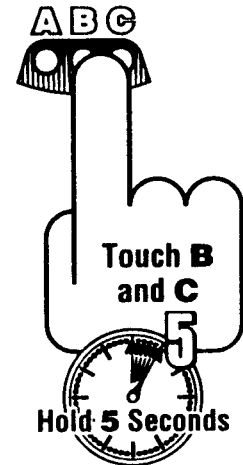




Continue holding contacts B and C for five seconds. You will know when five seconds is up because the 0 will stop flashing, as shown here:



Your BRIDGE™ II is now in *FO₂/Alt Display Mode*—one of the Five Basic Modes we discuss next. Should your BRIDGE™ II go to sleep (i.e., enter Sleep [Battery Saver] Mode) from this point on, you can reactivate it by touching contacts A and B simultaneously. About 40 seconds later—after your BRIDGE™ II completes its normal Check Mode—you will find yourself right back at this point. As we discuss in Section 5, this will be true whenever your BRIDGE™ II is set to an FO₂ of 21 percent. □



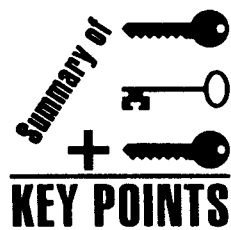
FIND OUT MORE

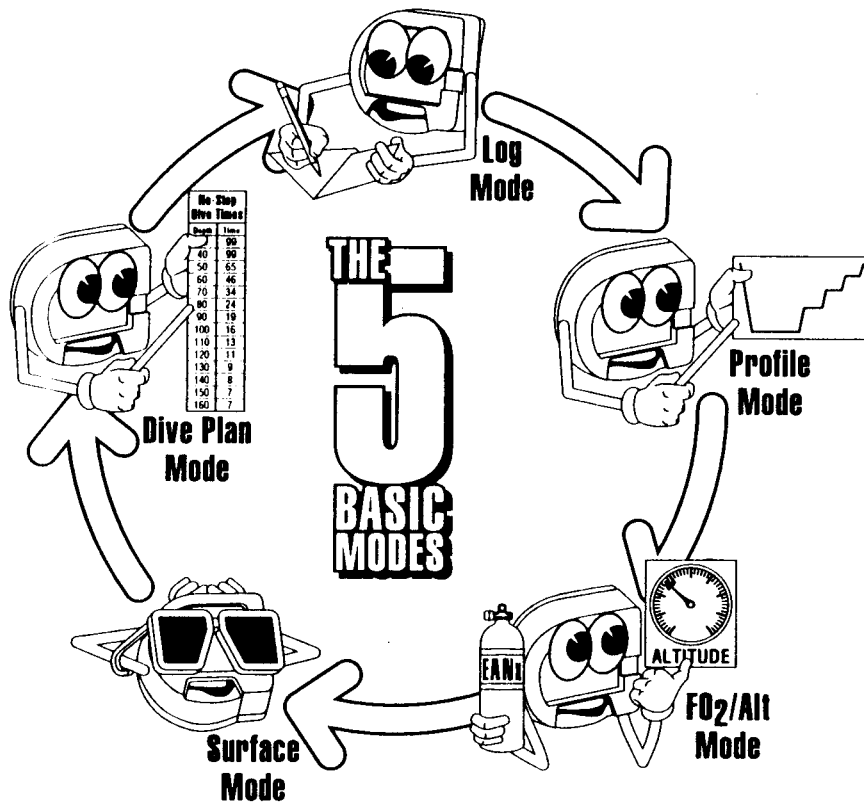
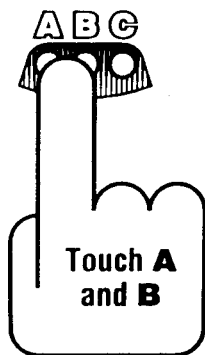
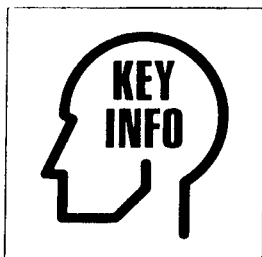


Turn to page 5-1 to find out more about diving your BRIDGE™ II while using Air.

Summary of Key Points from Section 2

- Your BRIDGE™ II uses a system of Display Modes to present a wide variety of information in a limited space.
- When you first activate your BRIDGE™ II, it puts itself through Check Mode—a function designed to help you ensure your BRIDGE™ II is working properly, and that vital parameters such as date, time, FO₂ and Altitude are correctly set.
- If you set your BRIDGE™ II's FO₂ to air, it will hold this setting indefinitely. □





"No Stop" Versus "No Decompression"

Throughout this manual, you will notice that we use the term *no-stop* in place of the more traditional adjective *no-decompression*. The most current thinking is that using the term *no-stop* is more accurate, in that *there is really no such thing as a no-decompression dive*.

Every dive you make should involve some form of decompression—even if it is limited to ascending slowly. (We discuss your BRIDGE™ II's ascent rate in Section 7.) Therefore, what really differentiates the dives you make is whether there will be a *required* decompression stop, or whether your decompression will be limited solely to a *precautionary* (safety) stop and/or a slow ascent. □


Section 3: The Five Basic Modes

Your BRIDGE™ II's *Five Basic Modes* are the heart of its navigational map. Whenever your BRIDGE™ II is neither under water nor in Sleep Mode, it will most likely be in one of these five modes. Each of these modes not only provides you with valuable information, they can also provide the pathways that help you get to where you can set vital parameters such as date, time, FO₂ and Altitude Rank.

Accessing any of the Five Basic Modes is easy. You generally start off in one of these modes by default, after activating your BRIDGE™ II, surfacing from a dive or setting parameters such as date, time, FO₂ or Altitude Rank. Then, as shown in the accompanying diagram, you can move from one mode to another simply by momentarily touching contacts *A* and *B*. Doing so allows you to *scroll* through each of the five modes until, eventually, you reach the one you want.

In this section, we will examine each of the Five Basic Modes in detail. We will tell you what information each mode provides, and give you practical examples of how you can use this information.

IN THIS SECTION



- Dive Plan Mode . . . 3-2
- Log Mode 3-4
- Profile Mode 3-6
- FO₂/Alt Mode . . . 3-9
- Surface Mode . . . 3-10

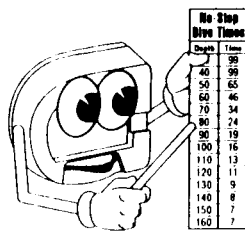
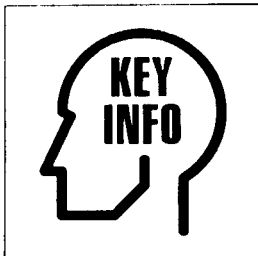
What you should be able to do after reading this section:

- Explain the function of each of the BRIDGE™ II's Five Basic Modes.
- Access any of these modes and display all of the information available in each mode.

Why you will find this of value:

- Your understanding of the BRIDGE™ II's Five Basic Modes will help you access all of the information it can provide you. Accessing these various modes is also an important step in setting parameters such as date, time, altitude and FO₂.





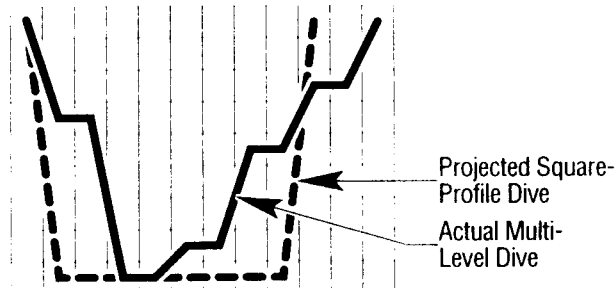
Dive Plan Mode

Prior to any no-stop (no-decompression) dive, among the most common questions divers have is, "How long can I stay down and still be within the no-stop limits?" To help answer this question, one of your BRIDGE™ II's Five Basic Modes is what we call *Dive Plan Mode*. In this mode, your BRIDGE™ II provides an estimate of how long you can stay down at depths ranging from 30 to 160 feet. This feature common to virtually all dive computers, and is generally known by the term *scrolling*.

As with other computers, the information your BRIDGE™ II provides in Dive Plan Mode assumes:

- You will descend immediately after reviewing what your BRIDGE™ II tells you about your upcoming dive.
- The dive you make will be a *square profile* dive—that is, you will descend immediately to your deepest depth and remain there for the duration of the dive.

You know that, in reality, you will most likely make a *multi-level* dive; one in which it will take several minutes to reach your deepest depth, and during which you will spend considerable time at shallower depths.



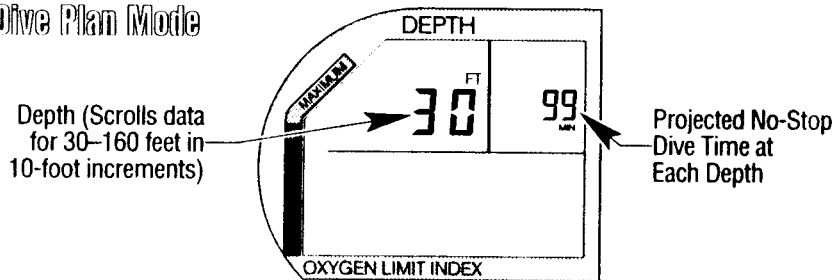
As a consequence, the times your BRIDGE™ II projects while in Dive Plan Mode will, in all likelihood, be more conservative than the No-Stop Dive Time it actually allows during the dive.

Two factors affect the No-Stop Dive Times your BRIDGE™ II projects for upcoming dives:

- Whether your BRIDGE™ II calculates that there is still residual nitrogen remaining in your system from previous dives—and, if so, how much.
- The FO₂ to which you currently have your BRIDGE™ II set.

The more residual nitrogen your BRIDGE™ II calculates there is in your system, the less No-Stop Dive Time it will allow. The higher the FO₂ to which you have set your BRIDGE™ II, the more time it will allow.

Dive Plan Mode



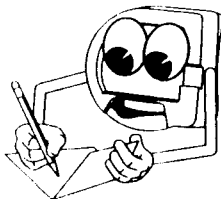
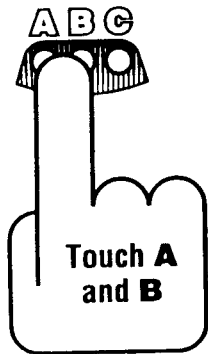
As shown in this illustration, upon entering Dive Plan Mode, your BRIDGE™ II will display the number 30, accompanied by the allowable No-Stop Dive Time it projects for this depth, based upon any residual nitrogen it calculates is present in your system, and its current FO₂ setting. If the no-stop limit your BRIDGE™ II calculates is greater than or equal to 99 minutes, it will simply display the number 99.

Depth		No-Stop Dive Time
Feet	Meters	
30	9.1	99
40	12.2	99
50	15.2	65
60	18.3	46
70	21.3	34
80	24.4	24
90	27.4	19
100	30.5	16
110	33.5	13
120	36.6	11
130	39.6	9
140	42.7	8
150	45.7	7
160	48.8	7

These are the single-dive no stop limits your BRIDGE™ II will display if set to air. If it calculates that there is residual nitrogen present, or if it is set to an FO₂ other than 21 percent, your BRIDGE™ II will display different no stop dive times.

If you are using a metric BRIDGE™ II, it will project no-stop dive times for upcoming dives in increments that correspond to its imperial (English-system) counterparts. These depths appear in the accompanying chart. This, by the way, is among the few times your metric BRIDGE™ II will betray the origin of its U.S. design. While diving, your BRIDGE™ II will display the current and max depths in even, 0.1-meter increments. If your BRIDGE™ II determines that mandatory decompression stops are required, it will calculate and display those stops in even, three-meter increments. □





Four seconds after entering Dive Plan Mode, the display will change and show you the projected No-Stop Dive Time for 40 feet. Every four seconds thereafter, you will see the projected No-Stop Dive Time for the next greater, ten-foot depth increment. This will continue until your BRIDGE™ II reaches 160 feet; it will then scroll back to 30 feet and repeat the cycle until you advance to another mode, take your BRIDGE™ II diving or allow it to enter its Sleep Mode.

.....
 Activate your BRIDGE™ II. If you have followed the directions in the preceding section, it should already be set to an FO₂ of 21 percent (air), or to some other FO₂ setting other than its Default Mode. If you have not done this, return to Section 2 and follow the directions outlined there before proceeding further.

Assuming you have followed the directions outlined previously, once activated, your BRIDGE™ II should take about 40 seconds to put itself through Check Mode, then end up in Dive Plan Mode. If it does not end up in Dive Plan Mode, press contacts A and B repeatedly, until you reach Dive Plan Mode.

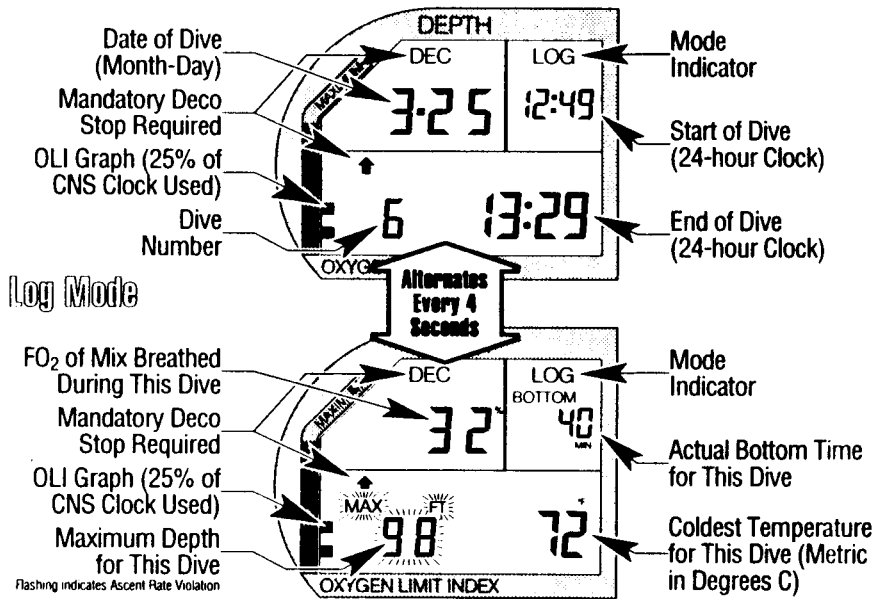
Upon arriving in Dive Plan Mode, watch your BRIDGE™ II while it displays projected No-Stop Dive Times for the dive it thinks it is about to make. You should find that its behavior matches the description you've just read.

Log Mode

Your BRIDGE™ II's *Log Mode* enables you to recall and display key information regarding all the dives stored in its RAM (Random Access Memory). This information includes date, bottom time, max depth, FO₂ and more. A complete depiction of all the information displayed in Log Mode appears at the top of the facing page.

As you can see, there is more information than can be displayed on a single screen. Therefore, every four seconds while in Log Mode, your BRIDGE™ II will alternate between displays, as shown on page 3-5.

Upon entering Log Mode, your BRIDGE™ II will display information on the most recent dive in its memory. Remember that, depending on how much RAM (memory) is allocated to each dive, there may be data on up to six dives stored in memory. In the example appearing on the facing page, the most recent dive is dive number 6.



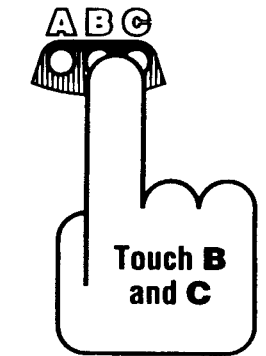
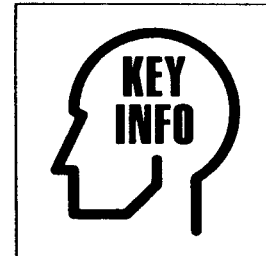
Log Mode

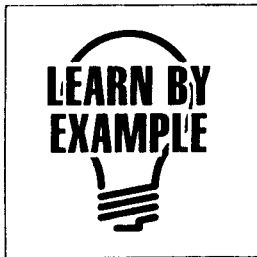
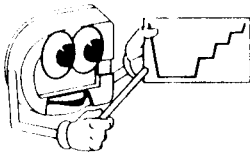
To access data on previous dives, momentarily touch contacts *B* and *C*. Each time touch *B* and *C*, your BRIDGE™ II will advance to the dive previous to the one displayed. This will continue until you finally reach dive *1*. At this point, touching *B* and *C* will take you back to the information on your most recent dive, which appeared when you first entered Log Mode.

.....
 If it is not already "awake," activate your BRIDGE™ II. Allow it to go through its Check Mode. Assuming that you have previously set the FO₂ as outlined in Section 2, your BRIDGE™ II should end up in Dive Plan Mode.

Touch contacts *A* and *B*. Your BRIDGE™ II should advance to Log Mode. Even if it is brand new, your BRIDGE™ II should have data on at least one test dive stored in its memory. Examine this data; see how it compares to the examples shown here in your BRIDGE™ II *Owner's Manual*.

If your BRIDGE™ II's display shows that there is data from more than one dive stored in memory, touch contacts *B* and *C* to examine this information. If, on the other hand, there is just a single test dive stored in memory, make a mental note to explore this feature again, after you have made one or more dives with your BRIDGE™ II.





Profile Mode

Your BRIDGE™ II's *Profile Mode* enables you to access even more detailed information on the dives stored in its memory (RAM). When in Profile Mode, you will be able to see—in three-minute increments—exactly how deep you were during your most recent dives. Here is an example that will better explain exactly how your BRIDGE™ II's Profile Mode Works.

.....
 Let's say your BRIDGE™ II is currently storing data on your last six dives in RAM. You are in Log Mode, examining data from your most recent dive, which your BRIDGE™ II refers to as dive 6.



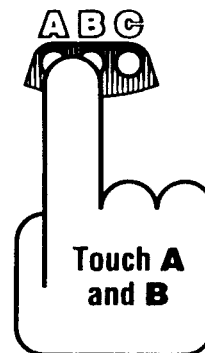
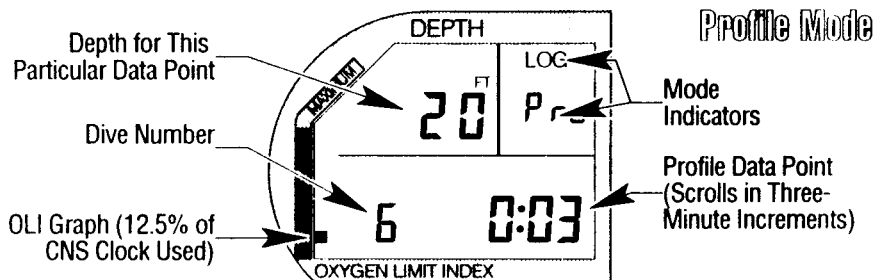
What is Profile Mode Good For?

The ability to access data concerning previous dive profiles is entertaining, to say the least—but what is it *really* good for? Here are a few examples:

- Two buddies dive seemingly identical profiles. Their BRIDGE™ IIs are both set to the same FO₂. Nevertheless, toward the end of the dive, their BRIDGE™ IIs give slightly differing information concerning the remaining No-Stop Dive Time. Are one or both of the BRIDGE™ IIs in error? By examining the dive profile data from both BRIDGE™ IIs, the buddies determine that—although they thought they stayed very close together—there is sufficient difference between their profiles to account for the variance in No-Stop Dive Time. (This is also an excellent example of why two divers should never share a single computer.)
- A dive instructor is conducting a class. Her ability to show students graphs from previous dives aids in their understanding of multi-level and computer diving.
- A diver suffers symptoms of decompression illness (DCI) following a dive that appeared to be within the no-stop limits. The ability to obtain precise depth and time information for the entire, multi-level dive helps doctors better understand what is going on.

The easiest and best way to obtain and record profile data from your BRIDGE™ II is upload it to a desktop or laptop PC, using the optional BRIDGE™ Windows™ software and personal computer interface. This is not always possible or practical.

By momentarily touching contacts *A* and *B*, you advance from Log Mode to Profile Mode. As you enter Profile Mode, the time in the lower, right-hand corner of the display reads 0:00, representing a *Profile Data Point* time of 0 hours, 00 minutes into the dive. Within four seconds, however, time advances to 0:03, as shown here:

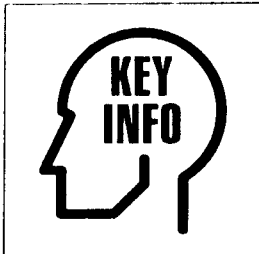


When it is not, the ability to access this information “manually” can be very helpful. Here are some examples:

- A diver suffers a hardware failure with his BRIDGE™ personal computer interface (his three-year-old decides to play computer technician in Daddy's absence and bends several of the pins at one end of the serial cable). While it is being replaced, the diver enters profile data from recent dives by accessing his BRIDGE™ II's Profile Mode, and keying the data displayed into his BRIDGE™ Windows™ software manually.
- A traveling diver spends a week on a liveaboard dive vessel. During this time, she makes over two dozen dives—a number that far exceeds her BRIDGE™ II's RAM capacity. Therefore, at the end of each day, she puts her BRIDGE™ II into its Log and Profile Modes and records the data from the day's dives on paper (her BRIDGE™ Windows™ software actually outputs “Travel Sheets” that make it easy to record this data). When she returns home, she keys this information in her PC so that it is not lost.

The ability to access and record detailed dive profile information is entertaining and informative. It gives us a very graphic “picture” of our dives that may not be available any other way. It helps answer questions that might otherwise remain mysteries. And, should the unforeseen happen, it can provide critical data to hyperbaric facility operators and other medical personnel. □

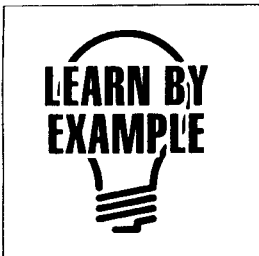




What this display tells you is that, at three minutes into dive 6, you were at a depth of 20 feet. Every four seconds, from this point on, the Profile Data Point time will advance by three minutes. What this shows you is your depth profile for the entire dive, in three minute increments.

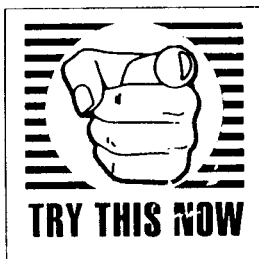
The display will continue to *scroll*, in three-minute increments, until the depth profile for the entire dive has been displayed. The display will then return to the Profile Data Point time of 0:00, and the cycle will repeat itself.

As is true while in Log Mode, momentarily touching contacts B and C will enable you to see data from earlier dives. Each time you touch B and C, your BRIDGE™ II will display profile data from the dive just previous to the one whose data you were examining. Additionally, as you advance from Log Mode to Profile Mode, the profile data displayed will be for the dive you were just looking at in Log Mode.



.....
For example, let's assume your BRIDGE™ II is currently storing data on your five most recent dives. Upon entering Log Mode, it will first display Log data for dive 5. While in Log Mode, you touch contacts B and C twice, to access the data for dive 3. Now, while scrutinizing the data for dive 3, you touch contacts A and B to advance to Profile Mode.

Instead of displaying Profile data for your most recent dive (dive 5), your BRIDGE™ II will display Profile data for the dive you were just examining while in Log Mode, dive 3. Additionally, even though you took advantage of this short cut to access the Profile data for dive 3, you can still scroll to see Profile data for other dives stored in RAM by touching contacts B and C.



.....
If it is not already "awake," activate your BRIDGE™ II and wait for it to complete its Check Mode. Touch contacts A and B to advance first to Log Mode, and then Profile Mode. Examine the display to see how it compares to the description you've just read.

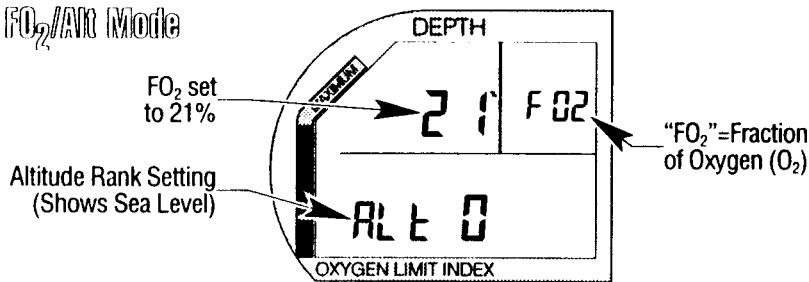
Again, if your BRIDGE™ II is brand new, and there is just a single test dive stored in its memory, this may not be as interesting an example as will take place once your BRIDGE™ II has one or more real dives stored in RAM. Remember to come back and play with this feature once you have had the opportunity to dive your BRIDGE™ II a few times.

FO₂/Alt Mode

Your BRIDGE™ II's *FO₂/Alt Mode* is fairly simple and straightforward. As this illustration depicts, it tells you two things:

- Your current FO₂ setting.
- Your current Altitude Rank setting.

FO₂/Alt Mode

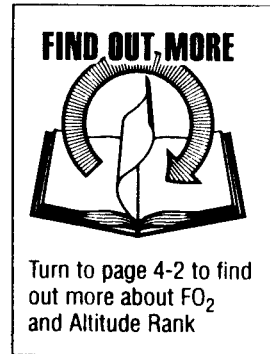
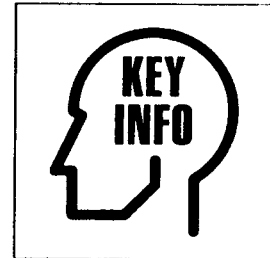
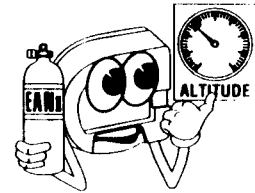


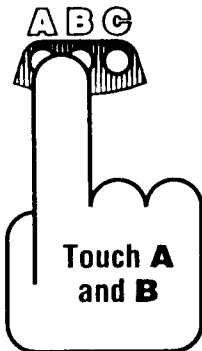
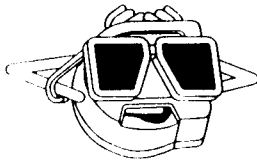
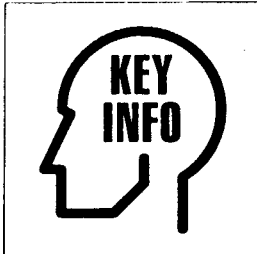
Your current FO₂ setting is indicated by a number between 21 and 50, or by two horizontal bars, indicated that your BRIDGE™ II is in its Default Mode. Your current Altitude Rank is indicated by a number between 0 and 3. You will learn more about what these numbers stand for, and how you set FO₂ and Altitude Rank, in Section 4.

Your ability to access FO₂/Alt Mode enables you to confirm that both these parameters are properly set, prior to any dive. As you will see in the next section, it is also an important step in getting to where you can change these parameters, or set date and time.

.....
 Make sure your BRIDGE™ II is activated, as we've asked you to do in previous examples. Touch contacts *A* and *B* repeatedly, until you arrive in FO₂/Alt Mode. If your BRIDGE™ II has not yet been used for diving, and you followed the directions appearing in Section 2, it should display an FO₂ of 21 and an Altitude Rank of 0.

If it does not, don't panic. There is nothing you can do to your BRIDGE™ II by touching the three primary contact that will "break" it or otherwise cause permanent harm. Simply continue to read this manual carefully and completely. Doing so will help explain what your BRIDGE™ II is telling you, and why.

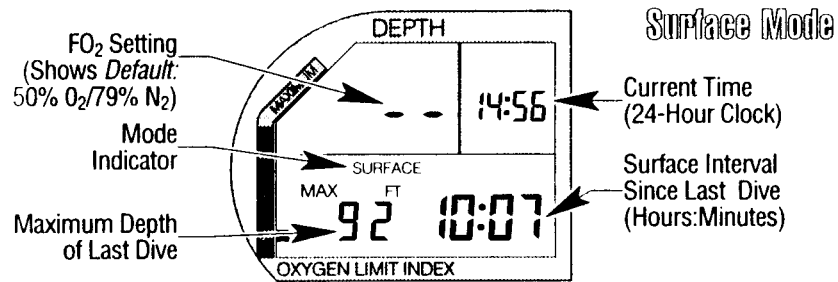




Surface Mode

If you are the sort of intelligent, thoughtful diver we'd like to think you are, you are reading these instructions carefully before ever taking your BRIDGE™ II into the water. (The best adjective for the other sort of diver is "bent.") Unfortunately, because you are the kind of diver who actually follows directions, you can't access the last of your BRIDGE™ II's Five Basic Modes—yet.

What we are talking about is, of course, *Surface Mode*. The only time you can access Surface Mode is after an actual dive, when your BRIDGE™ II calculates that you still have residual nitrogen remaining in your system. When you do so, you will see a display of information similar to that appearing here:



When your BRIDGE™ II calculates that you have residual nitrogen in your system, you can access Surface Mode by touching contacts *A* and *B* repeatedly, until it appears. As the diagram shows, you will find Surface Mode between FO₂/Alt Mode and Dive Plan Mode. Your BRIDGE™ II will also go into Surface Mode automatically, as soon as you surface from a dive.

In Section 1, you read that—because no mechanical or electronic device is utterly fail-safe—you should use your BRIDGE™ II in conjunction with regular dive tables. Surface Modes provides much of the information needed to help you do so, including current time, surface interval and the maximum depth of your last dive. It also shows your current FO₂ setting (or, as the earlier example depicts, the lack thereof)—a valuable reminder that, if diving Nitrox (EANx), you must reset the FO₂ before your next dive.

As you may have guessed, you should wait until your BRIDGE™ II can no longer display Surface Mode before flying or driving to altitude. This is the point at which your BRIDGE™ II is able to return to Sleep Mode. It means that your BRIDGE™ II's algorithms calculate that there is no longer significant residual nitrogen left in your system.

If your dive profiles have not been particularly aggressive, your BRIDGE™ II may appear to “clear” fairly quickly. In these instances, we recommend that you still follow the DAN (Divers Alert Network) guidelines and not fly or drive to altitude for at least 24 hours following your last dive.

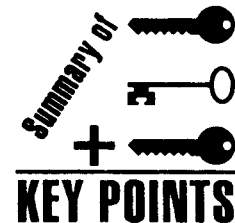
Now that you understand your BRIDGE™ II's Five Basic Modes, you are moving closer to being able to actually take in on a dive. In the next section, you will learn how to set parameters such as date, time, FO₂ and altitude, as well as how to set your BRIDGE™ II to upload data to a personal computer. □



Important—Do not fly in an airplane to climb to altitude until your BRIDGE™ II is no longer able to display its Surface Mode, and is able to return to Sleep Mode. *Changing altitude before your body has the opportunity to rid itself of residual nitrogen increases the likelihood of suffering Decompression Illness.*

Summary of Key Points from Section 3

- Your BRIDGE™ II's Five Basic Modes are the heart of its navigational system.
- Dive Plan Mode projects No-Stop Dive Times for upcoming dives on air or Nitrox.
- Log Mode shows you the basic parameters of the up to six dives your BRIDGE™ II stores in memory.
- Profile Mode enables you to track the depth and time profile of each of the dives stored in memory in three-minute increments.
- FO₂/Alt Display Mode show you the Fraction of Oxygen and Altitude Rank values to which your BRIDGE™ II is currently set.
- Surface Mode—which appears only when your BRIDGE™ II calculates you have residual nitrogen from previous dives—gives you current and surface-interval times, the max depth of your last dive and your current FO₂ setting. As long as your BRIDGE™ II can display Surface Mode, you should not fly. □



Special "Quick Start" Section

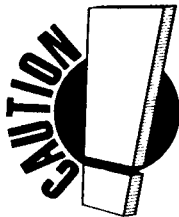
Why Read This Manual?

Do you already have a good understanding of how dive computers work? Are you the type of person who hates to read Owner's Manuals? If so, this page will tell you everything you need to know to start using your BRIDGE™ II right away—without having to read the rest of the *Owner's Manual* first.

- First, memorize this phone number: (919) 684-8111. This is, of course, the emergency number for the Diver's Alert Network (DAN). You will be needing it.
- While you are at it, better make sure your DAN membership and recompression insurance are up to date (remember, at least half the pain associated with chamber treatment is having to pay for it later, if you are not insured).
- To better familiarize yourself with one of decompression illness's major symptoms—pain in the joints—demolish several of your knuckles by smashing them with a ball-peen hammer. This provides a good approximation of the pain you may feel while bent.
- Plan ahead. Start getting use to what life will be like after you suffer severe trauma to your spinal column. Strap yourself into a wheelchair for several days. Have friends and family members practice spoon feeding you. Rent *Born on the Fourth of July* so that you can review what is involved in going to the bathroom when you have no sensation below the waist.
- Pause to reflect on what life will be like as a ward of the State, because your paralysis no longer enables you to pursue gainful employment.

Seriously, using a sophisticated instrument like the BRIDGE™ II is not like learning new word-processing software. You cannot simply fire it up and fumble your way through its use. When you do so with personal computer software, the worst you end up with is botched documents or lost data. If you try to do the same thing with the BRIDGE™ II, you risk everything described on this page—or worse.

The bottom line here is that *it is vital you read this manual, in its entirety, before attempting to use your BRIDGE™ II under water.* To do otherwise is to *risk serious personal injury, or death.*

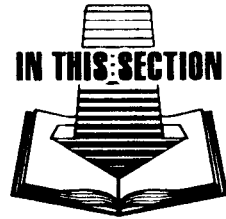


Section 4: Setting Vital Parameters

By now you should be:

- Able to activate ("wake up") your BRIDGE™ II when it is in Sleep Mode.
- Familiar with what your BRIDGE™ II is telling you when, after being activated, it is going through its Check Mode.
- Able to set your BRIDGE™ II for an FO₂ of 21 percent (air), if has been previously set to an FO₂ other than air.
- Familiar with and able to access each of your BRIDGE™ II's Five Basic Modes.

Before you can take your BRIDGE™ II diving, however, you must be able to set or adjust important parameters such as date, time, FO₂ and Altitude Rank. Additionally,



- Setting FO₂ and Altitude Rank . . . 4-2
- Setting Date and Time 4-9
- Accessing Upload Mode. . . 4-14

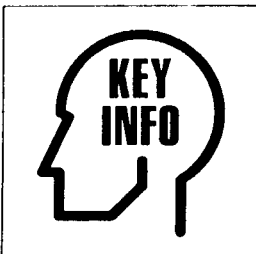
What you should be able to do after reading this section:

- Establish or change your BRIDGE™ II's FO₂ and Altitude Rank settings.
- Establish or change your BRIDGE™ II's date and time settings.
- Set your BRIDGE™ II to upload data to a personal computer, and return it to one of its normal display modes when done.

Why you will find this of value:

- Your ability to set FO₂ and Altitude Rank are critical to preparing your BRIDGE™ II for diving.
- Your ability to set date and time, or set your BRIDGE™ II to upload data to a PC, will not only help you keep a more accurate record of your dives, it will also help you better track current time and surface interval while you are diving.





if you will be using your BRIDGE™ II with the optional personal computer interface and BRIDGE™ Windows™ software, you will need to be able to prepare it to upload data to your PC (Upload Mode), then return it to one of its normal operating modes when finished.

These skills are what we will cover in this section. If you have not already done so, it is important that you read and follow the directions in Sections 1 through 3. Additionally, as we had you do in previous sections, you will want to have your BRIDGE™ II handy while you read.

Setting FO₂ and Altitude Rank

If you will only dive your BRIDGE™ II within 2,400 feet (800 meters) of sea level, and only with it set to air (an FO₂ of 21 percent), chances are you can leave your BRIDGE™ II set as it is right now. Chances are, however, that if this is the limit of your diving ambitions, you would not have purchased a BRIDGE™ II in the first place.

The typical BRIDGE™ II user will want to, at some time or another, use gas mixtures other than air (i.e., Enriched Air Nitrox) and set his or her BRIDGE™ II accordingly. He or she may also dive at altitudes higher than 2,400 feet (800 meters), at which point it will become important to adjust the BRIDGE™ II's *Altitude Rank* to match ambient pressure at altitude.

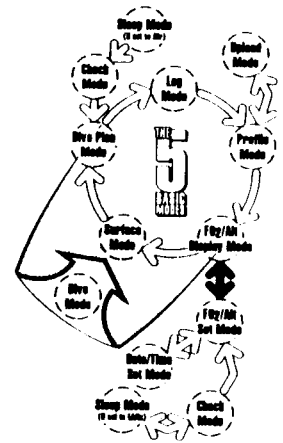
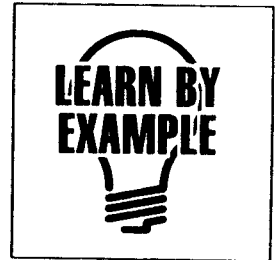
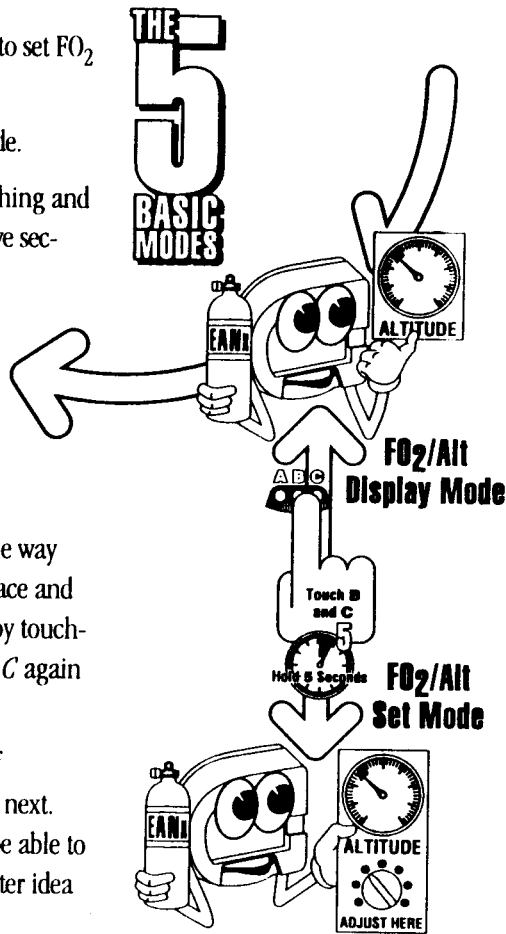
Over the next few pages, we will give you first a brief overview of the process of setting FO₂ and Altitude Rank. We will then present detailed, step-by-step instructions on how to accomplish this.

Overview

Here is the “short” version of how to set FO₂ and Altitude Rank.

- Advance to FO₂/Alt *Display* Mode.
- Access FO₂/Alt *Set* Mode by touching and holding contacts *B* and *C* for five seconds.
- Once in FO₂/Set Mode, adjust the FO₂ and Altitude Rank settings by touching contacts *A*, *B* and *C* in combinations we will outline shortly.
- Once these parameters are set the way you want them, lock them in place and return to FO₂/Alt Display Mode by touching and holding contacts *B* and *C* again for five seconds.

Bear in mind that this is just a brief overview of the steps we will outline next. Having read the overview, you will be able to move through these steps with a better idea of where you are headed.



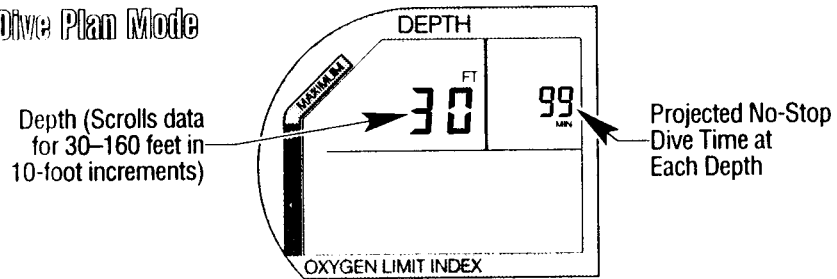


Step by Step Instructions

1. If you have not done so already, activate your BRIDGE™ II and allow it to complete its Check Mode.

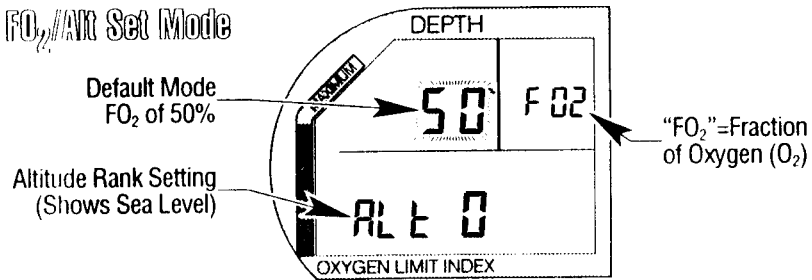
If you have followed the instructions outlined in Sections 1 through 3, your BRIDGE™ II should already be set to air (an FO₂ of 21 percent), and should end up in Dive Plan Mode (shown below) once it completes its Check Mode.

Dive Plan Mode



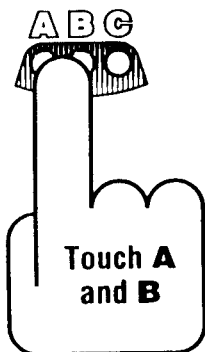
If, on the other hand, your BRIDGE™ II was set to an FO₂ other than 21 percent, and it has since lapsed into Default Mode, your BRIDGE™ II will end up in FO₂/Alt Set Mode (shown below) after completing its Check Mode.

FO₂/Alt Set Mode

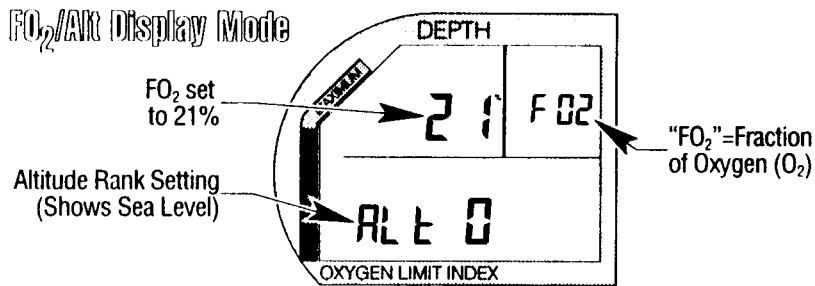


If this happens, proceed to step 4 on page 4-6.

2. Advance to FO₂/Alt Display Mode by touching contacts A and B momentarily. Repeat this process as many times as necessary until you arrive in FO₂/Alt Display Mode.



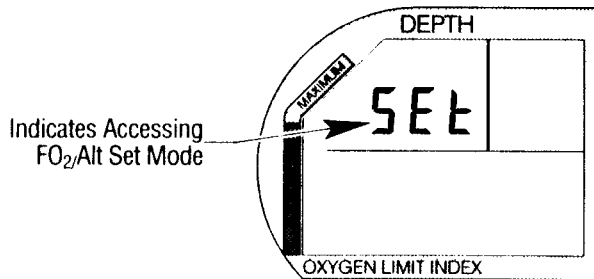
When you reach FO₂/Alt Display Mode, your BRIDGE™ II's display should look like this:



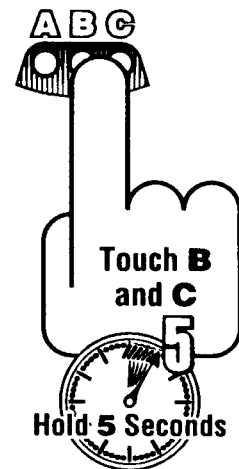
Be aware that it is possible an FO₂ setting other than 21 percent may appear on your screen. Do not be concerned if it does; the steps that follow will work regardless.

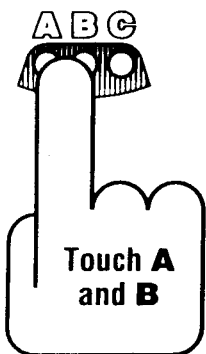
- Once in FO₂/Alt Display Mode, access FO₂/Alt Set Mode by touching and holding contacts B and C for five seconds.

While holding contacts B and C, the word *SET* should appear on the display, as shown here:



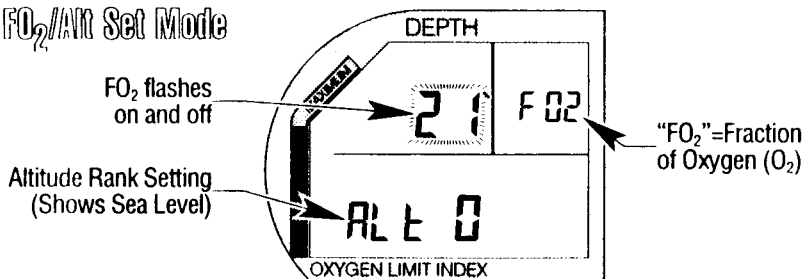
When, after five seconds, you arrive in FO₂/Alt Set Mode, you will know that you have done so because the screen will look as it did in FO₂/Alt Display Mode, except for the fact the FO₂ setting will flash on and off, as shown on the top of page 4-6.





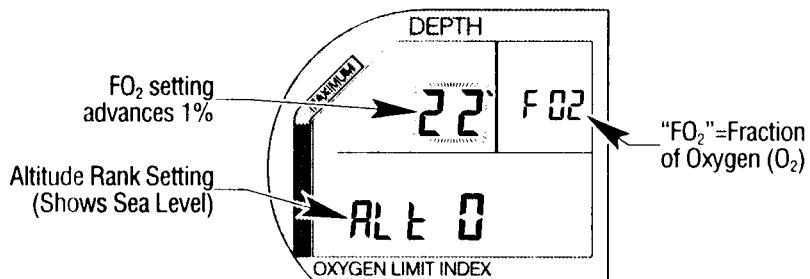
Save Time—You can speed the process of advancing from one FO₂ setting to another by touching and *holding* contacts *A* and *B*. After a few seconds, the FO₂ setting will begin to advance automatically, scrolling in one percent increments. Just before the display reaches your desired FO₂, release your finger. If you are not quite at the FO₂ you want, touch *A* and *B* one or two more times, as needed.

FO₂/Alt Set Mode



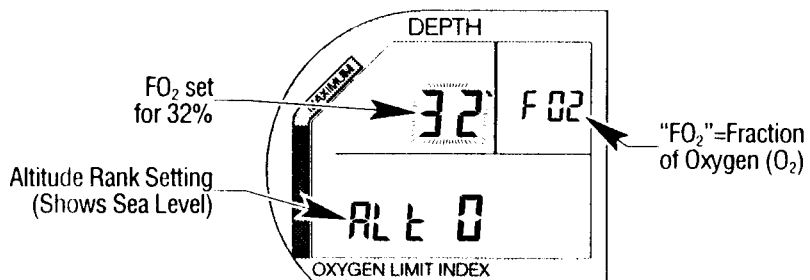
4. Touch contacts *A* and *B* momentarily.

The FO₂ setting should advance by one percent, as shown below. Remember, though, that it is possible your BRIDGE™ II was previously set to an FO₂ other than 21 percent; therefore, it may now display an FO₂ setting other than the one shown here.



5. Continue touching contacts *A* and *B* repeatedly until you reach an FO₂ setting of 32 percent.

Your screen should look like this:



Altitude Rank Settings

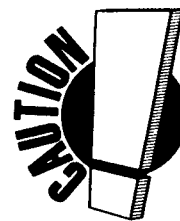
Your BRIDGE™ II may be set to any of four Altitude Rank settings. These are:

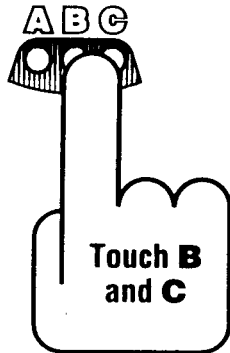
Altitude Rank	Range (Feet)	Range (Meters)
0	0–2,400	0–800
1	2,500–4,500	900–1,500
2	4,600–7,100	1,600–2,300
3	7,200–9,000	2,400–3,000

If you fail to set Altitude Rank, your BRIDGE™ II will attempt to do so on its own. This attempt, however, may not be accurate—particularly if you recently made an abrupt change in altitude, such as occurs when flying to a resort destination. Thus, *it is vital you check Altitude Rank before every dive* and reset it, if necessary.

If you plan to use your BRIDGE™ II at altitude, you should follow these common altitude-diving recommendations:

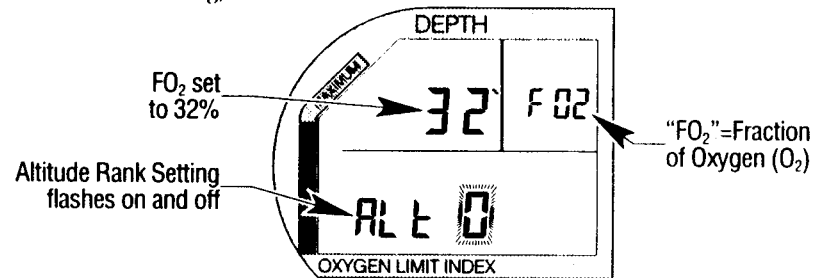
- Upon arriving at a higher altitude, after ascending from a lower one, wait at least twelve hours before diving. Even though you may not have been in the water in the past twelve hours, your body may still have residual nitrogen that needs to off-gas, due to the fact it was previously saturated with nitrogen at a higher ambient pressure. Waiting twelve hours gives your body time to desaturate to the lower ambient pressure at the higher altitude.
- If you wait twelve hours after arriving at altitude, you may discover that your BRIDGE™ II has already adjusted itself to the appropriate Altitude Rank. Your should confirm this, however, and—if you discover that your BRIDGE™ II is set to the wrong Altitude Rank—set it to the correct one.
- If making a series of repetitive dives, make all dives at the same altitude. *Do not* make substantial altitude changes between dives, as this will hamper your BRIDGE™ II's ability to accurately account for the change in ambient pressure in its calculations.
- After your last dive, do not drive or fly to a higher altitude until your BRIDGE™ II has had the opportunity to “clear” itself of residual nitrogen, and return to Sleep Mode. No matter how quickly your BRIDGE™ II clears, you should still





6. Now touch contacts *B* and *C* momentarily.

At this point, the FO_2 setting should stop flashing, and the Altitude Rank setting should start flashing, as shown here:



7. If necessary, adjust the Altitude Rank setting by momentarily touching contacts *A* and *B*.

Each time you touch these contacts, you will advance the Altitude Rank setting on one level. To determine the correct Altitude Rank using the chart appearing on page 4-7 or in the Appendix.



Altitude Rank

...continued from 4-7

wait at least twelve hours (preferably 24 hours) before moving to a higher altitude (in other words, follow DAN's current recommendations for flying after diving).

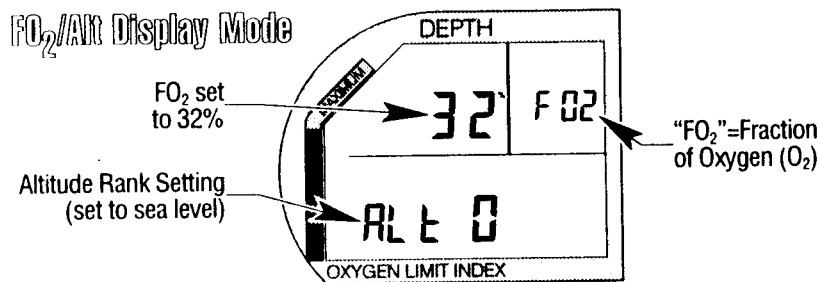
If you give your BRIDGE™ II the opportunity to adjust to ambient pressure at altitude, and confirm that it is, indeed, at the proper Altitude Rank prior to diving (resetting it, if necessary), you should find the following:

- The depths your BRIDGE™ II displays during your dives will be reasonably accurate—despite the change in altitude.
- Your BRIDGE™ II will compensate for the changes in altitude and ambient pressure, giving you nitrogen and oxygen uptake and release information that will be as accurate as it would be at sea level.

Be aware that the information presented here is no substitute for formal training in altitude diving procedures. You should take an Altitude Diving Specialty Diver course before using your BRIDGE™ II at altitudes above 1,000 feet (300 meters), and follow the recommendations such training provides. □

- Once the FO₂ and Altitude Rank are correctly set, lock them place and return to FO₂/Alt Display Mode by touching and holding contacts B and C for approximately five seconds.

While you are holding contacts B and C, either the FO₂ setting or the Altitude Rank Setting will flash. After five seconds, however, the flashing will stop, indicating that you are back in FO₂/Alt Display Mode, as shown here.

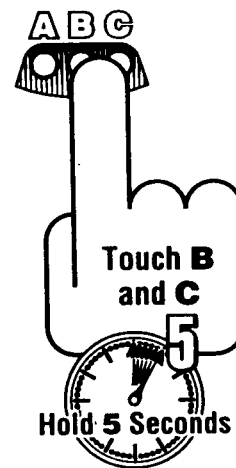


If you have not done so already, activate your BRIDGE™ II and follow the instructions given here to set it for an FO₂ of 32 percent (EAN32/NOAA Nitrox I), and an Altitude Rank of 0 (sea level). Repeat this process a second time, returning your BRIDGE™ II to the correct FO₂ setting for air (21 percent.)

Setting Date and Time

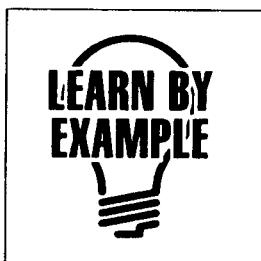
Your BRIDGE™ II uses its ability to keep track of the current date and time in a variety of ways. Chiefly, this ability enables your BRIDGE™ II's to affix the correct date, start time and stop time to each of the dives it stores in its Random Access Memory (RAM). Additionally, while in Surface Mode, your BRIDGE™ II will display the current time, much as a digital watch does. (Remember from earlier examples, however, that whenever your BRIDGE™ II displays time, it does so using 24-hour, military-style time.)

New BRIDGE™ IIs are set at the factory to the current, local date and time. When you first activate your BRIDGE™ II, however, you may discover that it is off by an hour or more, due to differences in time zone, Daylight Savings time or other factors. Before using your BRIDGE™ II, you will want to set it to your local time.



The 24-Hour Clock

12:00 PM	12:00 hours
1:00 PM	13:00 hours
2:00 PM	14:00 hours
3:00 PM	15:00 hours
4:00 PM	16:00 hours
5:00 PM	17:00 hours
6:00 PM	18:00 hours
7:00 PM	19:00 hours
8:00 PM	20:00 hours
9:00 PM	21:00 hours
10:00 PM	22:00 hours
11:00 PM	23:00 hours
12:00 AM	24:00 hours



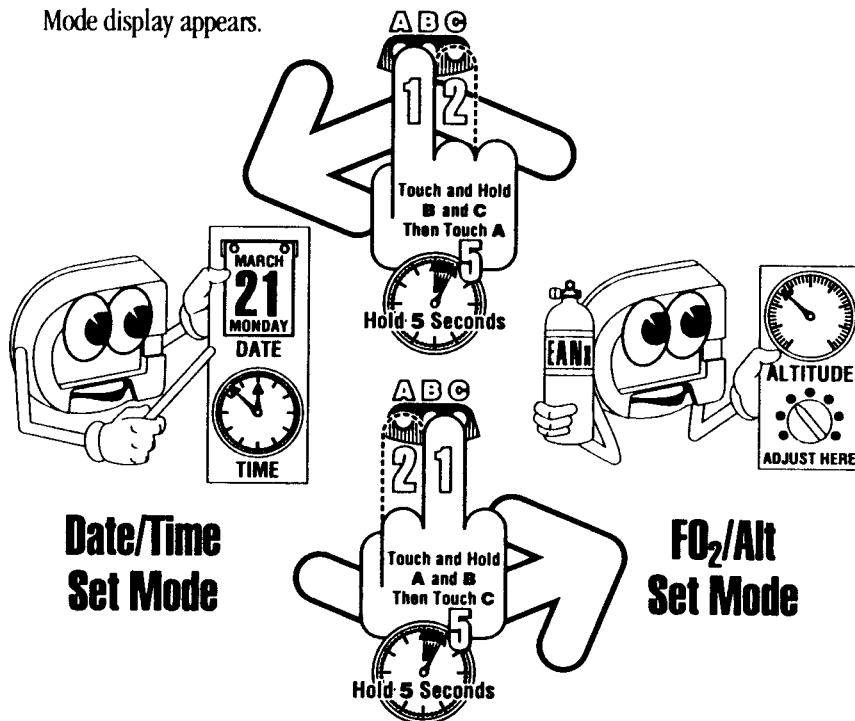
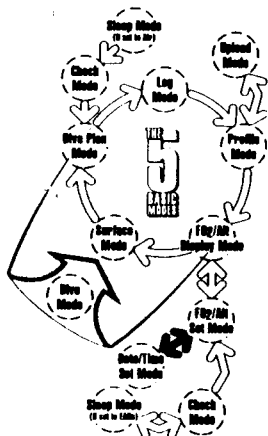
Additionally, as seasons change, you may wish to change it back and forth from Daylight to Standard time.

These procedure are what we cover next. As we did with FO₂ and Altitude setting procedures, we will first provide you with a brief overview, then give you detailed, step-by-step procedures.

Overview

To set or adjust date and time, your BRIDGE™ II must be in, or capable of going into, Sleep Mode. This means it does not calculate any significant residual nitrogen remains in your body from previous dives. Once your BRIDGE™ II determines you are “clear” of residual nitrogen, the steps for setting or adjusting date and time will be:

- Follow the steps outlined on page 4-2 to 4-4 to access FO₂/Alt Set Mode. (To confirm that you are, in fact, in this mode, check to be sure either the FO₂ or Altitude Rank value is flashing on and off.)
- While in FO₂/Alt Set Mode, touch and hold contacts B and C, then touch contact A. Hold all three contacts for approximately five seconds, until the Date/Time Set Mode display appears.



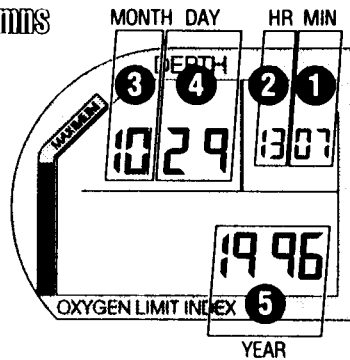
Date/Time Set Mode

FO₂/Alt Set Mode

If you have ever had to set the time on a digital watch, you are most likely already familiar with what happens next.

- Your BRIDGE™ II's Date/Time Set Mode display is divided into five *columns*, as shown below. The numbers in the currently active column will flash on and off.

Date and Time Columns



- To change the setting in the currently active column, touch contacts *A* and *B* simultaneously.

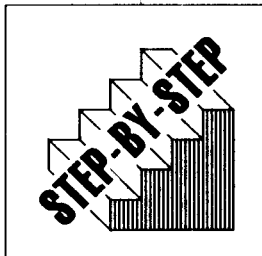
The numbers appearing in each column will advance by a value of 1 each time you touch contacts *A* and *B*. As was true when setting FO_2 or Altitude Rank, holding contacts *A* and *B* for several seconds will cause the numbers displayed to begin *scrolling*. This will help you save time in reaching the desired value.

- Momentarily touching contacts *B* and *C* will advance you to the next column, in the order shown above.

As you do, you may either adjust the numbers in each column as you arrive, or advance to the next column by again touching *B* and *C*.

- After you have moved through all five columns, all the numbers on the face of your BRIDGE™ II's display will flash.

At this point, you can lock your settings in place by touching and holding contacts *A* and *B*, then touching contact *C* and holding all three contacts for approximately five seconds.



Step by Step Instructions

As described earlier, when new, it is likely the date and time appearing on your BRIDGE™ II are accurate in every respect except, possibly, the hour. In this example, we will outline how to set your BRIDGE™ II to the correct hour, while leaving the settings for the current minute, month, day and year intact. (Should you need to change these other settings, how to do so will be plain.)

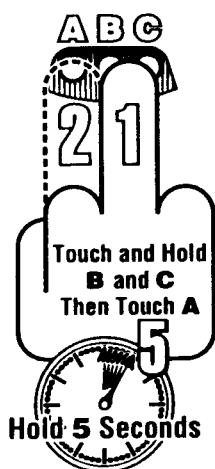
1. Begin by making certain that your BRIDGE™ II is "clear" of any calculated residual nitrogen.

To do this, make sure your BRIDGE™ II is either:

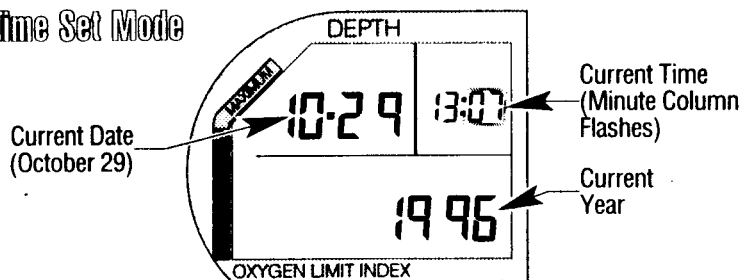
- In Sleep Mode, or ...
- ...capable of going into Sleep Mode after ten minutes of inactivity, and ...
- ...incapable of displaying Surface Mode information.

If your BRIDGE™ II cannot do this, you must wait until it can to set date and time.

2. Access FO₂/Alt Set Mode, as outlined on pages 4-2 to 4-4.
3. While in FO₂/Alt Set Mode (either the FO₂ or Altitude Rank values flash), touch and hold contacts *B* and *C*, then touch contact *A*. Hold all three contacts for approximately five seconds, until the Date/Time Set Mode display appears, as shown here:



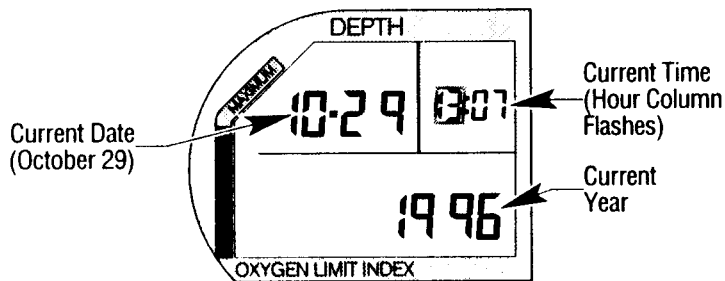
Date/Time Set Mode



You will notice that, when you arrive in Date/Time Set Mode, the numbers in the minute column flash are flashing on and off. This indicates that the minute column is "active." If you needed to, you could change this value by touching contacts *A* and *B*, as outlined earlier. In this example, we are assuming the minute setting is correct, and needs no adjustment.

4. Momentarily touch contacts *B* and *C*.

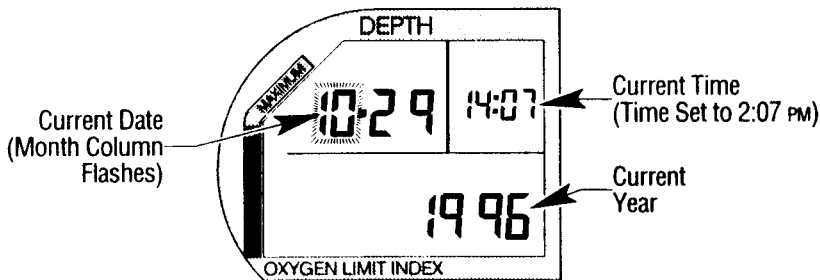
The numbers in the hour column should now flash on and off, indicating that it is the active column.



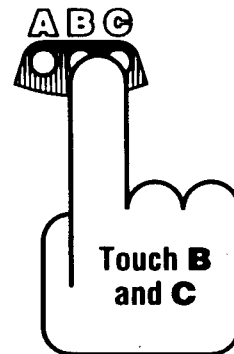
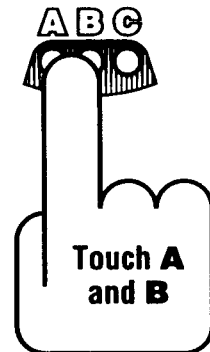
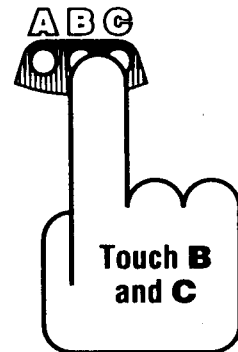
5. Momentarily touch contacts *A* and *B*.

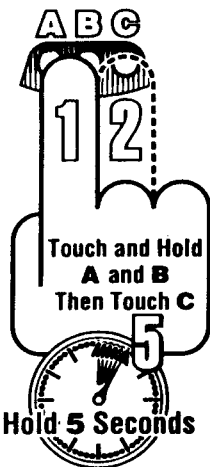
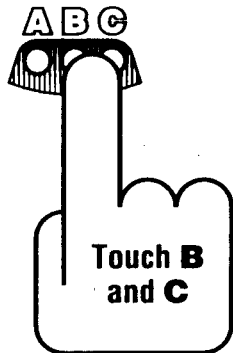
The value of the displayed hour setting should advance by a value of 1. This is typical of what you would be doing if changing your BRIDGE™ II's time setting from Standard to Daylight Savings time.

6. Momentarily touch contacts *B* and *C*.

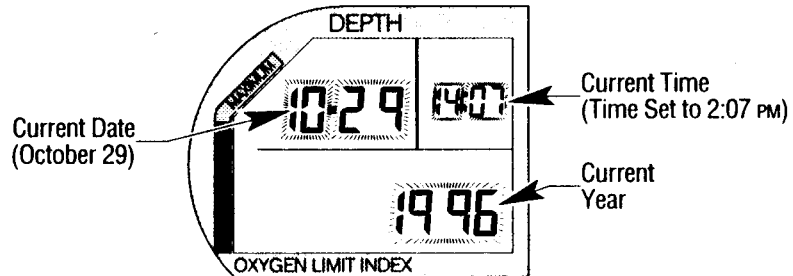


Flashing numbers should now indicate that the month column is active. At this point, you should pretty much have the hang of setting or adjusting date and time values. That is: momentarily touching contacts *B* and *C* advances you from one column to the next in the order shown on page 4-11; touching contacts *A* and *B* changes the number settings in each individual column.





7. Momentarily touch contacts *B* and *C* three more times.



After doing so has advanced you through all five columns, the numbers on the entire face of your BRIDGE™ II's display should flash on and off. This indicates that your BRIDGE™ II is ready to "lock in" the settings you have made, should you choose to do so.

If you need to go back and change the settings in any column, touch contacts *B* and *C*. The cycle will repeat itself.

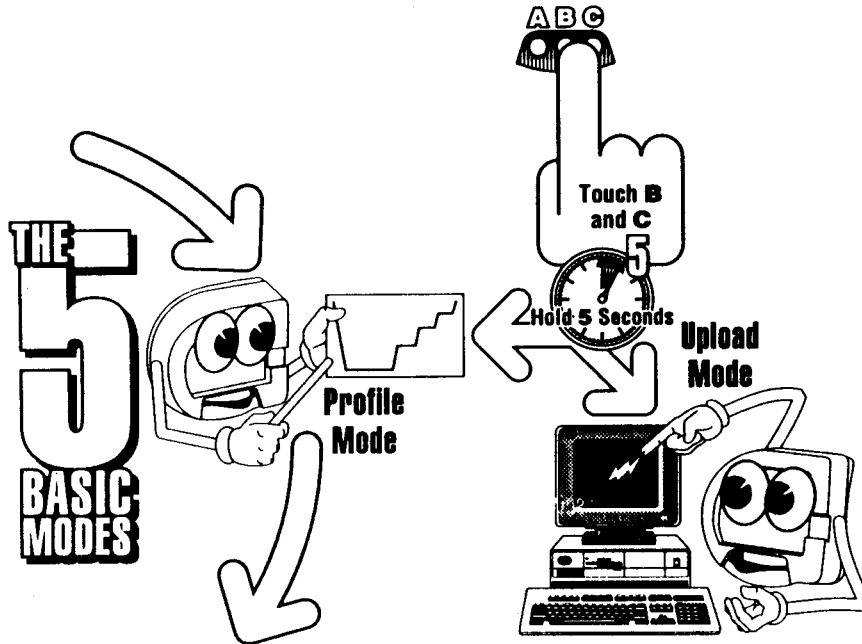
8. To lock in the the proper settings, make sure the numbers on the entire face of your BRIDGE™ II's display are flashing on and off, then touch and hold contacts *A* and *B*. Now touch contact *C*. Hold all three contacts for approximately five seconds, until FO₂/Alt Display Mode display appears.

.....
 Activate your BRIDGE™ II. While it is putting itself through Check Mode, see if the date and time are set correctly. If they are not, use the procedures outlined here to make the necessary changes.

Upload Mode

As we mentioned in Section 1, among your BRIDGE™ II's most significant features is its ability to upload dive data to a personal computer, using the optional Personal Computer Interface (item number 8200) and BRIDGE™ Windows™ software (item number 8100). To take advantage of this feature, you will need to know how to access your BRIDGE™ II's Upload Mode.

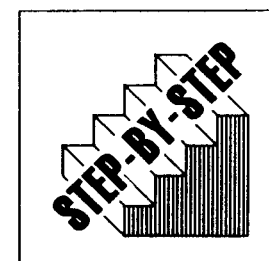
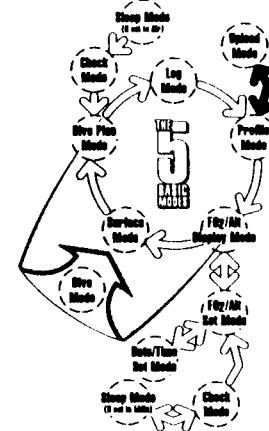
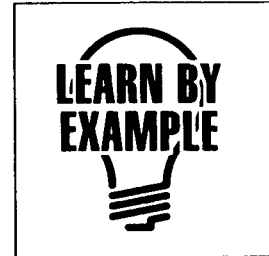
Accessing Upload Mode is fairly simple. As the accompanying illustration shows, while in Profile Mode, you simply touch and hold contacts B and C for five seconds. Holding them for five more seconds reverse the process.



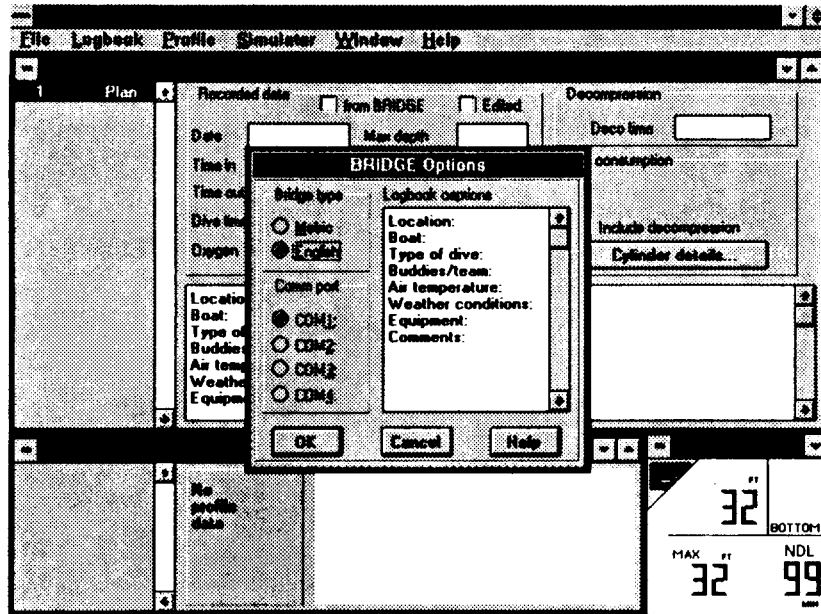
In the pages that follow, we will take you through this procedure step by step.

Step-by-Step Instructions

Begin by making certain the optional Personal Computer Interface is connected to your PC's serial port as outlined in the instructions that accompany it. Additionally, you should install BRIDGE™ Windows™ software on your computer's hard drive, according its instructions. Further, you should open your BRIDGE™ Windows™ pro-



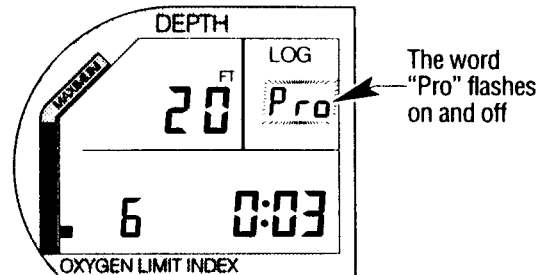
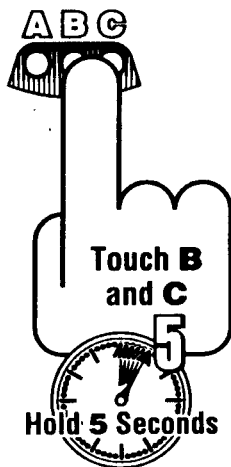
gram and make sure the correct serial port (COM 1, 2, 3 or 4) is specified, as shown here.



If you have done all these things, you are ready to follow these steps:

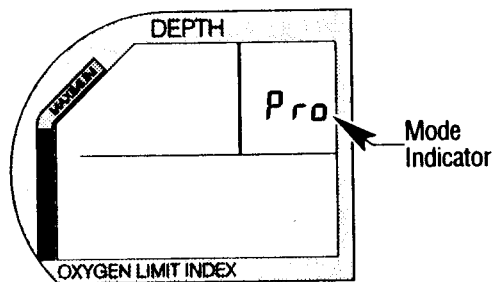
1. If you have not already done so, open the BRIDGE™ Windows™ program.
2. Activate your BRIDGE™ II and access Profile Mode (outlined on pages 3-6 to 3-8).
3. While in Profile Mode, touch contacts *B* and *C*, and hold them for approximately five seconds.

As you do, the word *Pro* should flash on and off, as shown below.

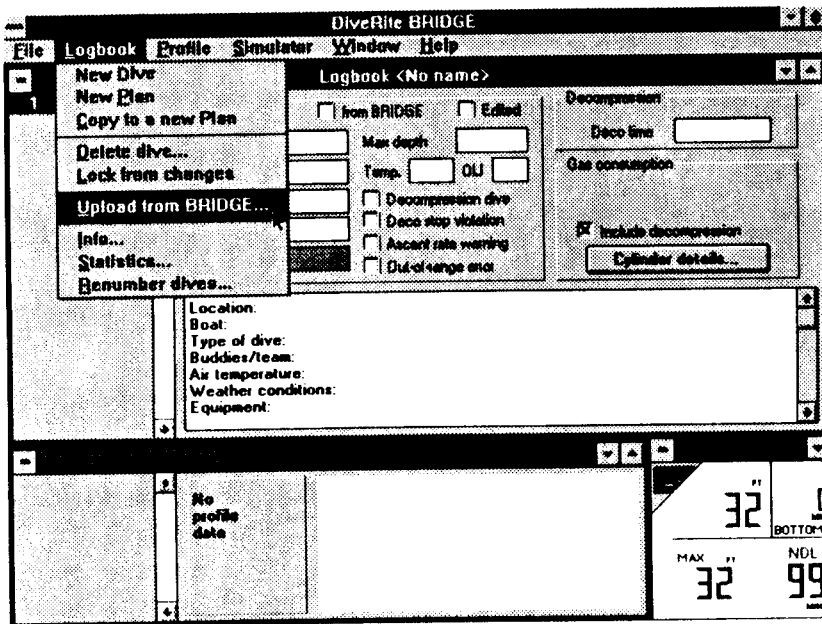


After approximately five seconds, the word *Pro* will stop flashing. At this point, however, it should be the only thing appearing on the screen.

Upload Mode

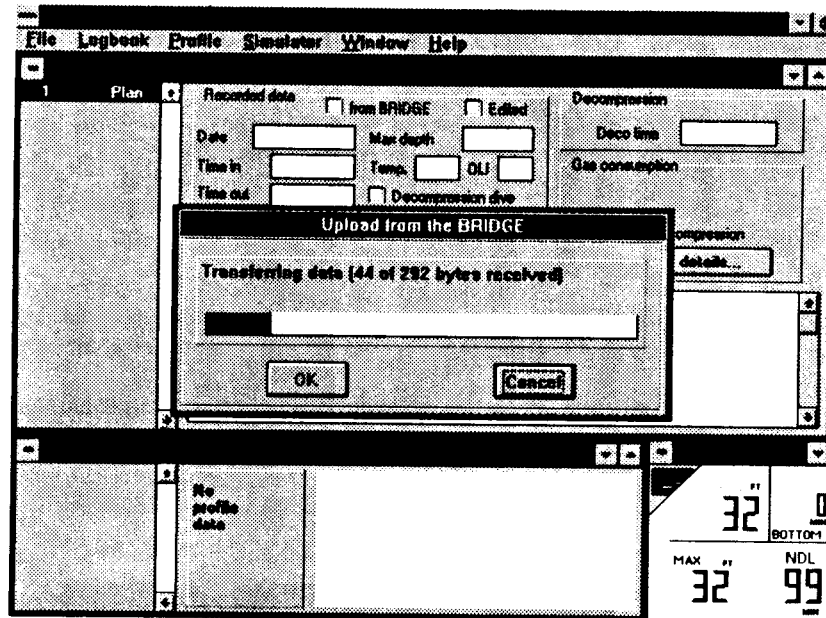


- Place your BRIDGE™ II face down on the Personal Computer Interface, as shown in the accompanying photo. Make sure all the positioning pins and contacts line up properly. Use the Velcro® strap that comes with the interface to hold your BRIDGE™ II securely in place.
- From the BRIDGE™ Windows™ *Logbook* menu, choose *Upload from BRIDGE...*, as shown below.



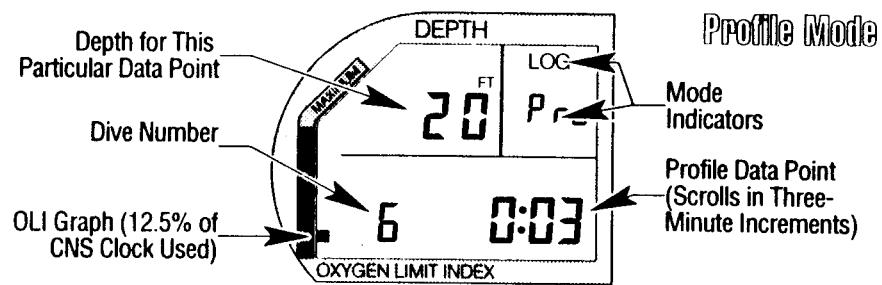
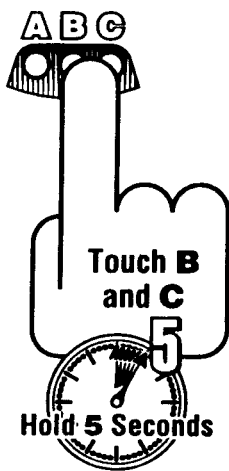
Make certain you are uploading to the right log book—It is common for two or more divers to keep their log book files on the same personal computer. Before you upload, make certain you have the correct file open. Doing so can help prevent you from uploading data to someone else's log.

Having selected *Upload from BRIDGE...*, you should see the following dialog box appear. If it does not, double check all your connections and settings and try again.



6. Once your BRIDGE™ II has successfully uploaded data to your personal computer, remove it from the interface.
7. Touch and hold contacts *B* and *C* again, for approximately five seconds.

As before, the word *Pro* should flash on and off while you do so. After approximately five seconds, you should find your self back in Profile Mode.



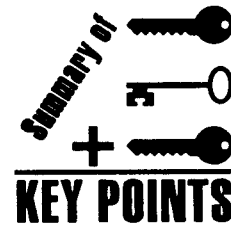
It is important to remember to remove your BRIDGE™ II from the Personal Computer Interface and return it to Profile Mode when you are finished uploading data. If you forget to do so, your BRIDGE™ II will remain in Upload Mode indefinitely, unnecessarily using up its battery while doing so.

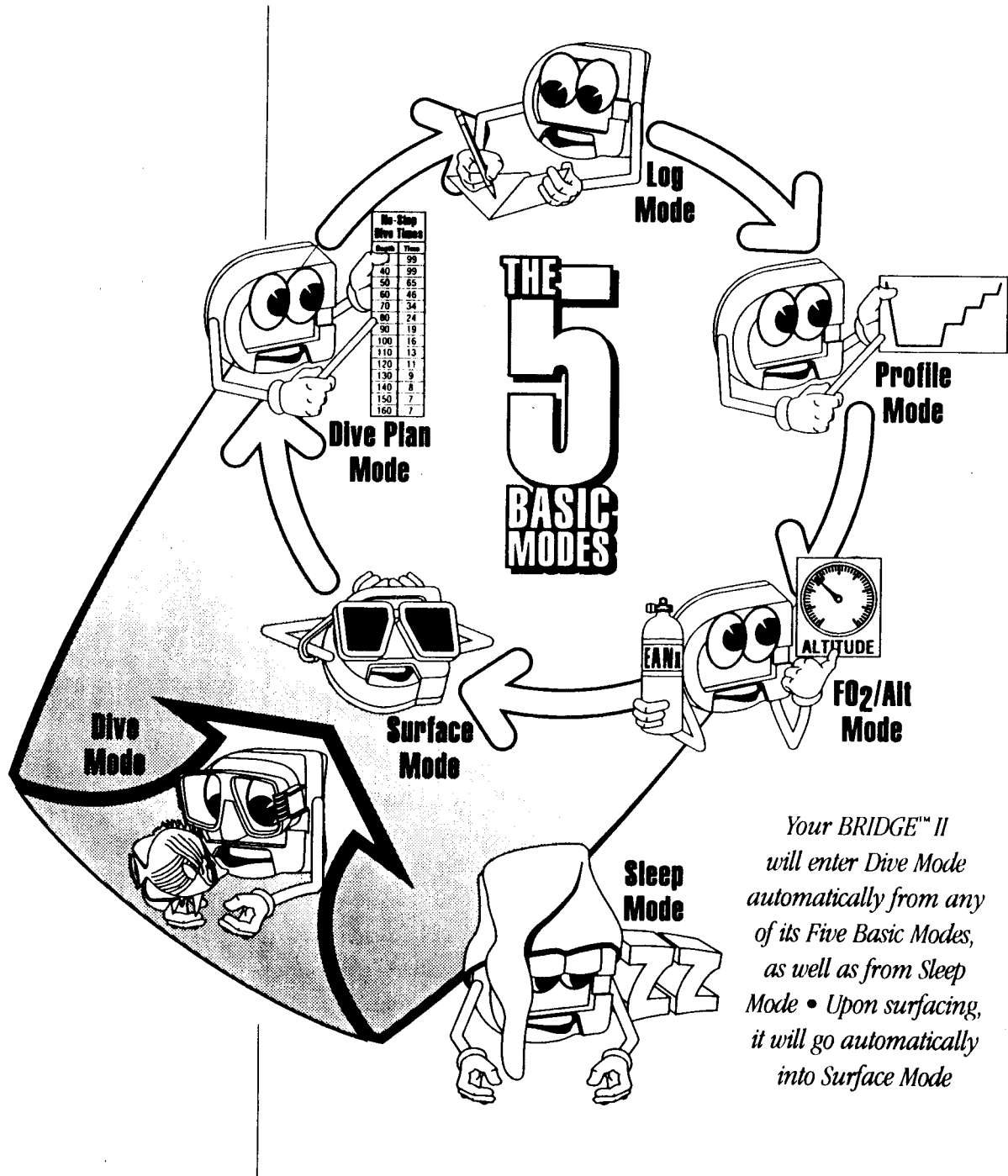
.....
 If you have the optional BRIDGE™ Windows™ software and Personal Computer Interface, create a temporary or permanent logbook file and practice uploading whatever dives are stored in your BRIDGE™ II's memory to your PC using the interface. □



Summary of Key Points from Section 4

- To set FO₂ and Altitude Rank, access FO₂/Alt Set Mode from FO₂/Alt Display Mode (one of the Five Basic Modes) by touching and holding contacts *B* and *C* for approximately five seconds. Once in FO₂/Alt Set Mode: touch *B* and *C* momentarily to switch back and forth between FO₂ and Altitude Rank settings; touch *A* and *B* while within each setting to change number values; touch and hold *B* and *C* approximately five seconds to lock in settings.
- To set date and time, access Date/Time Set Mode from FO₂/Alt Set Mode by first touching contacts *B* and *C*, then touching contact *A*, and holding all three contacts for approximately five seconds. Once in Date/Time Set Mode: touch *B* and *C* momentarily to switch between columns; touch *A* and *B* while within each column to change number values; touch and hold *A*, *B* and then *C* approximately five seconds while all columns are flashing to lock in settings.
- To upload data to a personal computer using the optional interface and BRIDGE™ Windows™ software, access Upload Mode from Profile Mode by touching and holding contacts *B* and *C* for approximately five seconds. After uploading data, return to Profile Mode by again touching and holding contacts *B* and *C* for approximately five seconds. □





Your BRIDGE™ II will enter Dive Mode automatically from any of its Five Basic Modes, as well as from Sleep Mode • Upon surfacing, it will go automatically into Surface Mode

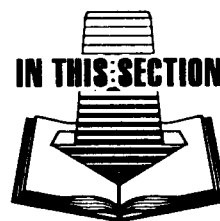
Section 5: Diving Air

At this point, you should be able to perform a number of functions with your BRIDGE™ II, including:

- Activating it (awakening your BRIDGE™ II from Sleep Mode).
- Watching and understanding what your BRIDGE™ II is telling you when, once activated, it puts itself through Check Mode.
- Setting vital parameters such as date, time, FO₂ and Altitude Rank.

If you own the optional Personal Computer Interface and BRIDGE™ Windows™ software, you should also be able to upload data from your BRIDGE™ II to a personal computer using these items.

Having mastered these skills, you are now ready to take your BRIDGE™ II diving. In this section, we will cover what you need to know to use your BRIDGE™ II while diving air. In Section 6, we will cover what will be different when you are diving Enriched Air (Nitrox).



- IN THIS SECTION**
- Getting Ready . . . 5-2
 - What Happens as You Enter & Exit . 5-3
 - No-Stop Diving Mode 5-5
 - Decompression Diving Mode 5-8

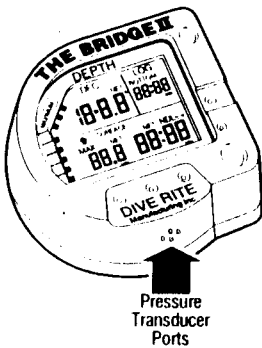
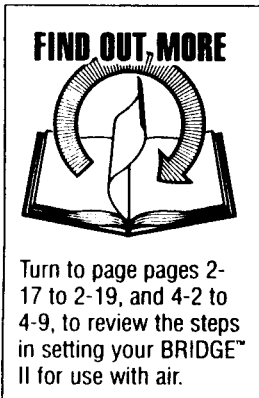
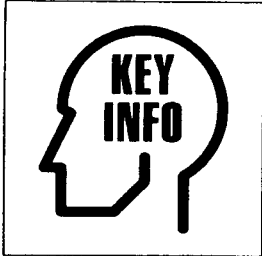
What you should be able to do after reading this section:

- Prepare your BRIDGE™ II for dives during which you will be breathing air.
- Describe when and how your BRIDGE™ II goes into and out of Dive Mode, and how it tracks bottom time.
- Interpret the data your BRIDGE™ II displays in No-Stop and Deco Modes.

Why you will find this of value:

- Your ability to prepare and use your BRIDGE™ II for diving air, and your understanding of how to accurately read and interpret the information it gives you while doing so, are among the most important keys to its safe and successful use.
- The knowledge and skills you develop while learning to use your BRIDGE™ II while diving air also provide the foundation for learning to use it with Nitrox.





Be sure that, however you choose to mount your BRIDGE™ II, you do not block access to its pressure transducer ports or contact surfaces.

Additionally, your BRIDGE™ II has some alarm features that are common to both air and Nitrox diving. We cover these in Section 7. Finally, in Section 8, we will cover the proper preventive and post-dive maintenance procedures that will help ensure your BRIDGE™ II a long and healthy life.

Getting Ready

To use your BRIDGE™ II while diving air, you must first set its FO₂ (Fraction of Oxygen) to 21 percent (air), and its Altitude Rank to the appropriate setting. If you are not yet clear on how to do this, you should review pages 2-17 through 2-19, and pages 4-2 through 4-9.

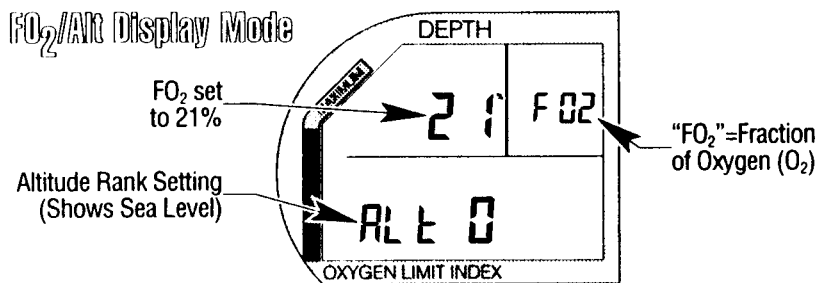
You will also need to make sure your BRIDGE™ II is mounted where you can easily see it during the dive. We recommend either normal wrist mounting, or mounting it close to your console or submersible pressure gauge, using the optional hose mount kit (item number 8403).

You should not attempt to jury-rig a conventional console to hold your BRIDGE™ II. Doing so could block access to its pressure transducer access ports (see illustration), and interfere with your BRIDGE™ II's operation.

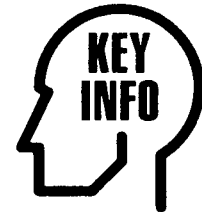
Although your BRIDGE™ II is ready to go diving instantly from any of its Five Basic Modes or Sleep Mode, we strongly recommend that—just before entering the water—you activate your BRIDGE™ II and allow it to go through Check Mode. This will help ensure that its FO₂ and Altitude Rank are set correctly, and that all other features of your BRIDGE™ II are functioning as they should.

What Happens as You Enter and Exit

As soon as water covers the face of your BRIDGE™ II, it will begin to enter Dive Mode. As it does, you will hear a beep. The first thing you will see on the face of your BRIDGE™ II, however, is its FO₂/Alt Display Mode. This provides one final confirmation that your BRIDGE™ II's FO₂ and Altitude Rank are set correctly, before you continue your descent:



After a few seconds, your BRIDGE™ II's FO₂/Alt display will be replaced by the No-Decompression Diving Mode display appearing on page 5-5. Be aware, however, that your BRIDGE™ II will not truly enter Dive Mode until you reach a depth of approximately 5.0 feet or 1.5 meters. If you surface before this happens, your BRIDGE™ II will assume no dive took place, and return to either Dive Plan Mode (if this is your first dive since your BRIDGE™ II "cleared" itself of residual nitrogen), or Surface Mode (if your BRIDGE™ II was already tracking residual nitrogen from previous dives).

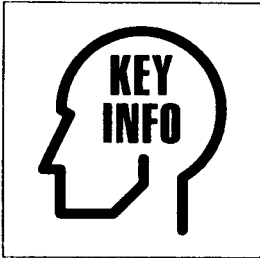


As soon as you drop below the surface, your BRIDGE™ II will momentarily display its current FO₂ and Altitude Rank settings.

A Quick Check for FO₂ and Altitude Rank

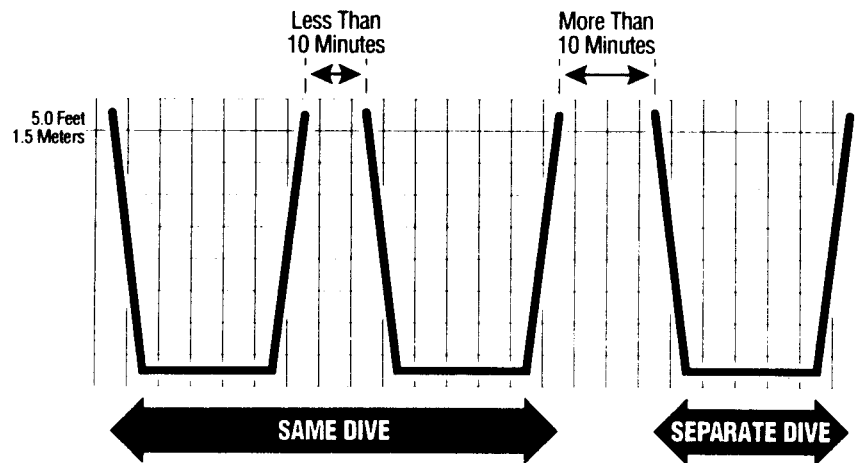
If you will be spending a few minutes at the surface before descending, and want to quickly check to make sure your FO₂ and Altitude Rank settings are correct, you could take the time to scroll through your BRIDGE™ II's Five Basic Modes until you reach FO₂/Alt Display Mode. You may find it faster, however, to simply dip your BRIDGE™ II in the water. This way, it will think you are about to begin a dive, and momentarily display its current FO₂ and Altitude Rank settings. □



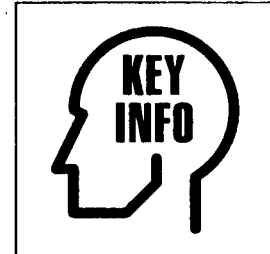


Similarly, if you ascend above 5.0 feet/1.5 meters after making a dive, your BRIDGE™ II will begin accounting for the *possibility* you are surfacing. What happens next will depend on several factors.

- If you actually do surface and exit the water, your BRIDGE™ II will automatically enter Surface Mode.
- If, for any reason, you remain at a depth of less than 5.0 feet/1.5 meters, your BRIDGE™ II will continue to display Dive Mode information—albeit with an indicated depth of 0 feet or meters.
- If you descend below 5.0 feet/1.5 meters within ten minutes of having ascended above this level (regardless of whether you have exited the water), your BRIDGE™ II will assume you are continuing the previous dive, and track it as such.
- If you descend below 5.0 feet/1.5 meters *more than* ten minutes after having ascended above this level, your BRIDGE™ II will consider this to be a new dive, and track it accordingly.

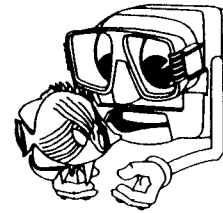
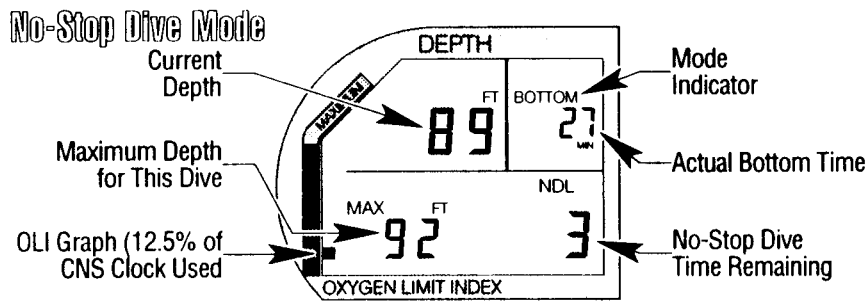


So long as your BRIDGE™ II remains set to an FO₂ of 21 percent, it will hold this FO₂ setting indefinitely, dive after dive. Thus, when set to air, you can make multiple ascents and descents (such as a dive instructor might do when conducting training dives) without having to constantly reset the FO₂. As previously mentioned, ascents and descents taking place more than ten minutes apart will be tracked as separate dives; those taking place within ten minutes of one another will be tracked as a continuation of the previous dive.



No-Stop Dive Mode

As long as you remain within what it calculates to be No-Stop Dive Time, your BRIDGE™ II's face will display No-Stop Dive Mode information as shown here:



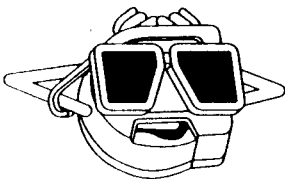
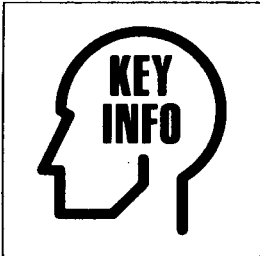
Here is more about what each piece of information means.

Current Depth

Your current depth in feet or meters, depending on whether you have an imperial (USA) or metric BRIDGE™ II. Remember that, if you are above a depth of 5.0 feet/1.5 meters, but still under water, the current depth will read 0.

Maximum Depth

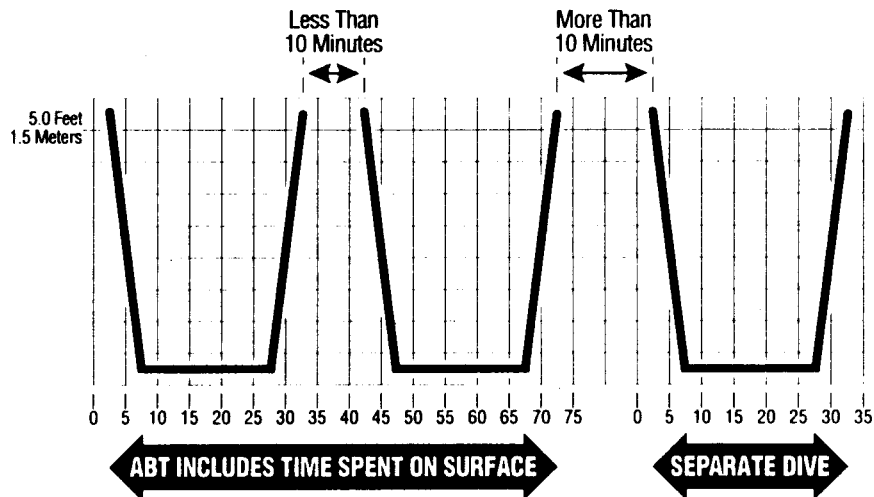
This is the maximum depth you have reached during the current dive. If you are presently at the maximum depth for the current dive, the readings for the current and max depths will be identical.



Whether your BRIDGE™ II "officially" tracks time spent on the surface as Surface Interval Time (SIT) will depend on how long you stay there • If it is less than ten minutes, the interval will simply be added to your Actual Bottom Time (ABT)

Actual Bottom Time

This is the amount of time, in minutes, that has passed since you first dropped below 5.0 feet/1.5 meters. If, during the dive, you were either out of the water or above a depth of 5.0 feet/1.5 meters for less than ten minutes, the time you spent there will be included in the Actual Bottom Time your BRIDGE™ II displays—even though it may have displayed a depth of 0 or Surface Mode during this period.



The fact this short interval is included in your Actual Bottom Time, however, should not have too adverse an effect on your No-Stop Dive Time Remaining, due to your BRIDGE™ II's ability to track the multi-level aspects of your dive.



Metric Depths

Imperial (USA) BRIDGE™ IIs display depth in feet (5, 6, 7, etc.). Metric BRIDGE™ IIs, on the other hand, display depth in 0.1-meter increments (1.5, 1.6, 1.7, etc.).

When it comes to decompression stops, Imperial (USA) BRIDGE™ IIs calculate and display stops in ten-foot increments (10, 20, 30, etc.). Metric BRIDGE™ IIs calculate and display stops in three-meter increments (3, 6, 9, etc.).

Other than this, the Imperial and Metric BRIDGE™ IIs perform identically while diving. □

No-Stop Dive Time Remaining

This is the amount of time, in minutes, that your BRIDGE™ II calculates you can remain at your present depth, and still be able to ascend without having to make mandatory stops. As is true of virtually all dive computers, your No-Stop Dive Time may increase if you ascend to a shallower depth. Conversely, if you descend to a deeper depth, you can expect to see your No-Stop Dive Time decrease—often very quickly and dramatically.

Be aware that your BRIDGE™ II is not capable of displaying, in exact minutes, No-Stop Dive Times of 100 minutes or more. Therefore, if your available No-Stop Dive Time exceeds 99 minutes, the number 99 will simply appear.

As we mention repeatedly throughout this manual, little is known about what actually causes decompression illness (DCI). Susceptibility appears to vary from person to person, and from day to day. Therefore, *no dive table or computer can guarantee you will not suffer DCI, even though you remain within its no-stop limits.*

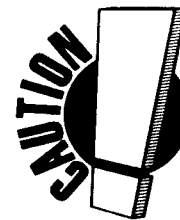
“Pushing” the No-Stop Dive Time limits of your BRIDGE™ II—or any other dive computer—to their absolute extreme will likely put you at even greater risk of DCI than if you push dive table limits. This is because dive tables do not typically account for the multi-level nature of your dives, and thus have somewhat of a greater inherent safety margin that dive computers can provide.

Intelligent divers remain well within the No-Stop Dive Time limits of whatever dive table or computer they use. While this can still not guarantee that you will not suffer DCI, evidence suggests that it will significantly increase your margin of safety.

OLI Bar Graph

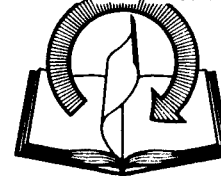
The Oxygen Limit Index (OLI) Bar Graph tracks your exposure to the oxygen in the gas mixture you are breathing. When diving air, it is unlikely this will be a significant factor unless you go well below the maximum recommended recreational diving limit of 130 feet/40 meters.

When diving Nitrox, on the other hand, exposure to elevated partial pressures of oxygen (PO_2) are a significant concern. Therefore, we will cover the OLI Bar Graph and its meaning in greater detail in Sections 6 and 7.

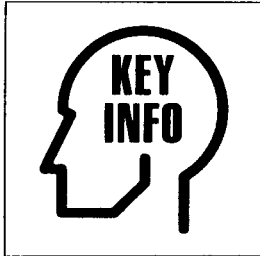


Important—Do not “push” your BRIDGE™ II to its absolute No-Stop Dive Limits. Doing so with this—or any other dive table or computer—may substantially increase your risk of suffering Decompression Illness (DCI).

FIND OUT MORE



Turn to page 6-6 to 6-8 and 7-5 to 7-6 to find out more about the OLI Bar Graph.



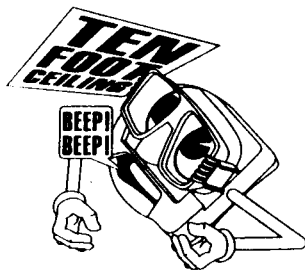
Decompression Diving Mode

As discussed in Section 1, *your BRIDGE™ II is not designed for decompression diving*, nor do we recommend or encourage decompression diving as a practice. There is simply too little anyone knows about the exact nature and causes of decompression illness (DCI) for any dive table or computer to be labeled “safe” for planned decompression diving.

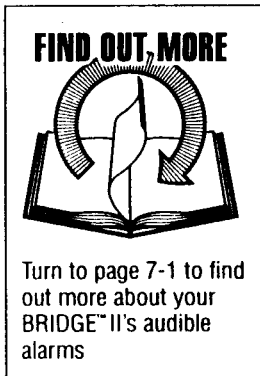
Still the possibility remains that, even though you make take reasonable care to avoid doing so, you may accidentally exceed your BRIDGE™ II's No-Stop Dive Time limits. To cover this contingency, your BRIDGE™ II is capable of calculating decompression stops beginning at depths as great as 90 feet/27 meters.

Entering Deco Mode

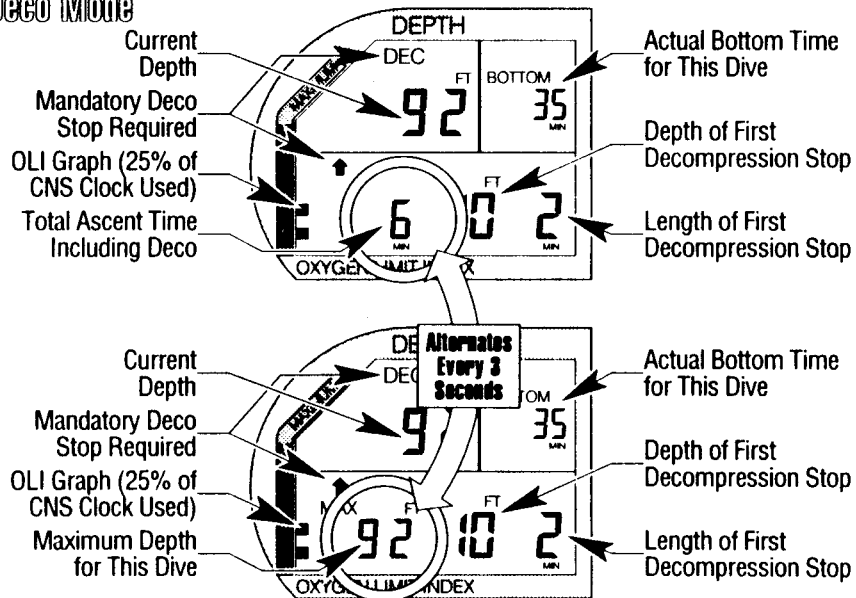
If you cause your BRIDGE™ II to enter Deco Mode, the first thing that will happen is that you will hear beeping (this is one of the many audible alarms we cover in greater detail in Section 7). If you look at your BRIDGE™ II's display, you will see that it has changed in appearance to what you see here:



Entering Deco Mode will cause your BRIDGE™ II to emit one of its many audible alarms



Deco Mode



Here is what the new information you will see displayed means.

Deco Mode Indicators

There are actually two separate indicators that show you that your BRIDGE™ II is in Deco Mode. One is the word *DEC*, which appears at the top of the display screen. The other is an “up” arrow that appears just above the work *MAX*, when maximum depth for this dive is displayed.

The word *DEC* means that a decompression stop is currently required before you can surface from this dive. The “up” arrow means that such a stop either is or *was* required at some point during this dive. What is the difference? Here is an example that may help explain.

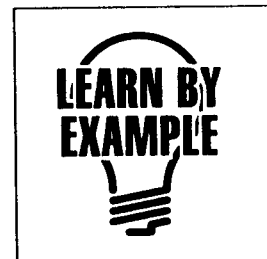
- You are a trained cave diver making a penetration in a cave that has a distinctly shallower section close to its entrance. While in the deeper section, your BRIDGE™ II goes into Deco Mode. While traversing the shallower section, however, you spend so much time at a reduced depth that, before you reach the entrance, you are back in No-Stop Dive Mode. In this instance, the lack of the word *DEC* will indicate that your BRIDGE™ II no longer calculates the need for a mandatory stop (despite the fact you are going to make one for safety's sake—right?). The possible presence of the “up” arrow, however, may indicate that such a stop was anticipated at some point during the dive.

Max Depth/Total Ascent Time

Once your BRIDGE™ II enters Deco Mode, the value for Maximum Depth will alternate every three seconds with Total Ascent Time. Total Ascent Time is the total time your BRIDGE™ II calculates it will take to reach the surface, if you follow its recommended ascent rates (covered in Section 7) and make the stop or stops indicated.

Mandatory Stop Depth and Time

When in Deco Mode, your BRIDGE™ II displays two numbers that pertain to any mandatory stops it calculates are required. The first of these numbers is the depth of your first required stop. The second number is the time, in minutes, you are to stay at this depth.



Bear in mind that, if your first required stop is at a depth greater than 10 feet or 3 meters, you can expect to be required to spend substantially longer periods at shallower stops. The indicated Total Ascent Time shows approximately how much total time will be required at all the different stops.

What if...?

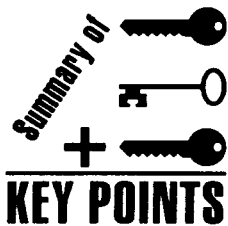
What if you make a mandatory deco stop at a depth slightly deeper than your BRIDGE™ II specifies? The answer is that your BRIDGE™ II will compensate for the deeper depth by having you remain at that stop (i.e., not clearing you for ascent) for longer than the display originally indicated.



Actually, no...

Try This Now...Not!

At this point, you have nearly all the information needed to take your BRIDGE™ II diving while breathing air. Before doing so, however, you should read Section 7, which covers your BRIDGE™ II's various audible alarms. Also, if you plan to use your BRIDGE™ II for Nitrox diving, you should also read Section 6, which addressed using your BRIDGE™ II with Enriched Air.



Summary of Key Points from Section 5

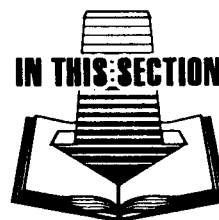
- To use your BRIDGE™ II while diving air, you must first set its FO₂ to 21 percent, and make sure it is mounted in a suitable place.
- Your BRIDGE™ II will count time spent above a depth of 5.0 feet/1.5 meters as Surface Interval Time (SIT) if greater than ten minutes. Otherwise, this time will simply be added to your Actual Bottom Time. Time spent under water on both sides of such an interval will be considered one dive.
- While in Dive Mode, your BRIDGE™ II displays current and max depth, Actual Bottom Time and No-Stop Dive Time remaining—although No-Stop Dive Time of 100 minutes or more is simply displayed as 99.
- Your BRIDGE™ II can calculate decompression stop depths and time, if needed.

Section 6: Diving Nitrox

Using your BRIDGE™ II while diving Enriched Air Nitrox (EANx) involves largely the same knowledge and skills as using it to dive air. The chief differences are:

- You must first set your BRIDGE™ II to the appropriate FO₂ before diving Nitrox.
- You must then re-set your BRIDGE™ II's before subsequent EANx or air dives, lest it go into *Default Mode*.
- Additionally, you must take steps to make sure your exposure to elevated partial pressures of oxygen (PO₂) does not exceed acceptable levels.

As we mentioned in Section 1, we assume that if you will be using your BRIDGE™ II to dive Nitrox, you have first obtained sanctioned training and certification from a qualified Enriched Air instructor. *Using Nitrox exposes divers to several potential risks not present when diving air.* When divers use Enriched Air without proper training, or without following the procedures that training teaches, they run the risk of *serious injury or death*. If you have not yet obtained the proper training and certification, do so before using your BRIDGE™ II to dive Nitrox.



- IN THIS SECTION**
- Getting Ready...and Diving 6-2
 - Default Mode. 6-3
 - Tracking Oxygen Exposure. 6-6

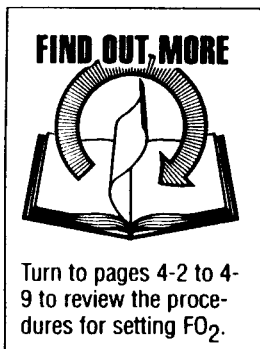
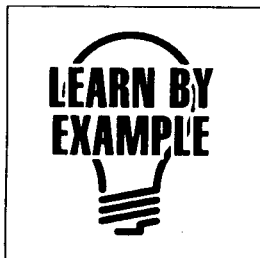
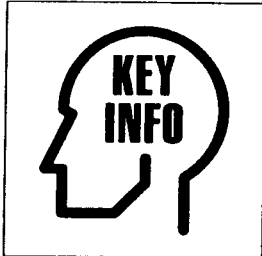
What you should be able to do after reading this section:

- Prepare your BRIDGE™ II for dives during which you will be breathing Nitrox.
- Describe: the purpose of your BRIDGE™ II's Default Mode; how and when it defaults; and how to avoid having your BRIDGE™ II default.
- Describe the purpose of your BRIDGE™ II's OLI Bar Graph, and how to use it to help stay within acceptable exposure to elevated partial pressures of oxygen.

Why you will find this of value:

- Your understanding of the knowledge and skills covered in Section 6 will help you use your BRIDGE™ II properly while diving Nitrox, as well as help you avoid some of the risks inherent in breathing Enriched Air under water.





Getting Ready . . . and Diving

As we mentioned at the beginning of this section, among the chief differences between using your BRIDGE™ II to dive air, and using it to dive Nitrox, is that when breathing Enriched Air, you must first analyze your gas mixture to determine the exact Fraction of Oxygen (FO₂) present, then program this value into your BRIDGE™ II. Once you do so, your BRIDGE™ II will hold this FO₂ setting until ten minutes after your next dive, or midnight (assuming your BRIDGE™ II's date and time are correctly set), whichever comes first. For example:

- At 11:34 PM, you set your BRIDGE™ II for an FO₂ of 32 percent, in preparation for an upcoming night dive. The dive boat, however, has difficulty finding the right mooring buoy, and it is past midnight before you and your buddies have the opportunity to enter the water. Upon doing so, you do a quick double check of your FO₂ setting and discover that it has *defaulted* to 50% O₂/79% N₂ (you will learn more about your BRIDGE™ II's Default Mode shortly). Before descending, you will need to re-set your FO₂ for 32 percent. Fortunately, this is something your BRIDGE™ II allows you to do at the surface of the water, without any special tools.
- You surface from a short cave dive with plenty of gas and bottom time remaining. You and your buddies decide to recalculate gas turnaround and make another dive, using your remaining time and mix. Prior to this second dive, however, you and your friends spend several minutes at the surface, discussing the next dive. Looking down, you see that a surface interval of more than ten minutes has passed, and your BRIDGE™ II has now entered its Default setting of 50% O₂/79% N₂. Again, this means that, before descending, you will need to re-set your FO₂ for the proper value.

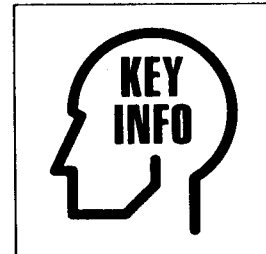
If you need to review the procedures for setting your BRIDGE™ II's FO₂, refer to pages 4-2 to 4-9.

Default Mode

As we just discussed, whenever more than ten minutes have passed since your last dive, or its internal clock determines that it is midnight or later, your BRIDGE™ II's FO_2 setting will revert to its *Default Mode* of 50 percent oxygen, 79 percent nitrogen. The only time this does not happen is when you have purposely set your BRIDGE™ II for air (an FO_2 of 21 percent). As we discussed in the last section, if set for an FO_2 21 percent, your BRIDGE™ II will hold this setting indefinitely, dive after dive.

Why Default at All?

Why does your BRIDGE™ II behave this way when set to gas mixtures other than air? And why the theoretically impossible mixture of 50% O_2 /79% N_2 ? Why doesn't the BRIDGE™ II simply hold whatever FO_2 you set it to, as it does when set for air?



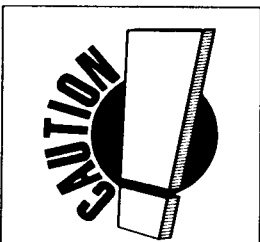
A Good Time to Set for Air

Do you ever have occasions when you regularly make a series of short, shallow dives, punctuated by surface intervals that may or may not last ten minutes or more? Dive instructors frequently do, especially when teaching ascent and descent exercises in open water.

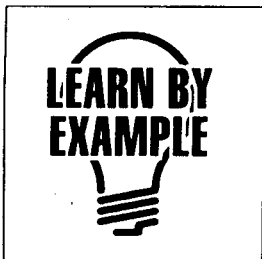
If this description characterizes some of your diving, then you probably realize that these are good occasions to set your BRIDGE™ II for air (an FO_2 of 21 percent). By doing so, you prevent your BRIDGE™ II from constantly going into Default Mode, when you pause on the surface to talk to students, assistants or buddies.

Of course, if you regularly do this kind of diving, with lots of ups and downs, you most likely will be breathing air, rather than wasting valuable mix. Nevertheless, if you are breathing Nitrox, setting your BRIDGE™ II for air will help prevent constant defaulting, and give you a slight safety margin when it comes to avoiding decompression illness (DCI). Bear in mind, though—as we outline on page 6-7—*when ever you set your BRIDGE™ II for a value less than the actual FO_2 in your breathing mixture, you must track your exposure to elevated partial pressures of oxygen separately from what your BRIDGE™ II's OLI Bar Graph tells you.* Failure to do so increases your risk of suffering from CNS oxygen toxicity. □





Important—When diving EANx, always analyze your mix and enter the appropriate FO₂ value into your BRIDGE™ II. If you do not, your BRIDGE™ cannot provide accurate information.



These questions are best answered by yet another: *Can you always be assured you will be diving exactly the same EANx mixture from one dive to the next?* The answer to this question is, of course, *no*.

Consider what would happen if your BRIDGE™ II was capable of holding an FO₂ setting of, say, 32 percent, dive after dive. What would happen if, on a subsequent dive, you ended up breathing a mixture that had an FO₂ higher or lower than 32 percent? Under these circumstances, there is simply no way your BRIDGE™ II could accurately track what was happening to you in terms of exposure to both nitrogen and oxygen.

Proper Nitrox diving procedures dictate that you analyze the gas mixture you will be using before every dive. This gives you the opportunity to set your BRIDGE™ II to the precise FO₂ of the gas you will be breathing, whether or not it is the same as you breathed on previous dives.

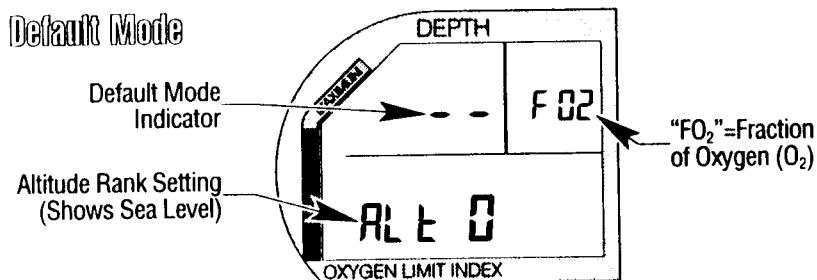
Should you neglect to follow this important safety procedure, your BRIDGE™ II's Default Mode attempts to protect you from your own mistakes. By assuming a worst-case scenario for both oxygen and nitrogen exposure, your BRIDGE™ II will attempt to force you to surface before either becomes a problem, no matter what it is you are actually breathing. Here are two examples that illustrate why your BRIDGE™ II's Default capability is so important.

- John Q. Fool makes a dive to 130 feet on EAN32—the maximum recommended depth for this gas. He intends to make a second dive to this depth, using the same mix. Between dives, however, he forgets to analyze this next mix and enter the corresponding FO₂ value into his BRIDGE™ II. This is fortunate, in that the tank he has set aside for this next dive actually has closer to EAN36 in it—a mix whose maximum recommended depth limit is just 110 feet. Fortunately for John, before he even reaches this depth, his BRIDGE™ II (which, in its Default Mode, assumes he is using a gas with an FO₂ of 50 percent), beeps furiously in alarm, while its OLI Bar Graph and max depth display flash on and off. Realizing what a fool he has been, John surfaces before any real damage is done.

- Following a deep wreck dive with friends, Mitch O. Instructor plans to take his beginning students on a shallow reef dive. For his wreck dive, Mitch uses EAN36, and sets his BRIDGE™ II accordingly. For the training dive that follows, Mitch intends to dive air. However, in the ensuing rush to get ready for the students' dive, Mitch forgets to reset his BRIDGE™ II. Fortunately, in its Default Mode, Mitch's BRIDGE™ II assumes he is using a mix with an Fraction of Nitrogen (FN_2) of 79 percent. Therefore, even though he has been distracted by students, Mitch's BRIDGE™ II's Default Mode covers the contingency that Mitch may be breathing as nitrogen-rich a mixture as possible.

Knowing When You're in Default

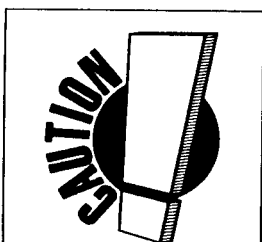
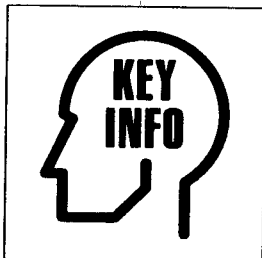
Whenever your BRIDGE™ II enters Default Mode, it indicates this status by displaying two horizontal bars in the area where the current FO_2 setting normally appears, as shown here:



Times when you can expect to see these horizontal bars include:

- While in Surface Mode, ten minutes after coming up from any dive in which your BRIDGE™ II's FO_2 was set to a value other than 21 percent.
- After "awakening" your BRIDGE™ II from Sleep Mode, if your BRIDGE™ II calculates that it has "cleared" itself of residual nitrogen from a prior dive in which its FO_2 was set to a value other than 21 percent.
- Any time after midnight, if you set it to an FO_2 other than 21 percent before midnight, but did not actually dive.





Important—For your BRIDGE™ II's OLI Bar Graph to accurately reflect your exposure to elevated partial pressures of oxygen (PO_2), you must set your BRIDGE™ II to the exact FO_2 of your breathing mixture. If you set your FO_2 to less than this, in an effort to gain more conservative No-Stop Dive Times, you must track your exposure to oxygen (CNS clock) separately, as what your BRIDGE™ II's OLI Bar Graph tells you will no longer be accurate.

Tracking Oxygen Exposure

All dive computers track a diver's exposure to nitrogen in some form or another. In addition to doing this, your BRIDGE™ II also tracks your exposure to oxygen. These are entirely separate functions. By being separate, your BRIDGE™ II is able to assume in its Default Mode that you are breathing the utterly impossible gas mixture of 50% O_2 /79% N_2 —and, in so doing, help protect you from exposure to both extremes, should you forget to properly analyze a gas mixture prior to using it, and enter the correct FO_2 value into your BRIDGE™ II.

The Oxygen Limit Index (OLI) Bar Graph

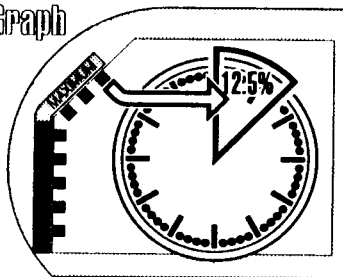
When you received your initial Nitrox Diver training, you learned about the concept of the *CNS Clock*. Depending on your exposure to oxygen on any given dive, you are said to have used up a certain percentage of this clock.

For example, at a PO_2 of 1.6 ATM, you have a maximum allowable limit, according to NOAA, of 45 minutes. If you expose yourself to this PO_2 for half that time (22.5 minutes), you are said to have used up half your CNS clock.

What the OLI Bar Graph Means

The OLI Bar Graph is how your BRIDGE™ II displays what it calculates to be how much of your CNS clock you have used. As shown below, each of its eight pixels represent 12.5 percent of that clock.

OLI Bar Graph



Each pixel on your BRIDGE™ II's OLI Bar Graph represents 12.5 percent of your CNS clock.

If your BRIDGE™ II OLI Bar Graph display two pixels, it means that your BRIDGE™ II calculates you have used up 25 percent of your CNS clock.

Can I Dive Nitrox With My BRIDGE™ II Set to Air?

Many Nitrox divers choose to use various mixtures of Enriched Air while diving air-based dive tables and/or computers. Their goal in doing so is to give themselves an added safety margin. For example, a diver using EAN32 in conjunction with an air-based dive table or computer will have his or her No-Stop Dive Times limited by the assumption that he or she is exposed to 15 percent more nitrogen than is really in that diver's breathing mixture. Is it possible to do this with the BRIDGE™ II?

The answer is, of course, *yes*. BRIDGE™ II users can increase their safety margin, relative to decompression illness, by setting their FO₂ to a percentage less than what is in their breathing gas, or to air (21 percent).

For example, a diver using EAN36 could set his or her FO₂ to, say, 28 percent for slightly more conservative No-Stop Dive Times. Or, for an even greater safety margin, he or she could simply set his or her BRIDGE™ II's FO₂ to air (21 percent).

Doing so is not without its drawbacks, however. *When you set your BRIDGE™ II's FO₂ to a value less than the Fraction of Oxygen that is actually present in your breathing mixture, it loses the ability to accurately track O₂ exposure.* Your BRIDGE™ II's OLI Bar Graph will still display data; however, that data will no longer be an accurate reflection of how much oxygen your body is really being exposed to. Your actual O₂ exposure will, in fact, be greater than what the OLI Bar Graph indicates.

What this means is that, if you choose to set your BRIDGE™ II's FO₂ to a percentage that is less than what is actually in your breathing mixture—such as 21 percent for air—you will need to track your O₂ exposure separately from your BRIDGE™ II, and ignore what its OLI Bar Graph tells you. The techniques for tracking O₂ exposure separately, of course, were covered in the Enriched Air Nitrox Diver training you should have obtained before ever considering using your BRIDGE™ II with Enriched Air.

Oxygen Toxicity is, of course, among the most serious risk factors Nitrox divers face. It should not be taken lightly. If you will be setting your BRIDGE™ II for anything less than the exact FO₂ present in your breathing mixture, be certain you track your real O₂ exposure carefully and accurately. □





**LEARN BY
EXAMPLE**

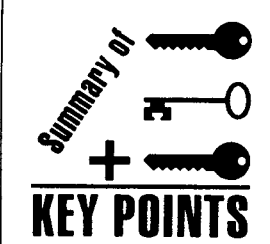
What Happens During Surface Intervals

Just as you off gas nitrogen during surface intervals, and thus increase the time you can spend on subsequent dives, your tolerance for exposure to elevated partial pressures of oxygen also increases the longer you wait on the surface. The algorithm your BRIDGE™ II uses to track your exposure to O_2 takes this into account.

For example, let's say that, following your first dive of the day, your BRIDGE™ II's OLI Bar Graph shows two pixels—indicating that you have used up 25 percent of your CNS clock. While you wait on the surface, you notice after a while that this graph changes to a single pixel. This means that, on your next dive, you will have a greater margin of safety, in terms of O_2 toxicity, than you would have had you made your second dive immediately after surfacing from your first.

Wait! Just One More Section to Go

By reading this far, you are almost ready to take your BRIDGE™ II on a dive, using either air or Nitrox. Before you do, though, it's important you read Section 7, which will tell you what your BRIDGE™ II's various audible alarms mean. □



**Summary of
KEY POINTS**

Summary of Key Points from Section 6

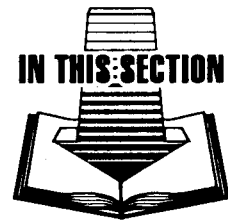
- Using your BRIDGE™ II while diving Nitrox involves largely the same knowledge and skills, and follows the same basic procedures as when diving air. The key difference is that, when diving Enriched Air, you must set your BRIDGE™ II FO_2 to match that of the gas mixture you will be breathing.
- To help protect you from the consequences of not analyzing and entering the proper FO_2 for subsequent dives, your BRIDGE™ II defaults to a theoretical mixture of 50% O_2 /79% N_2 ten minutes after you surface.
- Your BRIDGE™ II's OLI Bar Graph helps tell you what percentage of your CNS clock you have used during each dive. Each pixel on the graph represents 12.5 percent of that clock. □

Section 7: Notifications, Warning and Alarms

Your BRIDGE™ II uses a system of audible and visual notifications, warning and alarms to tell you about changes in status, inform you about potential problems and alert you to situations that require your immediate attention. Audible notifications and alarms include one or two beeps in rapid succession. Visual warning and alarms generally involve portions of your BRIDGE™ II's display flashing on and off. Depending on the situation, visual and audible warnings may occur simultaneously.

Your BRIDGE™ II's audible and visual signals can be divided into two categories. Notification of status changes, such as when you first activate your BRIDGE™ II or take it under water, comprise the first category. These situations require no special action on your part.

The second category includes warnings and alarms. Signals in this category alert you to situations such as: going into Deco Mode; ascending too fast; etc. Warnings such as these generally require your immediate attention.



- Status Change Notifications 7-2
- Warnings/Alarms. 7-2

What you should be able to do after reading this section:

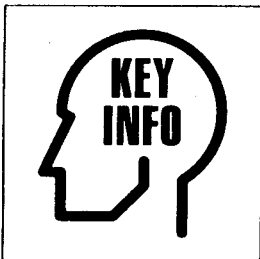
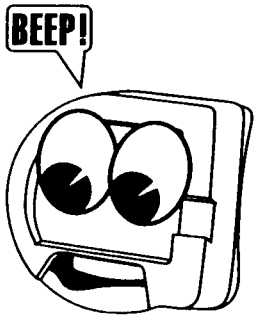
- Identify the normal status changes your BRIDGE™ II signals with a single beep.
- Describe how your BRIDGE™ II warns you of potentially hazardous situations, such as too-rapid ascents, decompression violations, approaching oxygen-exposure limits or exceeding its depth and time ranges, and the appropriate responses to these warnings.

Why you will find this of value:

- Your understanding of the knowledge and skills covered in Section 7 will help you use your BRIDGE™ II properly while diving, as well as help you avoid some of the risks inherent in breathing air and Nitrox under water.

GOALS





Status Change Notifications

Status change notifications involve an audible beep. They include:

Activation

When you “awaken” your BRIDGE™ II from Sleep Mode, the first confirmation that you have done so will be a beep.

Going Under

As discussed in Section 5, when you go under water, your BRIDGE™ II will beep.

Warnings and Alarms

When your BRIDGE™ II has something more important to tell you, it will generally use a series of two beeps, a flashing display or, possibly, a combination of both.

Too Rapid Ascent

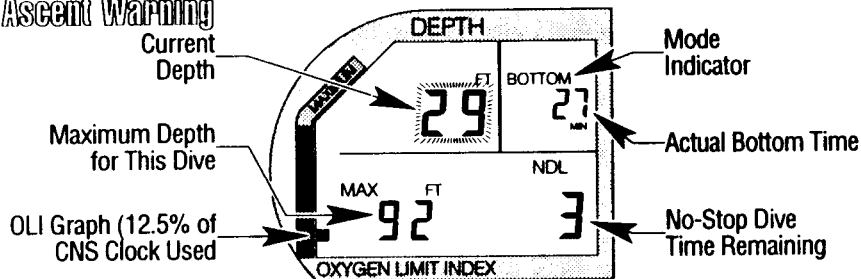
Your BRIDGE™ II's maximum allowable ascent rate varies according to depth. These rates are:

Depth in Feet	Ascent Rate (Feet)	Depth in Meters	Ascent Rate (Meters)
0–19 Feet	30 Feet per Minute	0–6 Meters	9 Meters per Minute
20–59 Feet	40 Feet per Minute	7–18 Meters	12 Meters per Minute
60+ Feet	60 Feet per Minute	19+ Meters	18 Meters per Minute

If you exceed these ascent rates, your BRIDGE™ II will warn you in two ways:

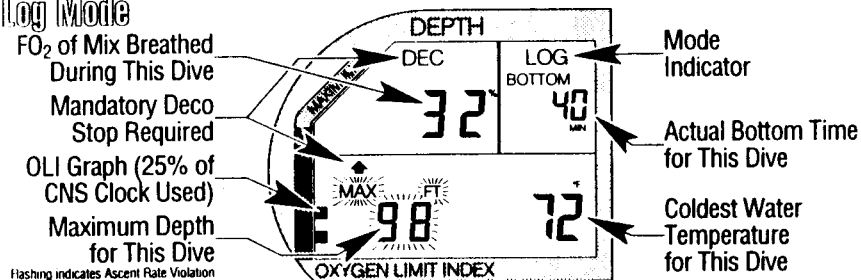
- An audible alarm will sound.
- The Current Depth display will flash on and off, as shown here:

Ascent Warning



The Current Depth display will stop flashing as soon as you have your rate of ascent back under control. If you exceed your BRIDGE™ II's maximum rate of ascent for more than ten seconds, the fact you did so will appear when your BRIDGE™ II is in Log Mode, and data for the dive in question is being displayed. What you will see is the Maximum Depth display flashing on and off, as shown below.

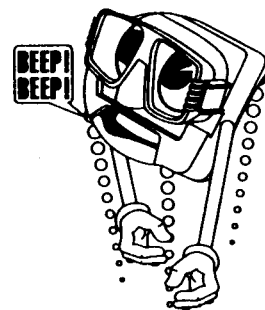
Log Mode



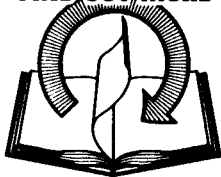
Additionally, if you upload data from your BRIDGE™ II to a personal computer, using the optional Personal Computer Interface and BRIDGE™ Windows™ software, ascent-rate violations will show in the appropriate check-off box.

Recorded date	<input type="checkbox"/> from BRIDGE	<input type="checkbox"/> Edited
Date	Max depth	
Time in	Temp	DLI
Time out	<input type="checkbox"/> Decompression divs	
Dive time	<input type="checkbox"/> Deco stop violation	
Oxygen	<input checked="" type="checkbox"/> Ascent rate warning	
	<input type="checkbox"/> Out-of-range error	

Too-rapid ascents and other warnings are recorded in your BRIDGE™ II's Log Mode and reported to BRIDGE™ Windows™ software when dive data is uploaded to a personal computer



FIND OUT MORE



Turn to pages 3-5 and 5-8 to 5-10 to review what happens when your BRIDGE™ II enters Decompression Mode.



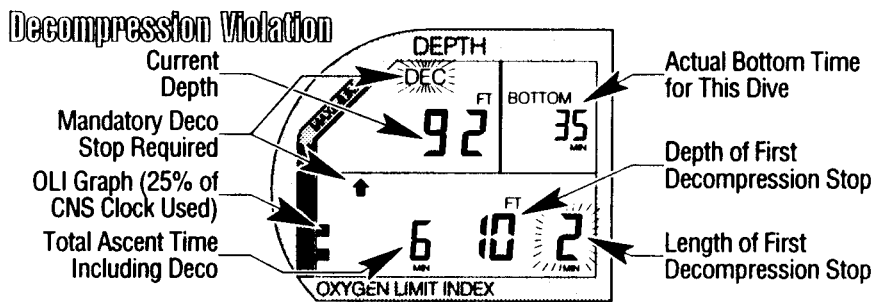
Entering Deco Mode

Another time your BRIDGE™ II will beep to alert you under water is if you enter Decompression Mode. Your BRIDGE™ II's display will then change, as we described on pages 5-8 to 5-10.

As the figure on page 3-5 shows, the fact decompression was required will further show up in Log Mode. This is also among the data that will be uploaded to a personal computer running BRIDGE™ Windows™ software.

Decompression Violation

If your BRIDGE™ II calculates that decompression stops are required during ascent, and you either fail to make these stops or attempt to decompress at depths shallower than those specified, two things will happen. First, an audible alarm will sound. Second, the word *DEC* and the time of the current stop will flash on and off.



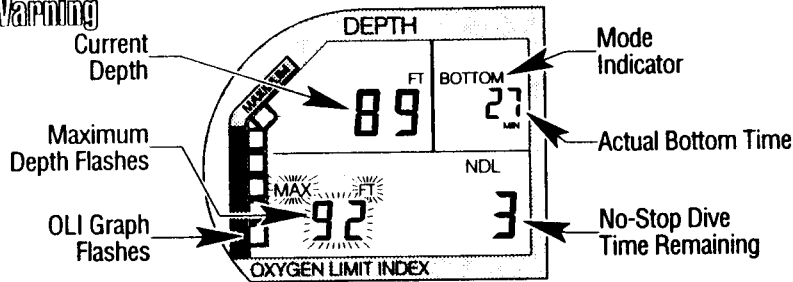
If you immediately heed these warning, descend to the proper stop depth and stay for the amount of time your BRIDGE™ II tells you to, the warnings will stop. On the other hand, if you ignore your BRIDGE™ II's warning, the display will continue to flash and your BRIDGE™ II will cease to continue its decompression calculations. Additionally, if you ascend to a depth of less than 5.0 feet/1.5 meters, and remain there for five minutes or more, your BRIDGE™ II will stop functioning. It will remain "locked up" in this manner for the next 24 hours.

As is typical for this type of warning, the occurrence of a deco-stop violation will appear in Log Mode, and be uploaded to a personal computer.

Approaching OLI Limit

If your BRIDGE™ II calculates that you have reached 80 percent of your allowable O₂ (CNS clock) exposure, an alarm will sound and the OLI Bar Graph and max depth displays will begin flashing on and off, as shown here:

OLI Warning



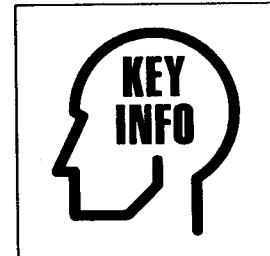
This indicates one of two possibilities.

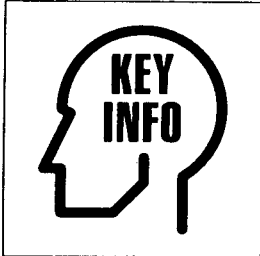
- You really have reached 80 percent of your allowable exposure to elevated partial pressures of oxygen (PO₂).
- You forgot to re-set your BRIDGE™ II's FO₂ prior to the dive, it went into Default Mode and—because it now assumes you are breathing EAN50—your BRIDGE™ II calculates that you reached 80 percent of your CNS limit prematurely.

Which of these two possibilities caused the “approaching OLI Limit” alarm to activate should be very obvious. If it is because you truly are approaching your CNS limit, you should ascend immediately or, if this is not possible, at least try to switch to a gas mixture with a substantially lower FO₂ than what you are currently breathing.

It is more likely, however, that you simply forget to set your BRIDGE™ II's FO₂ prior to the dive, and it is now in Default Mode. If this is the case, you will most likely realize what happened right away. If so, you have two choices.

- If you have been tracking your O₂ exposure separately from your BRIDGE™ II's OLI Bar Graph, and know—with absolute certainty—that you are nowhere near your CNS limit, you may wish to continue the dive. Your BRIDGE™ II's nitrogen-exposure algorithm will assume you are diving air, possibly giving you more conservative No-Stop Dive Times in the process. The OLI Bar Graph will continue to





flash; however, all other aspects of your BRIDGE™ II will continue to function normally. Under these circumstances, you may be able to ignore the OLI Bar Graph and continue your dive, within reasonable, common-sense limits.

- If, on the other hand, you don't have a good idea where you stand in terms of your exposure to elevated partial pressures of oxygen (PO₂), you are better off terminating the dive as quickly as possible.

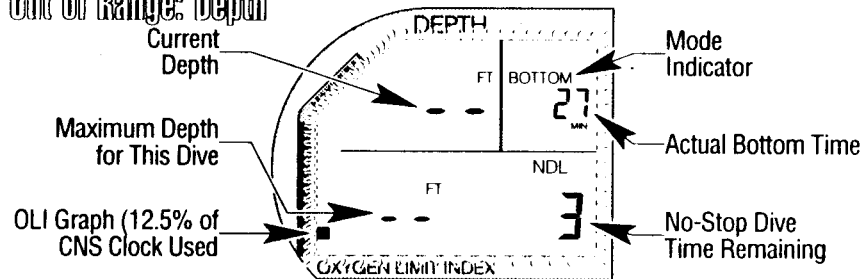
As with other alarms, an OLI warning will show up while in Log Mode—in this case, by means of a flashing OLI Bar Graph and max depth display.

Out-of-Range Alarm

Your BRIDGE™ II is capable of going to a maximum depth of 328 feet/100 meters, and tracking up to 599 minutes of Actual Bottom Time (ABT) on a single dive. If you exceed these limits, however, your BRIDGE™ II will display an Out-of-Range alarm.

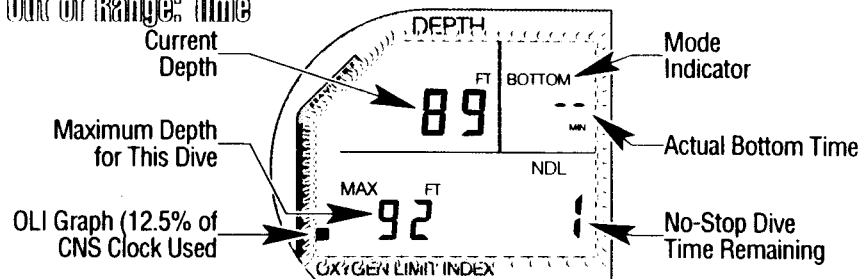
These alarms are basically a series of horizontal bars where depth or time information usually appears. In both instances, all data appearing on your BRIDGE™ II's display will flash on and off. The Out-of-Range alarm for depth looks like this:

Out of Range: Depth



The Out-of-Range alarm for time looks like this:

Out of Range: Time



Whenever a BRIDGE™ II goes Out of Range in terms of depth or time, it “locks up” for the next 24 hours. The data displayed continues to flash; however, the BRIDGE™ II in question will not display new information regarding depth, time, ascent or any other factor. It will not be capable of displaying any additional warnings, other than its Out-of-Range status. Thus, it user will have to rely in back-up instrumentation and take extreme care while ascending.

Okay, Now You Can Dive

Having carefully read and studied all the information in Sections 1 through 7, you are now ready to use your BRIDGE™ II under water. You will still want to take a few minutes to read Section 8, which pertains to the proper care and maintenance of your BRIDGE™ II. Doing so will help ensure its long and healthy life. □



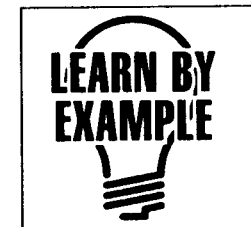
The Importance of Back-up Equipment and Procedures

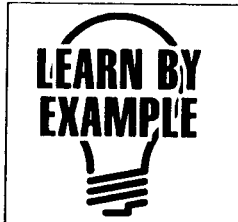
As much as we'd like to be able to say your BRIDGE™ II is an utterly reliable and fail-safe piece of equipment, the fact remains that no dive gear is utterly bullet-proof. This is why prudent divers employ back-up equipment and procedures.

Back-up equipment may include: a depth gauge and dive timer or watch; a second dive computer; or all these items. Back-up procedures may include: tracking depth, time and surface interval separate from your BRIDGE™ II, and making sure your dives conform to the limits of a set of dive tables or a second computer; and tracking CNS O₂ exposure separately from your BRIDGE™ II's OLI Bar Graph.

Here are several examples that show why back-up procedures and equipment are a good idea.

- When Joe moved up to his new BRIDGE™ II, he held onto his old, air-based dive computer and carries it with him on dives. When diving Nitrox, Joe sets his BRIDGE™ II to the exact FO₂ of the mix he will be using. By doing so, Joe's BRIDGE™ II helps him track his O₂ exposure through its OLI Bar Graph.





At the end of each dive, Joe has two sets of No-Stop Dive Times—one from his BRIDGE™ II, which assumes he has made the dive on the EANx mix he programmed into it, and one from his air computer, which is typically more conservative. Joe generally lets the more conservative No-Stop Dive Times from his air computer limit his dives. By comparing the two No-Stop Dive Times, he is able to gauge how much of a safety margin this procedure gives him.

Additionally, Joe's BRIDGE™ II's OLI Bar Graph provides information on where he stands relative to the risk of CNS O₂ toxicity. This information is helpful in case he makes a mistake in his own, separate O₂ exposure calculations.

- Jane teaches a variety of technical-diving courses. Her students generally travel some distance to take courses from her and have limited time to complete the required dives. Therefore, if Jane is unable to complete the required number of dives each day with her students, it is her students who suffer.

Jane's normal diving practice is to try to remain comfortably inside her BRIDGE™ II's No-Stop Dive Times. Still, she also keeps track of her depths, times and surface intervals separately from her BRIDGE™ II, and makes certain these remain within dive-table limits.

Sometimes, Jane's BRIDGE™ II will tell her that, following a multi-level dive, she is well within its No-Stop Dive Time limits. Still, according to her dive tables, such a dive may require a ten-foot stop. When this happens, Jane always makes the required stop. This way, should anything ever happen to her BRIDGE™ II, she will be able to complete the day's diving, using her back-up depth gauge and timer. This works because she makes certain she has remained within her dive table's parameters.

- Even though his BRIDGE™ II has a nifty OLI Bar Graph, Pete likes to make sure his PO₂ never exceeds 1.4 ATM, and his total bottom time for the day never exceeds two hours (that's 20 percent inside the NOAA single-dive exposure of 150 minutes for a PO₂ of 1.4 ATM).

On his first dive of the day, Pete dives EAN32 to a depth of 100 feet/30 meters. His bottom time is 30 minutes. According to Pete's calculations, doing so has used up 20 percent of NOAA's CNS clock and 25 percent of what he likes to limit himself to personally. Due to the multi-level nature of his dive, Pete's BRIDGE™ II's OLI Bar Graph shows that he has only used up 12.5 percent of his CNS clock.

For the second dive of the day, Pete will be returning to 100 feet/30 meters—again using EAN32. Before the second dive, Pete resets his BRIDGE™ II's FO₂ for 32 percent. After entering the water, Pete descends approximately 10 feet/3.0 meters, then immediately returns to the surface because he forgot his video camera.

While on the surface, his buddy has an equipment problem that takes a little over ten minutes to solve. During this time, Pete's BRIDGE™ II enters Default Mode, as it calculates that Pete has just completed a ten-minute surface interval following a one-minute dive to 10 feet/3.0 meters. Not realizing he is in Default Mode, Pete and his buddy descend. (As you have read earlier, Pete's BRIDGE™ II now thinks he is diving the impossible mixture of 50% O₂/79% N₂.)

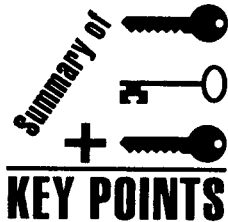
Ten minutes into the dive, the OLI Bar Graph on Pete's BRIDGE™ II goes bonkers. Assuming that Pete is on EAN50, it yells and screams that Pete is in imminent danger of passing out from CNS O₂ toxicity—even though, on the nitrogen side, it shows ten more minutes of No-Stop Dive Time remaining. Fortunately, Pete realizes what is going on. It is obvious to Pete that his BRIDGE™ II is in Default Mode and he is prepared to deal with it.

Because he keeps a separate track on his O₂ exposure, Pete knows that he has only used up less than 35 percent of his personal CNS limit—despite what his BRIDGE™ II says. Thus he can stay down several more minutes without significant risk.

Pete also realizes that, because his BRIDGE™ II is in Default Mode, its nitrogen-exposure algorithm assumes he is breathing air. Although this will cut his No-Stop Dive Time a little shorter, it does increase his safety margin.

Pete reminds himself to double check his FO₂ and Altitude Rank settings a little more carefully, should a situation like this arise again. Nevertheless, because of his planning and back-up procedures, Pete positioned himself to get the most from this dive, despite his BRIDGE™ II going into Default Mode. □





Summary of Key Points from Section 7

- Your BRIDGE™ II uses a system of audible and visual notifications, warnings and alarms to tell you about changes in status, inform you of potential problems and alert you to situations that require immediate attention.
- A single, audible beep alerts you to simple changes in status, such as when you first activate your BRIDGE™ II, take it under water, or when it enters Default Mode.
- When your BRIDGE™ II has something more important to tell you, it will generally use a series of beeps, a flashing display or a combination of both.
- Beeping combined with a flashing Current Depth value signals a too-rapid ascent.
- Beeping combined with a change in your BRIDGE™ II's Dive Mode display signals entry into Decompression Mode.
- When your BRIDGE™ II beeps and you see the word *DEC* and the time specified for your current deco stop flash, your BRIDGE™ II is warning you of a violation of decompression.
- Beeping combined with a flashing OLI Bar Graph max-depth display warn you that you have used up 80 percent of your allowable CNS clock. (This can often result from your BRIDGE™ II being in Default Mode.)
- Horizontal bars, where depth or time information normally appears while in Dive Mode, signifies a depth or time "Out-of-Range" error. It will take your BRIDGE™ II 24 hours to recover from such an error.
- Careful planning, and having and using back-up equipment and procedures, can often help you avoid many of the problems associated with your BRIDGE™ II's warnings and alarms.

Section 8: Preventive Care and Maintenance

You'll discover that your BRIDGE™ II is very easy to care for. In this section, we cover the three basic elements of preventive maintenance for your BRIDGE™ II: cleaning, storage and battery care.

Cleaning

As with all equipment, your BRIDGE™ II should be thoroughly rinsed with clean, fresh water after every dive.

- If you will be making several successive dives in salt water, you will find it helpful to give your BRIDGE™ II a quick dip in the rinse bucket after surfacing from each dive. This will help prevent salt crystals from forming around the contacts or in the pressure-transducer compartment between dives.
- When rinsing your BRIDGE™ II, avoid directing a high-pressure stream of water at the pressure-transducer ports. This can actually cause damage.
- If you dive salt water, you should soak your BRIDGE™ II for an hour at the end of each day of diving, in a shallow bowl of fresh water. This will help dissolve any build-up of salt or other mineral deposits.


What you should be able to do after reading this section:

- Perform the necessary preventive care and maintenance for your BRIDGE™ II.

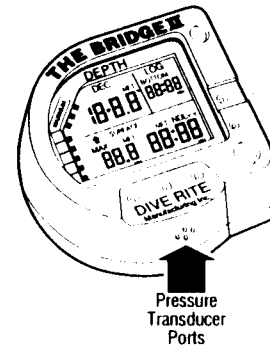
Why you will find this of value:

- Your mastery of these important care and maintenance skills will help ensure you get the best possible return on your investment in your BRIDGE™ II.

IN THIS SECTION

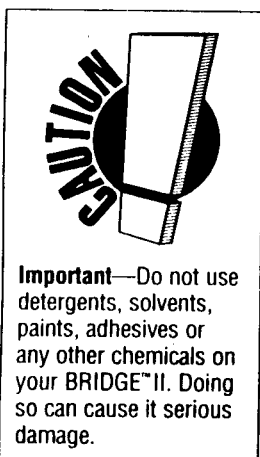
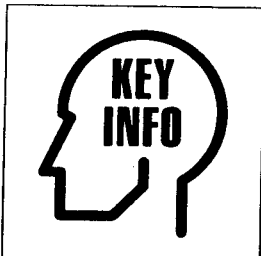


- Cleaning 8-1
- Storage 8-2
- Battery Care 8-3



Be sure that, when rinsing your BRIDGE™ II, you do not squirt water directly into its pressure transducer ports.





You will need to use care when cleaning around the contacts.

- If mineral deposits or dirt build up around your BRIDGE™ II's contacts, wipe them off with a clean, soft cloth.

Your BRIDGE™ II's water-resistant case is made of plastic. It can be damaged by the wrong substances.

- Do not use detergents or chemicals to clean your BRIDGE™ II.
- Do not use solvents such as gasoline, cosmetic sprays and cleaners on your BRIDGE™ II.
- Use of paints or adhesives can also damage your BRIDGE™ II's case.

After thoroughly rinsing your BRIDGE™ II in fresh water following a dive, you should use a clean, dry cloth to wipe off any excess moisture. Then allow your BRIDGE™ II to thoroughly dry in air before putting it away.

Storage

After it has thoroughly dried, your BRIDGE™ II is best stored inside the zippered pouch that came with it.

- Keep this pouch in a cool, dry place—away from direct sunlight.
- Do not store your BRIDGE™ II with wet dive gear. Doing so can result in premature battery discharge and other damage.

Keep your BRIDGE™ II away from extremes of both heat and cold.

- Do not allow your BRIDGE™ II to sit in areas exposed to extreme heat, such as the dashboard of a car.
- If your BRIDGE™ II has been exposed to extreme heat or cold, allow it to sit for several minutes in a pan of water at room temperature, until its temperature returns to normal.

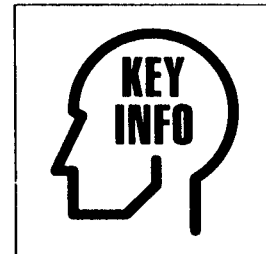
Using your BRIDGE™ II after it has been exposed to extreme heat or cold, without first allowing it to return to more normal temperatures, can impair its accuracy and cause it to display erroneous information.

Battery Care

Your BRIDGE™ II's battery is among its most important components.

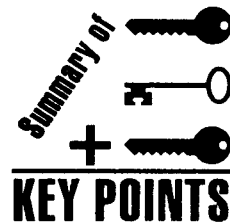
- When your BRIDGE™ II's Battery Indicator Display (described on page 2-14) drops below five pixels, it may stop functioning at any time. You should return your BRIDGE™ II to Dive Rite for battery replacement before this happens.
- If your BRIDGE™ II displays the words *Err* or *All Err* for an extended period, and does not return to Battery Saver (Sleep) mode, there may be leakage, or a battery-related or other problem with the computer. This, too, will require that you return the computer to Dive Rite for service.

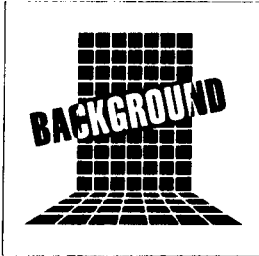
Battery replacement and other internal service must take place at Dive Rite. There is no other way to validate your BRIDGE™ II's proper function after service. Attempts at service by other than Dive Rite's own qualified technicians will void your warranty.



Summary of Key Points from Section 8

- Before storing your BRIDGE™ II, you must rinse it thoroughly in fresh water and allow it to dry. Use only fresh water to rinse your BRIDGE™ II; do not use any chemicals or solvents.
- Store your BRIDGE™ II away from direct sunlight and extremes of heat and cold. Do not store it with wet dive gear.
- Long before your BRIDGE™ II's battery is completely drained—or whenever it displays an *Err* or *All Err* message without going into Sleep Mode—return it to Dive Rite for battery replacement and/or service.





Appendix: BRIDGE™ II

Specifications

Dimensions

Dimensions (Imperial)	2 ¹ / ₁₆ x 2 ⁷ / ₁₆ x 1 ³ / ₈ inches
Dimensions (Metric)	6.9 x 6.3 x 3.3 centimeters
Weight	4.8 ounces/660 grams

Range of Operation

Maximum Depth	328 feet/100 meters
Maximum Allowable Bottom Time (Single Dive)	599 Minutes
Log Book Capacity	6 Dive/6 Hours
Log Book Sampling Intervals	3 Minutes
Programmability: Fraction of Oxygen	EAN21–EAN50
Decompression Range (Imperial)	10–90 Feet (10-Foot Increments)
Decompression Range (Metric)	3–27 Meters (3-Meter Increments)

Algorithms Used

Nitrogen Uptake/Release	Modified Buehlmann
Oxygen Exposure	Hamilton/Boher
Tissue Compartments	9
Half-time Range	5–470 Minutes

Ascent Rates

Depth in Feet	Ascent Rate (Feet)	Depth in Meters	Ascent Rate (Meters)
0–19 Feet	30 Feet per Minute	0–6 Meters	9 Meters per Minute
20–59 Feet	40 Feet per Minute	7–18 Meters	12 Meters per Minute
60+ Feet	60 Feet per Minute	19+ Meters	18 Meters per Minute

Altitude Ranks

Altitude Rank	Range (Feet)	Range (Meters)
0	0–2,400	0–800
1	2,500–4,500	900–1,500
2	4,600–7,100	1,600–2,300
3	7,200–9,000	2,400–3,000

Depth		No-Stop
Feet	Meters	Dive Time
30	9.1	99
40	12.2	99
50	15.2	65
60	18.3	46
70	21.3	34
80	24.4	24
90	27.4	19
100	30.5	16
110	33.5	13
120	36.6	11
130	39.6	9
140	42.7	8
150	45.7	7
160	48.8	7

These are the single-dive no-stop limits your BRIDGE™ II will display if set to air. If it calculates that there is residual nitrogen present, or if it is set to an FO₂ other than 21 percent, your BRIDGE™ II will display different no-stop dive times.