

# **zeagle**®

**SYSTEMS, INC.**

## **N2iTion3 Dive Computer Owner's Manual**



# WARNINGS

**Before using the N2iTion3, it is extremely important that you read the following points as well as similar warning and caution notices that appear throughout this manual. Failure to do so could result in damage to or loss of equipment, serious personal injury, or death.**

The **N2iTion3** is designed for use by certified, recreational divers who have obtained a sufficient level of knowledge and skill proficiency through formal training, ongoing study and experience. It is not intended for use by persons who lack the qualifications, and thus may not be able to identify, assess, and manage the risks scuba diving entails. Use of the **N2iTion3** in conjunction with Enriched Air Nitrox (EANx) further requires that the diver be trained and certified for Nitrox diving.

The **N2iTion3** is not intended for use by commercial, military or technical divers whose activities may take them beyond the commonly accepted depth limits for recreational diving.

The **N2iTion3** is designed for use by divers breathing either normal compressed air or Enriched Air Nitrox (EANx) mixtures whose fraction of Oxygen falls within a range of 22 to 99%.

Although the **N2iTion3** is capable of calculating decompression stop requirements, this ability is provided as a safety feature only, should a diver accidentally exceed the No-Decompression Limits (NDLs). Dives requiring mandatory stage decompression carry substantially greater risk than dives made well within no-decompression limits.

Decompression diving is widely believed to entail substantially greater risk of decompression illness than dives made well within the No-Decompression Limits (NDL). The **N2iTion3** provides decompression stop information solely as a contingency in case divers accidentally exceed the No-Decompression Limits. **It is not designed or intended for use as a tool to plan or execute dives that participants know will entail mandatory decompression.**



# WARNINGS

The **N2iTion3** is designed to be used by only one diver at a time. Divers should not share a single **N2iTion3**, or any dive computer, on the same dive. Additionally, no diver should lend his or her **N2iTion3** to anyone else until it calculates that no measurable residual nitrogen remains after previous dives, and displays neither the “Desaturation Time” nor “No Fly” indicators while in Surface Mode. Further, no diver should use his or her **N2iTion3** for repetitive dives unless that same **N2iTion3** has accompanied him or her on all previous dives in the same repetitive dive series.

Neither the **N2iTion3**, nor any other dive computer presently available, physically measures the amount of nitrogen present in body tissues, or the rate at which this nitrogen is being absorbed or released. Instead, the **N2iTion3** monitors depth and time, and uses this data to work a mathematical formula designed to emulate how individuals in good general health, and whose physical characteristics do not place them among those at higher risk of decompression illness, are assumed to absorb and release nitrogen from body tissues. Thus, the **N2iTion3** cannot compensate for factors such as age, obesity, dehydration, cold or exertion, which experts believe place divers at greater risk of decompression illness. If these, or similar factors apply to you, use the **N2iTion3**, and any other dive computer or dive table, with even greater caution.

Experts still know surprisingly little regarding the exact nature and causes of decompression illness (also known as decompression sickness, DCI, or DCS). Susceptibility to DCI may vary substantially from person to person and from day to day. Neither the **N2iTion3**, nor any dive computer or table, can guarantee that you will not suffer decompression illness. Even though you use these items correctly, you may still suffer DCI. Do not rely on the **N2iTion3** as your sole means of avoiding decompression sickness.

Experts recommend divers wait at least 24 hours following any dive before flying in an aircraft or driving to altitude. **Failure to allow sufficient surface interval before performing these activities may substantially increase the risk of Decompression Illness (DCI).**

Do not plan dives to depths deeper than those for which the **N2iTion3** is capable of displaying an available No-Decompression Limit. Doing so could cause you to exceed the No-Decompression Limits or limiting  $PO_2$  of 1.6 bar, which may in turn substantially increase your risk of decompression illness or CNS Oxygen Toxicity and can lead to **serious personal injury or death**.





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## 1. Common Sense Warnings

As is true of every piece of diving equipment, including all dive computers, the **N2iTion3**'s abilities are not limitless. There are certain limitations and restrictions of which you must be aware, and certain precautions you must take when using the **N2iTion3**. This dive computer is for recreational use and not for professional use. Though the unit will allow use with up to 3 gas mixes containing 21-99% oxygen, individuals who have not taken a recognized Nitrox diving course should not use the computer for Nitrox diving. Also, it is very dangerous to set the mixture on the dive computer to a different value than the gas mix in the tank. Always set your mixes each time you dive and never dive with incorrect settings.

## 2. Introduction

Congratulations on your selection of the Zeagle **N2iTion3** Dive Computer. The **N2iTion3** is a compact and sophisticated dive instrument that will give you reliable, trouble-free performance, dive after dive. Please read and understand this manual completely before using your new Zeagle **N2iTion3** Dive Computer. The information in this manual has been developed for your safety and understanding.

### Key Features

- Can handle both air and nitrox (or 3 nitrox mixes)
- User changeable PO<sub>2</sub> setting
- Visual and Audible alarms
- Safety stop function
- Decompression and non decompression dive information
- Digital Compass
- Gage mode
- Maximum depth alarm
- Dive time alarm
- Display backlight
- Dive History Mode
- User changeable battery



### 3. Operating Gas Theory


This dive computer performs decompression diving calculations using 12 compartment algorithms developed by Mr. C. Randy Bohrer based on Swiss-model theory and research. It is intended for use by individuals who have completed a recognized scuba diving course. Persons who have not taken scuba diving training or who are not aware of the risks of scuba diving should not use this unit.


This computer is designed with the assumption that you will be doing no-decompression diving. It also provides decompression data just in case, but this is dangerous and should be avoided.


This dive computer's standard settings assume the user is of average physical strength and in ordinary health. The individual diver should therefore dive responsibly and make a safe diving plan suited to him or herself.


This dive computer is designed to be used by only one diver. Therefore, if lending it to another person, you should start completely over from the beginning status (Desaturation time, PGT graph and OLI graph should all be 0) and the computer should not be displaying the 'Surf. Time' or 'Do Not Fly' icons. You should never lend the computer to someone when doing repeated dives.

### 4. Buttons and Display Icons

**Dive Icon**  : This icon is displayed in the lower left of the display when the computer is in Dive Mode, non-decompression limits and decompression stops are calculated in this mode.


**Gage Icon**  : This icon is displayed in the lower left of the display when the computer is in Gage Mode. Only time, depth and temperature are calculated in this mode.


**Nitrox Icon**  : This icon appears in the lower left of the display when any of the 3 gas mixes  $FO_2$  is set to any value other than AIR (21%). This icon will blink if the computer is using default values.


**Depth Alarm**  : This icon appears in the lower right of the display when the user has an alarm set to sound at a certain depth.






**Dive Time Alarm**  : This icon appears in the lower right of the display when the user has an alarm set to sound after a certain amount of dive time.

**Log Book Icon**  : This icon appears in the upper right of the display when you are in Log Mode or Profile Mode to indicate that you are viewing saved data from a previous dive.

**Deco Icon**  : This icon appears in the upper left of the display if the diver has violated the No Decompression Limits. The computer will display depth and time information for decompression stops. The icon will blink if the Deco stops are violated.

**Do Not Fly Icon**  :  
This icon is on when the computer calculates desaturation time remains. When the computer determines desaturation time is complete, the icon will turn off. If the computer calculates a desaturation time less than 12 hours, the icon will stay on for 12 hours. In gage mode the icon is turned off after 48 hours of surface time.

**Battery Icon**  : Displays current battery voltage, as follows.

- When battery voltage is 2.8V or above the battery Icon is OFF.
- When battery voltage is 2.6 to 2.7V the battery Icon blinks.
- When battery voltage is less than 2.6V the battery Icon is ON.

You cannot go into dive mode while the battery indicator Icon is blinking or ON. All other modes will function. Battery voltage is automatically measured during all modes except PC Transfer and Dive Mode.




**Important!** Once the battery indicator is blinking or ON you must return the **N2iTion3** to your local authorized Zeagle dealer for battery replacement, or replace the battery yourself following the procedure outlined later in this manual. Before replacing your **N2iTion3**'s battery, be sure to upload or copy all dive log data to your log book, as the battery replacement process erases all such data from the **N2iTion3**'s memory.

## Altitude Icon :

The **N2iTion3** automatically measures and calculates the current location's altitude and displays the corresponding altitude rank. A new altitude measurement and calculation is made once every ten minutes.

When the altitude is over 19680 feet (6000 meters), the display will blink while showing the altitude rank and 'Err' icons, the dive computer will not function until the altitude drops to a lower level (under 19680 feet (6000 meters)). The calculations of PGT, OLI and desaturation time are stopped when altitude is over 19680 feet (6000 meters), and 'Err' is displayed; however surface time continues to be counted. When the altitude is less than 19680 feet (6000 meters), the display shown before reaching that altitude is displayed again. The same displays and processing occur if the altitude cannot be measured for any reason.

Altitude measurements are made during all modes except Dive and PC Transfer Mode. The computer will display the current altitude setting icon in Time Mode and Plan Mode (In Dive Log Mode the rank of the dive is displayed.)

	Altitude Rank	Altitude Range
	0	0-900m (0-2952ft)
	1	600-1800m(1968-5904ft)
	2	1500-2600m(4920-8528ft)
	3	2300-6000m(7544-19680ft)
	Err	Over 6000m(over 19680ft)

### WARNING

The **N2iTion3** is not intended for use at altitudes above 19680 ft (6000 m). Diving at high altitudes carries an increased risk of decompression sickness.

### CAUTION

- A change in the altitude rank will cause PGT graph to be displayed and desaturation time to be performed even if the PGT graph was not previously active.
- Never touch the water detection switch (**E**, shown in figure 1) or expose it to moisture when on an airplane or in any other environment where air pressure can change quickly.
- When the PGT graph is high (7 or 8 bars), a change in the altitude rank may cause the ninth level indicator to appear. To prevent this, never use the dive computer when going to high-altitude locations, since it will disable dive mode as a safety precaution. Normal function of the dive computer will be restored when the PGT graph drops to 8 bars or less.
- A difference of one minute may occur between when the PGT graph is turned off and when desaturation time is turned off.

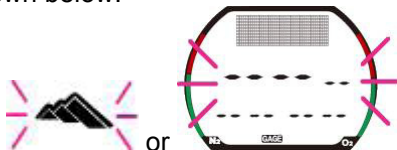
## Operating the Display Modes

There are some display modes that the **N2iTion3** enters and/or exits automatically. For example, by taking the **N2iTion3** underwater, the unit will switch to Dive Mode. Upon surfacing the unit will enter Surface Mode.

To access other modes you may need to push one of the three large buttons on the **N2iTion3**'s face. These are the **A** (LEFT), **B** (MODE), and **C** (RIGHT) buttons. The **E** (TOP) button is the water sensor.

Most functions are accessed with a single button press. Others require holding the button until you get the desired effect.

Throughout this manual, displays or icons that blink are shown with lines around them as shown below:



## 5. Device Tolerances and Limits

### Accuracy

- Time: average monthly variance  $\pm 30$  seconds
- Depth:  $\pm 3\% + 0.5\text{m}$  ( $\pm 1\% + 2\text{ft}$ )
- Temperature:  $\pm 2.0^{\circ}\text{C}$  ( $\pm 4^{\circ}\text{F}$ )

### Measurement Range

- Depth: 0.0-99.9m(0.0-328ft) (Uses saltwater as standard)  
Measurement interval of 1 second.
- Dive time  
Dive Mode: 0-599 minutes  
Gage Mode: 0-1199 minutes
- Altitude: 0-6000m (0-19680ft)  
Measurement interval of 10 minutes. (Does not function in Dive Mode or PC Transfer Mode)

### Operating temperature

- Operating temperature:  $-5 \sim +45^{\circ}\text{C}$  ( $23 \sim 104^{\circ}\text{F}$ )  
(At cold temperature, the display will be somewhat dim)

### NITROX Setting

- FO2 21-99%, increments of 1%

### Units of Measurement

- You can change the units of water depth and temperature by pressing and holding A and C in Dive Set Mode
- Water depths units change from Meters to Feet
- Temperature units change from Centigrade to Fahrenheit
- Values are based on Meters and  $^{\circ}\text{C}$  and converted to Feet and  $^{\circ}\text{F}$

### Battery Life

- About 1.5 years in Time Mode (uses CR2032 battery)

### Out of measurement range condition

All display segments on the screen blink during this alarm.

- **A: (LEFT)** Press this button for 3-4 seconds to change the Mix. The backlight will be on for 4-5 seconds.
- **B: (MODE)** Turns on the backlight for 4-5 seconds.



- **Hold C:**(RIGHT) to display the temperature, dive time, maximum water depth and FO2 setting. The backlight will come on for 4-5 seconds.
- At a depth less than 5 feet (1.5 m) the water detection button switches OFF and the **N2iTion3** moves to a lock condition.

### Out of measurement range lock

In this mode the **N2iTion3** is locked until 48 hours have elapsed. All display segments blink during time mode. The computer can't move to dive plan mode, dive set mode or time set mode.

- **A:**(LEFT) Press this button to select the place you want to change. In time mode, display and backlight is on from 4-5 seconds.
- **B:**(MODE) This button is the mode select button.
- Time mode—>Dive log mode—>Dive profile mode—>PC transfer mode —>Time mode
- **C:**(RIGHT) Press this button to change settings of the selected item. In time mode, backlight is on from 4-5 seconds.

### WARNING

An **N2iTion3** displaying an “Out of Range” warning is incapable of displaying other critical information such as depth, time, Ascent Rate, PO2, OLI, and Deco Stop Violations, and required decompression stops. You should not under any circumstances use an **N2iTion3** in such a way that would cause the Out of Range Warning to be displayed. **Under such conditions, the risk of serious personal injury or death would be substantial.**



## 6. Pre-Dive Functions

Before diving with your **N2iTion3** you will need to set the date and time. You can also set your FO2 for up to 3 mixes, depth alarm, dive time alarm, safety factor, water type, deep stop option, and profile interval.

### Compass Mode

To enter Compass mode from Time mode press the **B(MODE)** button once. The first time you enter Compass Mode you will be required to set the compass declination (see below).

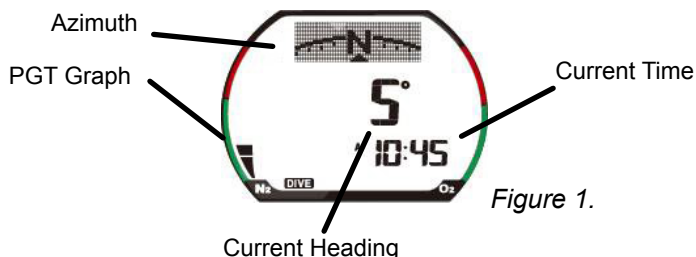


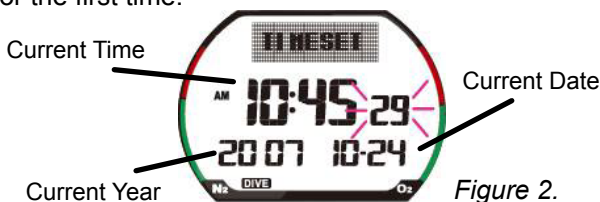
Figure 1.

- **A (LEFT)**: backlight on for 4-5 seconds.
- **Hold A (LEFT)** button to save your current heading.
- **B(MODE)**: Moves to Dive Set mode.
- **C(RIGHT)**: backlight is on from 4-5 seconds.
- **Hold C(RIGHT)** button key until the dot matrix display reads **ROTATE SLOWLY** will set the compass declination. Slowly rotate the computer 360 degrees, the graph will indicate rotation as you go. When the process is complete, the display will read ROTATION OK.

Note: All display segments flash when locked in the out-of-range state or the decompression stop violation state.

## Time Set Mode

You should set the correct current date and time before you use your **N2iTion3** for the first time.



- **A (LEFT)**: Steps between setting minutes, hour, year, month, day, 12/24 hour format.
- **B (MODE)**: Moves to Time Mode
- **C (RIGHT)**: Increases value when setting minute, hour, year, month or day. Resets to :00 when setting seconds.
- **Hold C (RIGHT)**: Increases value rapidly while holding button.
- **A + C** : Activates all segments on display. This will allow you to verify every segment of the display is functioning.

Upon entering time mode, press **A (LEFT)** to get to the unit you want to set, use **C (LEFT)** to set the correct value, then **A (LEFT)** to move to the next unit. After setting time and date, **TIME FORMAT** will appear, press **C (RIGHT)** to select between 12 and 24 hour clock modes.



With the all segment on display active, pressing **A (LEFT)** or **C (RIGHT)** will return to Time Set Mode. Pressing **B (MODE)** will enter the contrast setting menu. The default value is 20, **C (RIGHT)** will increase the contrast. When it reaches maximum it will loop to minimum, at this time the display may appear blank, continue pressing **C (RIGHT)** until the desired contrast level is reached. Pressing **B (MODE)** will then save the setting and return to Time Set Mode.

## Dive Set Mode and Gage Dive Set Mode

To enter Dive Set mode from Compass mode press the **B** (MODE) button once.

Note: If the surface interval is less than 10 minutes the computer will not enter gage mode.

In Set mode the following information is displayed:

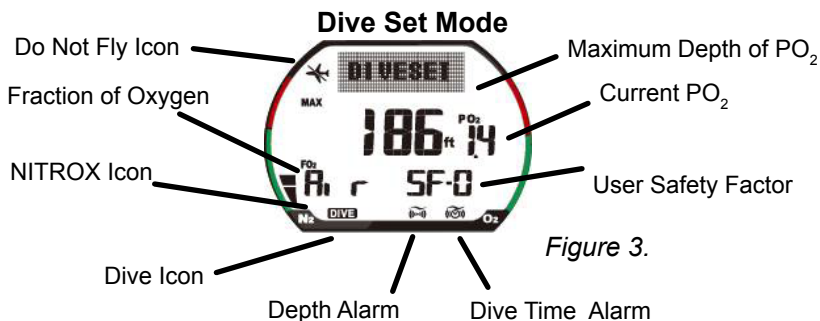


Figure 3.

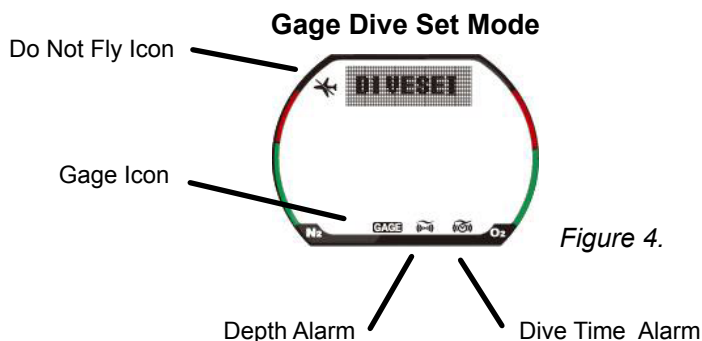


Figure 4.

- Fraction of oxygen (FO2): setting range 21-99%
- Maximum depth of PO<sub>2</sub>: Based on the fraction of oxygen, this indicates the water depth where the PO<sub>2</sub> (pressure of oxygen) reaches the set PO<sub>2</sub> limit for that mix (from 1.0 to 1.6). If the water depth rank exceeds the maximum water depth for the PO<sub>2</sub> limit, the no-decompression limit displayed will show bars ('---').
- User Safety Factor (USF): If the level is "0" the usual algorithm is used for dive calculations. When the level is changed to "1" or "2" the next higher altitude setting is used.



- Profiling time: This setting is the sampling time used during the dive, it can be set to either 10 or 30 second intervals.
- Maximum Depth Alarm: This alarm will generate a sound when it reaches the set depth. The setting range is 4-328 ft. (2-99 meters), and can be set in 1 foot increments.
- Dive time alarm: This alarm generates a sound when it reaches a diving time value set by the diver. The setting range is 1-599 minutes in 1 minute increments.
- Nitrox Icon: This Icon is ON when any mix has been set to a value other than "AIR" (MIX1) or "--" (MIX2 and MIX3). It blinks if the MIX2 and MIX3 settings are at the default value.
- Sea/Fresh Water: This display indicates if the computer is set to calculate based on sea water or fresh water.
- Gage Mode Icon: This icon will be displayed if gage mode has been selected.

### CAUTION

The "--" display: The setting changes to this display automatically at Midnight (00:00) on the day the MIX value was set, except when the setting is "AIR". If the user forgets to set the FO2 an audible and flashing alarm is generated when the computer moves to Dive mode.

If MIX1 is set at "AIR" (21%) and MIX2 or MIX3 is set at 21% or "--%" the setting for MIX1 will remain at 21%. The displayed setting for MIX2 and MIX3 will always revert to "--%" at Midnight (00:00) on the day the value was originally set.



## Operation of buttons during Dive Set and Gage Set mode.

- **A:**(LEFT) Selects the value you would like to set.
- **B:**(MODE) Moves to the next Mode.
- **Hold B:**(MODE) Moves to Time Mode.
- **C:**(RIGHT) Changes the value of the current setting.
- **Hold C:**(RIGHT) Scrolls through values quickly.
- **Hold A + C** to switch between ft/°F and m/°C
- Auto return: The display automatically returns to Time Mode when no buttons are used for 2-3 minutes.
- NOTE: If PGT, OLI, DESAT, and the SURF.T are active, it isn't possible to switch to Gage Select Mode



### Setting Dive/Gage Mode

- Press **A** and "DIVE" will blink
- **C** selects "DIVE" or "GAGE"
- **A** continues to set MIX1



### Setting MIX1, MIX2, MIX3

- **C** changes PO<sub>2</sub> value.
- **A** selects MIX1 FO<sub>2</sub> value
- **C** changes FO<sub>2</sub> value
- **A** continue and set MIX2.
- **B** continues to Plan Mode.

Note: If no value is set for MIX2, you can not set MIX3.



### Setting Depth Alarm

- **C** changes depth value.
- **A** selects ON/OFF
- **C** toggles Depth Alarm ON/OFF
- **A** continues to set Dive Time Alarm
- **B** continues to Plan Mode.



### Setting Dive Time Alarm

- **C** changes time value.
- **A** selects ON/OFF
- **C** toggles Time Alarm ON/OFF
- **A** continues to set Deep Stops
- **B** continues to Plan Mode.



### Setting Deep Stops

- **C** toggles Deep Stops ON/OFF
- **A** continues to set Water type
- **B** continues to Plan Mode.



### Setting Water Type

- **C** toggles SEA/FRESH
- **A** continues to set Profile Time
- **B** continues to Plan Mode.



### Setting Profile Time

- **C** toggles 10 sec. / 30 sec.
- **A** continues to set User Safety
- **B** continues to Plan Mode.



### Setting User Safety Factor

- **C** toggles level 0, 1, 2
- **A** returns to Dive Set Mode
- **B** continues to Plan Mode.

During Gage mode certain functions are not available. The buttons used for the remaining functions are the same as in Dive Mode. The order of the functions is: Depth Alarm, Dive Time Alarm, Water Type, Profile Time.

You cannot set MIX1, MIX2, MIX3, Deep Stops, or Safety Factor in Gage Mode.



### Setting Depth Alarm

- **C** changes depth value.
- **A** selects ON/OFF
- **C** toggles Depth Alarm ON/OFF
- **A** continues to set Dive Time Alarm
- **B** continues to Plan Mode.



### Setting Dive Time Alarm

- **C** changes time value.
- **A** selects ON/OFF
- **C** toggles Time Alarm ON/OFF
- **A** continues to set Deep Stops
- **B** continues to Plan Mode.



### Setting Water Type

- **C** toggles SEA/FRESH
- **A** continues to set Profile Time
- **B** continues to Plan Mode.



### Setting Profile Time

- **C** toggles 10 sec. / 30 sec.
- **A** continues to set User Safety
- **B** continues to Plan Mode.

## Dive Plan Mode

To enter Dive plan mode from Time mode press the **B (MODE)** button three times. **Note:** This mode cannot be entered while using Gage Mode.

### Operation of buttons during dive plan mode

- **A (LEFT)** Decreases the depth rank.
- **B (MODE)** Moves to dive log mode.
- **C (RIGHT)** Increases the depth rank.
- **Hold B (MODE)** for 1-2 seconds to move to time mode

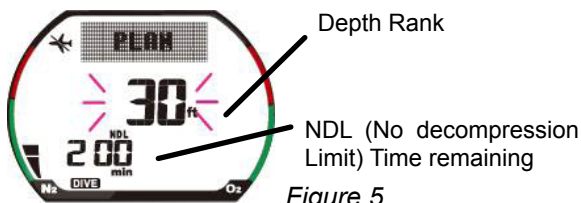


Figure 5.

The following functions are displayed in Dive plan mode:

- Depth rank and NDL (no decompression limit): Use this function to set the planned dive depth, from 30-160ft in 10ft increments. The NDL for the current PGT graph is displayed. The displayed NDL is for MIX1. The maximum displayed NDL is 200 minutes.
- PGT (Pressure of Gas in Tissue) graph: This bar graph shows the current amount of Nitrogen using nine indicator segments.
- OLI (Oxygen Limit Indicator) graph: This bar graph shows the current level of the Oxygen Limit with eight indicator segments.
- Altitude rank: The computer measures and calculates the current location's altitude and displays the corresponding altitude rank.
- Nitrox Icon: This Icon is ON when a MIX is set to higher than 21%
- Don't Fly Icon: This icon remains on until the computer calculates desaturation is complete. (or 48 hours after using Gage mode)
- Desaturation time: This indicates the time remaining until the body's internal nitrogen is desaturated.
- Surface time: Surface time is started from when the depth reaches 5 feet (1.5m) or less. If the depth changes back to 5 feet (1.5m) or more within 10 minutes, the previous dive continues. Surface time is displayed for 48 hours after the last dive.



## Time Mode

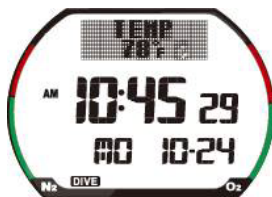


Figure 6.

Time mode is the **N2iTion3**'s default mode. In this mode the screen displays a minimum of the current date and time of day. Within 24 hours of surfacing from a dive, the **N2iTion3** will display additional information while in Time Mode.

- Current time: This is the current time of day.
- Current date: This is the current date.
- Battery Icon: Displayed if battery voltage is too low, unit locks.
- Gage Mode Icon: Computer is in Gage (no NDL calculation)

### Normal Display (Dive Mode and Gage Mode)


- **A** (LEFT): Switches display between temperature and user text .backlight on 4-5 seconds.
- **B** (MODE): Moves to Dive Set mode
- **C** (RIGHT): backlight on 4-5 seconds.



Figure 7.

## 7. In-Dive Functions

There are several different displays and functions available in DIVE mode including: non-decompression dive mode, decompression dive mode, safety stop condition, gage dive mode, and out of measurement range condition. The functions of each mode are described below.

### Non-decompression Mode

This is for a non decompression (NDL) dive.

### Gage Mode

The only functions that can be performed in this mode are: depth, water temperature, and dive time. If you use this mode when diving, the **N2iTion3** remains in Gage mode for 48 hours. When using gage mode, the safety stop function is not available.

### Decompression Mode

This is used for dives that last longer than the NDL's. The DECO icon warning will continue until the advised depths are reached. If you ignore the DECO warning and go straight to the surface for longer than 10 minutes, the display will freeze and all calculations will stop. The **N2iTion3** will switch back to TIME mode after 48 hours. This information is recorded in the dive log. The **N2iTion3** can only switch to log, profile, or PC transfer mode while the calculations have stopped.

### Safety Stop Timer

This timer shows the recommended safety stop while in dive mode. If the diver descends over 32 feet (9.9m), then comes up to a depth of 20 feet (6m), this value appears instead of NDL. Safety stop time starts at 3 minutes and is counted down until the time is 0. The safety stop timer changes back to displaying NDL once the timer reaches zero.

The timer stops temporarily if the depth becomes equal to or greater than 26.5 feet (8.1m) after the counter stops temporarily, and the NDL display will appear again.

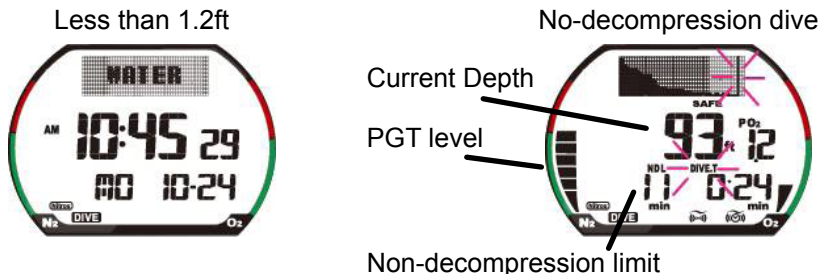
The timer is reset if the depth becomes equal to or greater than 33 feet (10m). If the diver doesn't follow the safety stop information the **N2iTion3** will not impose any penalty, as it will with Deco Stops.



## Dive Mode:

The **N2iTion3** will automatically enter Dive Mode when the **E** (TOP) buttons come in contact with water.

- **Hold A** (LEFT) To switch to Demand A or Demand B screens.
- **Hold B** (MODE) To move to MIX Change.
- **C** (RIGHT) To go to Compass Mode.
- **Hold C** (RIGHT) to save a bookmark in the dive profile.



- PGT (Pressure Gas in Tissue) graph: This indicates the level of Nitrogen with nine level indicators.
- OLI (Oxygen Limited Indicator) graph: This indicates the level of Oxygen limit with eight level indicators.
- Nitrox Icon: This Icon is ON when FO2 has been set to other than AIR (21%). It blinks if the FO2 setting is the default setting. (Dive Mode)
- Current depth: Indicates current depth, measured once per second.
- Maximum depth: Displays the maximum depth recorded during the current dive. If depth is over 328ft (99.9m) the display shows "- - -"
- Dive Time: Current running time for this dive, starting at 4ft (1.2m) A dive time of 3 minutes or more is considered one dive, and is numbered in the log in order starting at 1. Dives of less than 3 minutes are not logged in the profile.
- Dive Time Alarm icon: Displays if there is a Dive Time alarm is set
- Depth Alarm icon: Displays if a maximum depth alarm is set.
- Ascent rate indicator: Shows current ascent rate during the dive.
- Dive graph display: Charts the depth of the dive over time. Shown at the top of the display, the blinking line shows the current status.



## Default Mode warning:



If the unit enters the water and no FO2 values have been set, the default mode alarm will sound and the display will blink. Remove the computer from the water and set at least one MIX value to clear default mode.

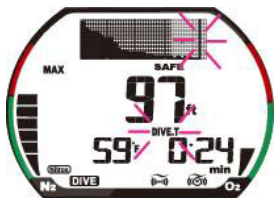
## Demand Screens:

- **Hold A (LEFT) key** to alternately display the Demand A and Demand B screens for 2 seconds each.



Demand A displays current FO2 setting, User Safety Factor and entry time.

The display continues to show the PGT graph, OLI graph, dive time and depth alarm icons and dive/gage mode icon.



Demand B displays the temperature, maximum depth and dive time.

The display continues to show the PGT graph, OLI graph, dive time and depth alarm icons and dive/gage mode icon.

## Safety Stop state:

This shows recommended safety stop time when in Dive Mode. On a dive below 33ft (9.9m), once the diver ascends to 20ft (6m) or less, this timer appears in the top of the display. The safety stop information remains until the 3 minutes have counted down or the depth is less than 4ft. If the user does not follow this stop, the computer does not impose a penalty, as it would with a Deco Stops violation.

Current Depth

Stop Time Remaining



## Changing MIX during dive:

- **Hold B (MODE)** key to change between MIX settings.



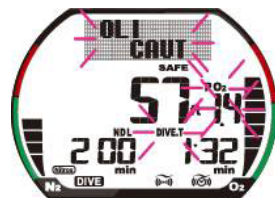
The screen will display current MIX number, FO2 setting, PO2 setting and non-decompression limit.

## NDL warning



When the No-Decompression Limit time remaining reaches 3 minutes the alarm will sound and the NDL time will blink.

## OLI warning



When the graph reaches 7 bars the alarm sounds and the display blinks. This information is not recorded in the dive log.



When the graph reaches 8 bars the alarm sounds and the display blinks. This information is recorded in the dive log.

## PO2 warning

The PO2 value is determined based on the set FO2 and the current depth. When the PO2 value exceeds a certain value the warning occurs once.



If the PO2 is equal to the set limit, the display blinks and the alarm sounds.



If the PO2 equals or exceeds 1.6 ATA, the entire OLI graph blinks as well.

## Decompression Mode

The **N2iTiOn3** will automatically enter Decompression Mode if No-Decompression Limits are exceeded.

### Decompression Stop Warning:

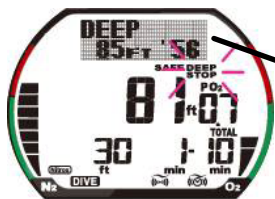
If the No-Decompression Limit is exceeded, the unit will enter decompression mode. The display will blink and the alarm will sound. The display will show the planned deco stop depth and time.



### Deep Stop state:

If the Deep Stops option is enabled in Dive Set mode, the computer will calculate and alert the diver to additional deco stops when in Decompression Mode and depth exceeds 69ft (21m). The alarm will sound and the DEEP STOP icon will blink. Deep Stops recommends 1 minute stops, like safety

stops, when deeper than the deepest Deco Stop. The Deep Stop before the deepest Deco Stop takes effect at the next higher User Safety Factor. Deep Stops count as part of total dive time. The computer requires an ascent rate of 33ft (10m) per minute during deep stops.



The top of the display will indicate the planned stop depth and time.

### Decompression Stop Violation Warning:

If a depth is shallower than the indicated decompression stop, the entire display will blink and the alarm will sound every 1 minute until the diver returns to the stop depth.



Stop Depth

Stop Time

## Dive Compass mode:

- Press **C** (RIGHT) to move to Dive Compass mode.



The screen will display current heading, along with the dive time, PGT graph, OLI graph, dive time and depth alarm icons.

**Hold A**(LEFT) to save or clear a heading in navigation mode.



## Out of Range Warning:

When a measurement range is exceeded, the exceeded parameter will show " - - " and the display will blink.



## 8. Repetitive Dive Functions

The N2iTion3 can calculate repetitive dives, tracking gas saturation and desaturation across all dives, and allowing you to use Plan Mode to plan your next dive based on your current pressure group and remaining desaturation time. Because of this, never lend the computer to another diver after diving, until the Do Not Fly icon disappears and there is no Desat time displayed. Also, do not make a repetitive dive with the computer if it was not used on all preceding dives.

- **A (LEFT):** backlight on 4-5 seconds.
- **B (MODE):** Moves to Dive Set mode , if surface time is less than 10 minutes, display moves to Dive Plan mode.
- **C (RIGHT):** backlight on 4-5 seconds.

### Surface Interval Display (Dive Mode)

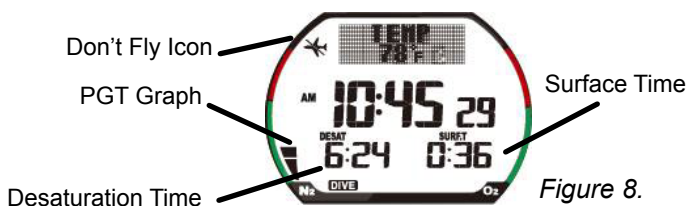


Figure 8.

### Surface Interval Display (Gage Mode)



Figure 9.

- PGT (Pressure Gas in Tissue) graph: This indicates the level of Nitrogen with nine level indicators.
- OLI (Oxygen Limited Indicator) graph: This indicates the level of Oxygen limit with eight level indicators.
- Nitrox Icon: This Icon is ON when FO2 has been set to other than AIR (21%). It blinks if the FO2 setting is the default setting. (Dive Mode)
- Desaturation time (DESAT): This indicates the time remaining until the body's internal nitrogen is desaturated.
- Surface time (SURF.T): This is the surface interval time after a dive. The timer is started from when the depth reaches 5 feet (1.5m) or less. If the depth changes back to 5 feet (1.5m) or more in less than 10 minutes, the previous dive is continued. Surface time is continued for 48 hours.
- Mode: This display shows the computer in Time mode.
- Do Not Fly Icon: While the computer calculates desaturation time remains this icon is visible, it is off when fully desaturated.



## 9. Dive Log Mode

Saved data from dives longer than 3 minutes can be displayed in this mode. Data is recorded during each successive dive, the log data storage capacity is about 59 hours of dive time (when the profile's sampling time is set at 30 seconds). Once the 60 dive limit is reached, the oldest log data is cleared each time a new dive is made.

- **A** (LEFT): Moves to the next page in the Log.
- **B** (MODE): Moves to Profile Mode.
- **C** (RIGHT): Moves to the previous page in the Log.

### Page 1



### Page 2



### Page 3



- Log number: indicates the dive number in sequential order
- Dive Date/Entry Time/Exit Time: stores date and time dive occurred
- Dive time: total time spent on dive, including stop time

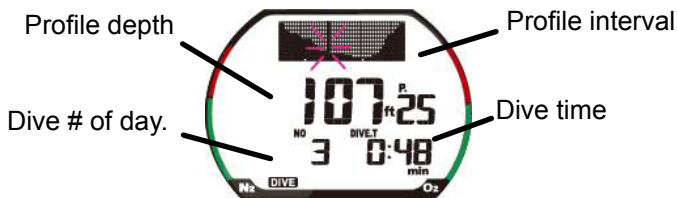


- Average depth: based on number of profile entries.
- Maximum depth: deepest point reached during dive.
- Water temperature: temperature at maximum depth. from 23F to 104F (-5C to 40C). Display will read 'Lo' or 'Hi' if out of range.
- Dive warnings: These icons display any warnings that were activated during the dive. Out of range warnings will blink in the display.

## 10. Dive Profile Mode

Dive profile mode 'plays back' the recorded information from the dive, while displaying the relative place in the dive on the depth graph. With each profile interval, the display will update to display the values saved at that point in the dive.

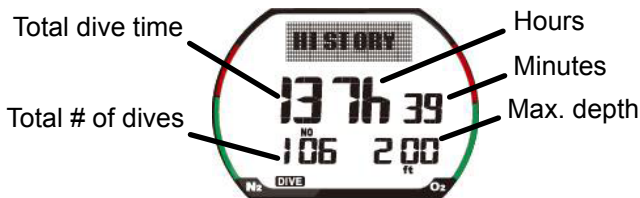
- **A** (LEFT): Goes to the next dive in the Log.
- **B** (MODE): Moves to History mode
- **C** (RIGHT): Goes to the previous dive in the Log



## 11. Dive History Mode

Dive History mode acts as a cumulative 'odometer' for all dives made using the computer. The history will store up to a total of 9999 dives, or a total dive time of 999 hours 59 minutes.

- **B** (MODE): Moves to PC Transfer Mode



## 12. PC Transfer Mode

PC Transfer mode allows you to copy the saved information in the N2iTion3 to a PC, using an additional connector and software. PC Transfer Mode cannot be entered if surface time is less than 10 minutes, if there is no Log data, or if an EEPROM error has occurred. During PC Transfer Mode altitude and battery level are not measured during PC Mode.

- **B (MODE):** Cancels transfer and moves to Time Mode. Unit moves to Time Mode automatically after a successful transfer.



PC Mode Indicator



## 13. Resetting

All settings can be set to manufacturer default values by using the computer reset button. This button is located on the back of the computer near the battery compartment door. To reset the computer simply press the button. All data regarding nitrogen absorption, desaturation, as well as the time and date will be erased.

### WARNING

Never reset the computer if you are planning repetitive dives. By resetting the computer you erase all calculations regarding desaturation. Failure to follow this warning could result in **serious personal injury or death.**

## 14. Care and Cleaning

Do not store the computer in hot and/or humid environments. The pressure transducer is sensitive to both heat and humidity. If impaired, it may cause the display of incorrect altitude or depth data.

The **N2iTion3**'s Liquid Crystal Display (LCD) may darken if left in a hot environment (such as a car dashboard). It will return to normal once cooled; however extensive exposure to heat may shorten LCD life.

Other than for battery replacement, following the procedures outlined in this manual, the **N2iTion3** is not to be disassembled by anyone other than ZEAGLE or its authorized dealers. Unauthorized disassembly will violate the warranty.

If the **N2iTion3** does not appear to be functioning properly, in any manner, do not use it to dive. Return it to your authorized ZEAGLE dealer for repair.

Rinse the **N2iTion3** thoroughly in fresh water following every dive.

Do not use cleansers, chemicals, or solvents to clean the **N2iTion3**. Use a soft cloth to gently wipe dirt or water stains from the screen.

Store the **N2iTion3** in a clean, dry location. After diving, wipe the computer dry and store it in a location separate from other damp items.



## 15. Battery Replacement

In order to replace the battery remove the clear cover with a coin by unscrewing it in the “open” direction indicated by the arrow on the cover. Remove the battery and inspect the compartment for signs of corrosion or water. If you find signs of corrosion return the computer to your authorized ZEAGLE dealer.

Replace the old battery with a new one, taking care that the polarity is correct. Failure to do so may result in the computer losing its calibration. Inspect and lubricate the battery compartment cover O-ring with a thin film of silicone grease before replacing it.

Screw the cover back in place in the direction indicated on the cover. Do not over-tighten.

**Please note that the warranty does not cover damage to the computer due to improper battery replacement.**

## 16. Accessories

The **N2ition3** can work with any gear configuration using these **N2ition** accessories.

### **N2ition3 SPG Console**

Do you prefer your computer mounted to your console?

The N2ition easily detaches from the included wrist strap and inserts to a traditional hose mounted console.

Also available with Metric SPG.



## Wrist Mount with Bungee

Durable rubber mounting boot securely holds and protects the N2ition computer and your dry suit seals. The bungee is comfortable, faster to don, depth compensating and stays flexible in cold water. Two separate elastic cords make this mount super safe from accidental loss and give a custom fit. Works well with both wet suits and dry suits.



## N2iTion3 PC Download Kit

Used to download dives to a PC running Windows Vista, XP, or 2000. Use the N2ition PC software to download dives from your computer directly to your PC. This allows you to graphically view details from previous dives including depth time temperature surface interval time, and nitrogen loading in your tissues. You can also plan future dives with the N2ition dive planner. It includes the docking station, a USB Data cable and software.



### **N2iTion3 Screen Protector**

The Zeagle **N2iTion3** Screen Protector clips over the face of the computer protecting the screen from getting scratched or nicked. The screen protector allows for a small space between the computer face and the screen protector, which facilitates adequate rinsing.



## 17. Warranty

### Two Year Limited Warranty

ZEAGLE warrants that ZEAGLE Scuba dive computers purchased from authorized ZEAGLE Scuba dealers shall be free from defects in materials and workmanship under normal sport, skin and scuba diving use and with proper maintenance and care for a period of two (2) years from date of original purchase. Under this limited warranty, ZEAGLE will either repair or replace, at its sole option, any original equipment or parts that fail to perform as intended. When this limited warranty is in force, it covers the cost of necessary replacement parts. Labor and shipping charges are not included and must be paid by you.

You must save the original purchase receipt as proof of purchase. This limited warranty applies only to the original purchaser and is not transferable. ZEAGLE makes no warranty or representation regarding the performance of any products used in conjunction with ZEAGLE's products. This Limited warranty applies only to dive computers sold through authorized ZEAGLE Scuba dealers.

This limited warranty shall be void if the computer has been misused, abused, altered, neglected, lost, or changed. The warranty applies only to normal sport, skin, or scuba diving use.

This limited warranty shall be void if the product has been modified, or if repairs are performed by anyone other than an authorized ZEAGLE dealer (except in the event of a battery change, as outlined in this manual). Equipment in question should be returned, prepaid, to your authorized ZEAGLE dealer, or ZEAGLE, along with proof of purchase.

This warranty gives you specific legal rights, and you may also have other rights which vary state to state.





If you have any questions concerning the Two (2) Year Limited Warranty please address them to:

Zeagle Systems, Inc.  
37150 Chancey Road

Zephyrhills, FL 33541  
U.S.A.

[www.Zeagle.com](http://www.Zeagle.com)

Some states do not allow limitations on how long an implied warranty lasts or do not allow exclusion of incidental or consequential damages, so the following limitations may not apply to you.

Zeagle expressly limits any and all dive computer warranties, expressed or implied, to the two year term as set forth above. All remedies are waived unless claim is made within the applicable twenty- four (24) month period.

Your remedies are limited to those contained therein and are in lieu of all other remedies, whether based on breach of warranty or contract, negligence, strict product liability or other tort. ZEAGLE specifically disclaims liability for any consequential, special or indirect damages arising out of the use of your dive computer.



**Notes:**

The date of purchase, dive store and contact information at the store should be written on this page. A copy of the receipt could also be stapled to this page for future records.





