A300G™ & ATMOS *Pro*™

OWNER'S GUIDE

AERIS™
Distinguished by design

R1

RESPONSIBLE COMPUTER DIVING

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

Read And Understand This Owner's Guide Thoroughly Before Using the Atmos Pro or Aeris 300G.

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

⚠ **WARNINGS:**

- **The Atmos Pro and Aeris 300G are intended for use by recreational divers who have successfully completed a nationally recognized course in scuba diving, and diving with enriched nitrogen-oxygen (nitrox) mixtures.**
- **It is intended only for no decompression diving, NOT intentional decompression diving.**
- **It must not be used by untrained persons who may not have knowledge of the potential risks and hazards of scuba diving, and diving with enriched nitrogen-oxygen (nitrox) mixtures.**
- **You must obtain scuba certification, and certfication in diving with enriched nitrogen-oxygen (nitrox) mixtures before using the Atmos Pro or Aeris 300G if you have not already done so.**
- **It is NOT for use by military and commercial divers.**
- **It should NOT be utilized for any competitive, or repetitive square wave or decompression diving, as it is intended solely for recreational use and no decompression multilevel diving.**
- **As with all underwater life support equipment, improper use or misuse of this product can cause serious injury or death.**
- **Never participate in sharing or swapping of a dive computer.**
- **Conduct your dives in such a manner so as to insure that you continuously check the computer's proper function.**
- **Read and understand this owner's guide completely before diving with the Atmos Pro or Aeris 300G.**
- **If you do not fully understand how to use this dive computer, or if you have any questions, you should seek instruction in its use from your authorized Aeris dealer before you utilize this product.**

LIMITED TWO-YEAR WARRANTY

Aeris guarantees, to the original purchaser only, that the Atmos Pro or Aeris 300G will be free of defects in materials and/or craftsmanship under normal recreational multilevel scuba use for two years from date of purchase, provided proper care and annual service are performed as described within this owner's guide. Should your Atmos Pro or Aeris 300G prove to be defective for any reason (other than those listed in the limitations section below) it will be repaired or replaced (at Aeris' discretion) free of charge excluding shipping and handling charges.

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

Once each year you must return the Atmos Pro or Aeris 300G to an Authorized Aeris Dealer within 30 days of the original purchase date anniversary to keep the two year limited warranty in force. Annual inspection includes verification of depth accuracy and proper general function. Labor charges for the annual inspection are not covered by the warranty. You must provide a copy of the original sales receipt and a copy of the owner's portion of the warranty registration card including the annual service record to obtain warranty service.

Statement of Limitations - General:

Warranty does not cover damage from accident, abuse, battery leakage, tampering, lack of proper care and maintenance and/ or proper annual servicing, or improper use of the Atmos Pro or Aeris 300G. Modifications or repair by anyone other than an Aeris Sales & Service Center authorized to service the Atmos Pro or Aeris 300G will void the warranty. Aeris will not be responsible for recovery or replacement of the product in the event of loss or theft. Aeris, its distributors, and retailers make no warranties, either expressed or implied, with respect to this product or its owner's guide except those stated in the preceding paragraphs. **In consideration of the sale of the Atmos Pro or Aeris 300G to you, you agree and understand that in no event will Aeris, its distributors or retailers, be held liable for any personal injuries resulting from its operation, or for any other damages whether direct, indirect, incidental, or consequential even if Aeris is advised of such damages. Warranty does not extend to plastic gauge face, o-rings, batteries, or damage due to accident, abuse, modification, or tampering.**

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

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TRADEMARK NOTICE

PATENT NOTICE

U.S. Patents have been issued, or applied for, to protect the following design features:
Dive Time Remaining (U.S. Patent no. 4,586,136), Data Sensing and Processing Device (U.S. Patent no. 4,882,678), Nitrogen Bar Graph (U.S. Patent no. 4,882,687), and Ascent Rate Indicator (U.S. Patent no. 5,156,055).

DECOMPRESSION MODEL

The programs within the Atmos Pro/Aeris 300G simulate the absorption of nitrogen into the body by using a mathematical model. This model is merely a way to apply a limited set of data to a large range of experiences. The Atmos Pro/Aeris 300G dive computer model is based upon the latest research and experiments in decompression theory. **Still, using the Atmos Pro/Aeris 300G, just as using the U.S. Navy (or other) No Decompression Tables, is no guarantee of avoiding decompression sickness, i.e. "the bends."** Every diver's physiology is different, and can even vary from day to day. No machine can predict how your body will react to a particular dive profile.

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FEATURES and DISPLAYS

INTRODUCTION

Welcome to Aeris and thank you for choosing the Atmos Pro dive computer module, or Aeris 300G with pressure gauge!

Your Atmos Pro or Aeris 300G presents the information that you need before, during, and after your air (or nitrox) dives using Aeris' intuitive combination of easy to read displays and unique identification icons. Tissue loading of nitrogen, accumulation of oxygen, and ascent rate are presented as segmented bar graphs alongside color coded reference indicators that bring quick focus to these important status displays.

As you progress through this instructional guide, you will become familiar with all of the unique functions and features available and see examples of the displays that you could expect to see in the various operational modes. Although it will require an initial investment of time to become acquainted with the various icons and bar graphs, you'll soon agree that your Atmos Pro or Aeris 300G is easy to understand and use.

The Atmos Pro and Aeris 300G have a wide array of features that are common to both models. Additional features that apply only to the Aeris 300G are noted. Due to the importance that they be understood thoroughly prior to using the units, information will be expanded upon and some refreshed as you proceed. Relax and read through the complete guide.

It is extremely important that you:

- **Read this owner's guide in sequence and understand it completely before attempting to use the Atmos Pro or Aeris 300G.**
- **Check the instruments frequently during your dive.**
- **You must also be a trained diver, certified by a recognized training agency in Scuba diving.**
- **Prior to using the oxygen related features of the Atmos Pro/Aeris 300G, you must also be trained and certified for diving with enriched nitrogen-oxygen (nitrox) breathing gas mixtures by a recognized training agency.**

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

WARNING: Inspect your Atmos Pro/Aeris 300G prior to every dive, checking for any signs of the entrance of moisture, damage to the button membranes, or damage to the LCD display. If these or other signs of damage are found, return the unit to an Authorized Aeris Dealer. DO NOT attempt to use it until it has received factory service.

Be a -
RESPONSIBLE DIVER
at all times.

CONTROL BUTTONS

The Atmos Pro/Aeris 300G is a unique dive computer with interactive controls that allow you to select various display options and access specific information when you choose to see it. The controls consist of the **Advance** (Left) button and **Select** (Right) button (Fig. 1).

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

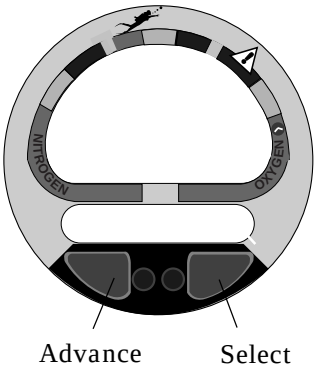


Fig. 1 - Control Buttons

On the surface the control buttons are used to activate the display module; activate the backlight; access the Date/Time, Plan, and Log modes; select units of measure; set the FO2 default feature (On/Off); set the percentage of oxygen (FO2) for a nitrox mix being used; set the Date/Time; and select the dive profile sampling resolution that you desire for data to be downloaded.

The buttons can also be used to access an External Access mode to download (copy) dive data to a unique PC log/profile program. The buttons of the Aeris 300G can also be used to set the audible alarm feature (On/Off).

Underwater, the buttons are used to activate the backlight, view temperature, and view an alternate display of information (if in decompression mode).

INFORMATIONAL DISPLAYS

Operational modes and status information are visually represented numerically and/or graphically and can be understood at a glance with the aide of universal icons (Fig. 2) that identify and bring quick focus to the displays. Also, segmented bar graphs will show how close you are to critical limits. The Aeris 300G has an audible alarm that sounds to alert you to check the display data in critical situations.

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

NOTE: Throughout this owner's guide reference is made to the term "breathing gas'. The rational being that the Atmos Pro/ Aeris 300G can be used for 'air' dives or 'nitrox' dives. For clarity these terms are defined as -

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

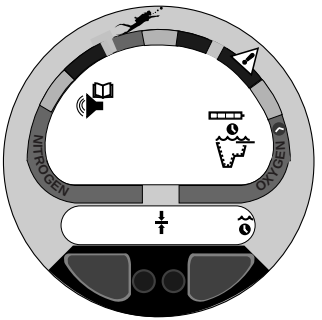


Fig. 2 - Universal Icons

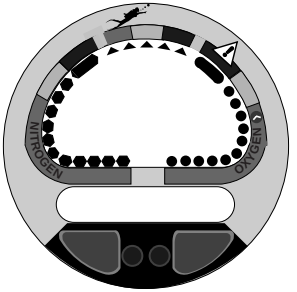


Fig. 3 - Bar Graphs

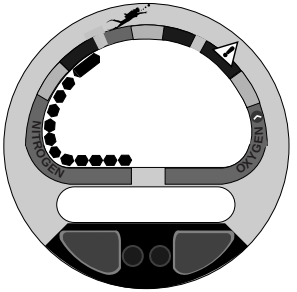


Fig. 4 - Nitrogen Bar Graph

BAR GRAPHS

Three bar graphs appear around the perimeter of the upper screen (Fig. 3). These segmented bar graphs are located next to green, yellow, and red color coded portions of the peripheral decal that denote normal, caution, and danger zones, respectively.

When underwater, you can quickly focus on the bar graphs to make sure that they are **in the green** and you are not getting too close to the no decompression limit or the limit for oxygen accumulation, or ascending too fast.

Nitrogen Bar Graph

The Nitrogen Bar Graph (Fig. 4) represents tissue loading of nitrogen, showing your relative no decompression or decompression status. As your depth and elapsed dive time increase, segments will add to the graph, and as you ascend to shallower depths, the bar graph will begin to recede, indicating that additional no decompression time is allowed for multilevel diving.

The Nitrogen Bar Graph monitors 12 different nitrogen compartments simultaneously and displays the one that is in control of your dive. It is divided into a green No Decompression zone, a yellow Caution zone, and a red Decompression zone.

The bar graph gives a visual representation of just how close you are to the no

decompression limit with a yellow Caution zone. This portion of the bar graph allows you to make a decision regarding safety stop duration or necessity. While you cannot provide a guarantee against the occurrence of decompression sickness, you may choose your own personal zone of caution based upon age, physique, excessive weight, etc., to reduce the statistical risk.

The Nitrogen Bar Graph assists you with managing decompression by filling a large red 'ceiling stop required' segment. Decompression is explained in detail in the Handling the Extremes section.

Prior to a repetitive nitrox dive, if the segments of the Nitrogen Bar Graph are displayed while in the Plan mode, and no segments of the Oxygen Bar Graph are displayed, that next dive is calculated to be controlled by nitrogen loading.

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

Oxygen (O2) Bar Graph

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

Be a -
RESPONSIBLE DIVER
at all times.

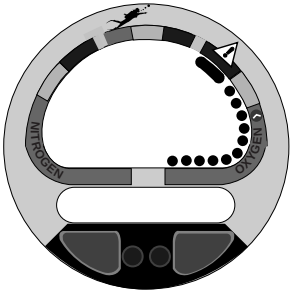


Fig. 5 - O2 Bar Graph

The O2 Bar Graph (Fig. 5) represents oxygen loading, your relative oxygen tolerance dosage (OTU), showing the maximum of either per dive accumulated oxygen, or 24 hour period accumulated oxygen. As your exposure (accumulation of oxygen) increases during the dive, segments will add to the bar graph, and as oxygen loading decreases, the bar graph will begin to recede, indicating that additional exposure is allowed for that dive, and 24 hour period.

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

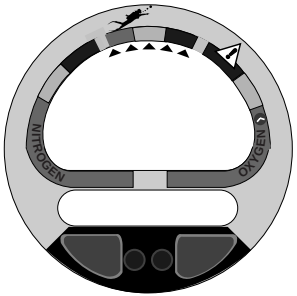


Fig. 6 - Ascent Rate Indicator

Prior to a repetitive nitrox dive, if the segments of the Oxygen Bar Graph are displayed while in the Plan mode, and no segments of the Nitrogen Bar Graph are displayed, that next dive is calculated to be controlled by oxygen loading.

Ascent Rate Indicator

The Ascent Rate Indicator (Fig. 6) is provided to help you avoid excessive ascent rates by providing a visual representation of ascent speed, rather than just showing that you are ascending too fast. The Ascent Rate Indicator has been granted U.S. Patent no. 5,156,055.

The 5 triangular segments of the bar graph may be considered an ascent rate speedometer. Green is a 'normal' rate, yellow a 'caution' rate, and red is 'Too Fast'. The actual speeds represented are shown at the right.

Segments = Speed (rate)
0 = 0 - 20 fpm (0 - 6 mpm)
1 = 21 - 30 fpm (6.5 - 9 mpm)
2 = 31 - 40 fpm (9.5 - 12 mpm)
3 = 41 - 50 fpm (12.5 - 15 mpm)
4 = 51 - 60 fpm (15.5 - 18 mpm)
5 = 61+ fpm (18.5+ mpm)
(when 5, all will flash)

When your ascent rate exceeds the maximum recommended rate of 60 feet (18 meters) per minute, the bar graph segments will enter the red 'Too Fast' zone and all 5 segments will flash once per second until your ascent speed is slowed. When this occurs, you should immediately slow your ascent.

ALPHA/NUMERIC DISPLAYS

Depth Displays

During a dive, the **Current Depth** display (Fig. 7a), indicates depths from 0 to 330 feet (99.5 meters) in 1 foot (.5 meter) increments.

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

A second depth display (Fig. 7b) indicates the **Maximum Depth** reached during that dive. In the event that you descend deeper than 330 feet (99.5 meters), this display will only show the letters (**oor**) as the maximum depth for

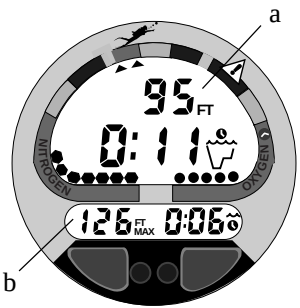


Fig. 7 - Depth Displays
(No Decompression Dive)

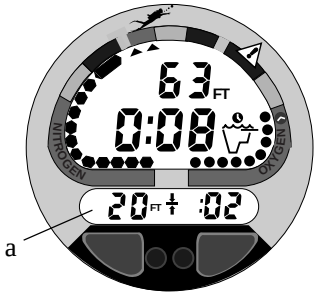


Fig. 8 - Depth Displays (Decompression Dive)

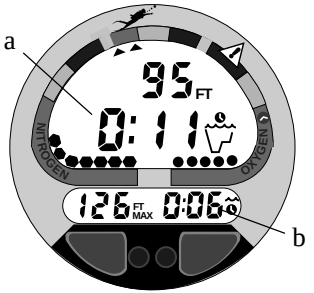


Fig. 9 - Time Displays

the remainder of that dive, and as the Max Depth in the Dive Log for that dive. This is described in detail in the Handling the Extremes section.

During a Decompression Dive, the required **Ceiling Stop Depth** replaces Maximum Depth (Fig. 8a). Maximum Depth can be viewed by depressing the Advance (left) control button. This is described in detail in the Handling the Extremes section.

Time Displays

The **Main Time** display (Fig. 9a) indicates elapsed Surface Time, theoretical Dive Time Available, Dive Time Remaining, Total Ascent Time required, Time to Fly, or Time of Day, depending on the operating mode that the unit is in.

A second time display (Fig. 9b) indicates Elapsed Dive Time, Decompression Stop Time required at a specific stop depth, or Time to Desaturate, depending on the operating mode that the unit is in.

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

Time displays are shown in hour:minute format (i.e., 1:02 represents one hour and two minutes, not 102 minutes!). The colon that separates hours and minutes blinks once per second when the display is indicating real time such as elapsed Surface Time, Elapsed Dive Time, and Time of Day. Dive Time Avail-

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

Temperature Display

While in the Surface mode, Temperature will appear continuously (Fig. 10a). During a dive, Temperature is displayed in place of Maximum Depth and Elapsed Dive Time (Fig. 11a) when the Advance (left) control button is depressed, and for 3 seconds after it is released. Temperature is not displayed during the Decompression mode. If the Temperature exceeds a value of '99', two dashes (- -) will be displayed on the screen until the unit's temperature decreases to '99'.

Date and Time of Day Display

While in the Surface mode, Time of Day will appear for 5 seconds (Fig. 12a) together with the current Date (Fig. 12b) when the Advance (left) button is depressed once. When Units of Measure are set for 'Imperial', the Month appears to the left of Day; and when set for Metric, the Month appears to the right of Day.

Date and Time are not displayed when the unit is in a dive mode.

Fig. 10 - Temperature (Surface)

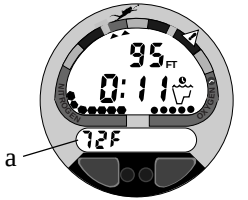


Fig. 11 - Temperature (Dive)

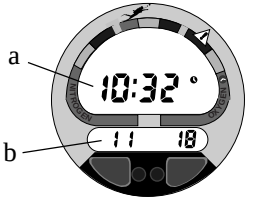
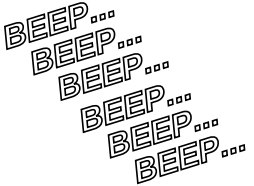


Fig. 12 - Date/Time (Surface)

Pressure Display (Aeris 300G only)

The analog Cylinder Pressure gauge, indicates how much breathing gas is in your cylinder, up to 5000 PSI (352 BAR) to the nearest 10 PSI (.5 BAR). Pressure will be displayed continuously.



(Low Pressure)

AUDIBLE ALARM (AERIS 300G ONLY)

Low Pressure Alarm:

- When tank pressure decreases to 500 psi (35 BAR), 6 beeps will be emitted followed by one beep every 20 seconds until you surface.

(Potential Danger)

One Double Beep (Potential Danger)

- Entry into decompression.
- Partial pressure of oxygen equal to or greater than 1.40 ATA.

(Immediate Danger)

Continuous One Beep per Second (Immediate Danger)

- Ascent to a depth shallower than a required stop depth.
- Ascent rate that exceeds 60 ft/min (18 m/min).
- Partial pressure of oxygen equal to or greater than 1.60 ATA.
- Oxygen accumulation greater than the allowed per dive or 24 hour limit.

Single Long Beep (Permanent Violation)

- Depth was shallower than a required stop depth for more than 5 minutes.
- Required Decompression exceeds a 60 FT/ 18 M ceiling.
- Five minutes after a conditional violation on the surface.

BEEEEEEP!

(Violation)

Short Beep (Transition)

To indicate that a command has been accepted.

- Immediately following activation and the Diagnostic Mode.

BEEP!

(Transition)

BACKLIGHT FEATURE

The Atmos Pro/Aeris 300G backlight illuminates the upper and lower screens of the computer module (Fig. 13), and the pressure gauge of the Aeris 300G.

R1 To activate the backlight while in the Surface mode or Time/Date mode, or while in a dive mode, press the Select (Right) control button. The screens will be illuminated for 5 seconds. Release and press again as desired.

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

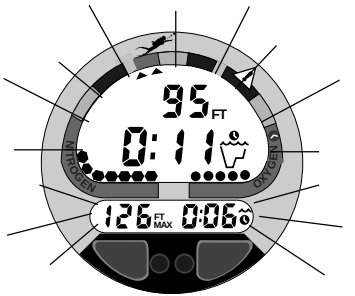


Fig. 13 - Backlight

OPERATING TEMPERATURE

The Atmos Pro/Aeris 300G will operate in almost any temperature diving environment in the world (Fig. 14) between - 40 °F and 140 °F (- 10 and 60 °C). At extremely low temperatures, the LCD may become sluggish, but this will not affect it's accuracy. If stored or transported in extremely low temperature areas (below freezing), you should warm the module and its batteries with body heat before diving.

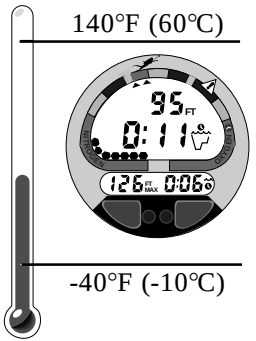
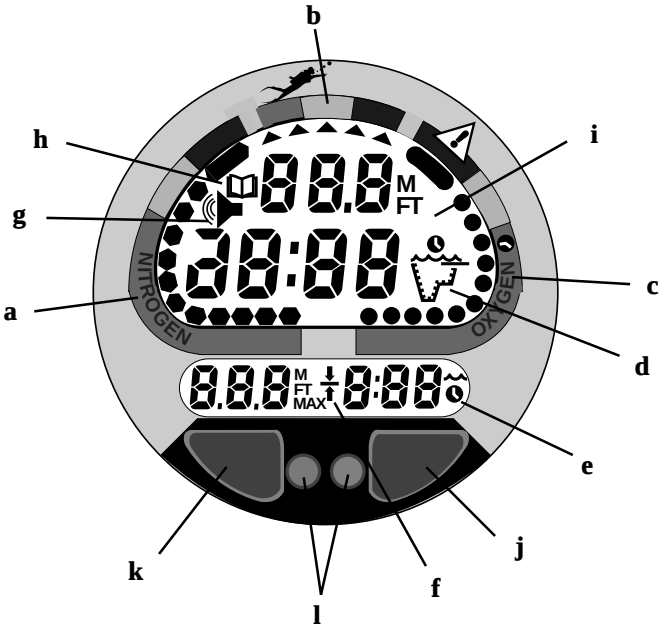


Fig. 14 - Temperature Range

SHARING THE ATMOS PRO/AERIS 300G

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

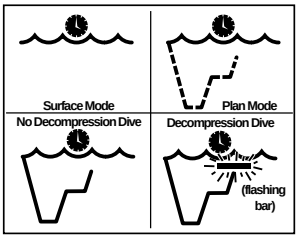
The Atmos Pro/Aeris 300G provides information based upon a diver's personal dive profile, and therefore **must not be "shared" between divers**. It is impossible for two divers to stay precisely together underwater, and your computer's dive **profile tracking of previous dives will be pertinent to you only**. Nitrogen and oxygen loading of a second user may be significantly different and thus swapping dive computers could lead to inaccurate and potentially dangerous predictions of decompression and oxygen accumulation status. This rule is especially important when using the Atmos Pro/Aeris 300G, due to the personal information it provides.



Graphic Interface Legend

a. Nitrogen Bar Graph
b. Ascent Rate Indicator
c. Oxygen (O2) Bar Graph
d. Icon - Operating Mode (detail A)
e. Icon - Elapsed Dive Time
f. Icon - Deco Stop Ceiling
g. Icon - Audible Alarm (Aeris 300G only)
h. Icon - Log Mode
i. Icon - Low Battery
j. Control Button - Select
k. Control Button - Advance
l. Interface Sensors

Detail 'A' - Operating Mode Icons



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ACTIVATION and SETUP

ACTIVATING THE DISPLAY

WARNING: Never attempt to activate the Atmos Pro/Aeris 300G underwater. This may result in inaccurate depth and no-decompression time displays. If the unit is activated when deeper than 4 feet (1 meter) underwater, or at elevations higher than 14,000 feet (4,267 meters), it will perform a diagnostic check followed by immediate shutdown.

To activate the unit, press the Select (Right) button once and release. It will immediately enter Diagnostic Mode, displaying all "8's" (Fig. 15), followed by "dashes", and a countdown from 9 to 0. While conducting diagnostics, the display is illuminated by the backlight as it checks its display functions and battery voltage to ensure that everything is working correctly.

Fig. 15 - Diagnostic Mode

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

If no dive is made within 2 hours after initial activation, the unit will automatically deactivate to conserve its battery power.

Always check the display before entering the water to ensure that it is activated!!

WARNING: During activation and diagnostics, if any display or function varies from the information presented here, return the Atmos Pro/Aeris 300G to your Aeris Dealer for inspection.

SURFACE MODE

Surface Mode, identified by the Surface Time icon (Fig. 16a), immediately follows Diagnostic Mode after initial activation. Information displayed includes the Dive Number '0' (no dive made yet) and Surface Time with flashing colon.

If battery voltage is low, the Battery icon will be displayed, flashing (Fig. 17a) and the unit will shut off. See the Care and Maintenance Section for more information regarding Low Battery and battery replacement.

WARNING: If a Low Battery condition is indicated following diagnostics, Aeris strongly recommends that you DO NOT dive until the batteries are replaced.

Fig. 16 - Surface Mode

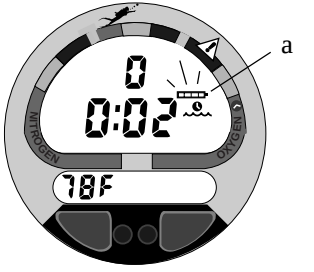


Fig. 17 - Low Battery

ENTERING SETTINGS

Before going diving, set the date/time, and select FO2 default (on/off), units of measure, and dive profile resolution. For the Aeris 300G model only, select the audible alarm (on/off).

Setting the FO2 'value' for the nitrox mix being used is a 'pre dive' setting that must be entered before 'each' nitrox dive. This is described in the Pre Dive and Dive Mode section.

WARNING: Date/time, FO2 default on/off, the FO2 value entered, dive profile resolution, and audible alarm on/off (Aeris 300G) must be reset if batteries are replaced.

Fig. 18 - Surface Mode

To access the Set Mode depress both buttons simultaneously and momentarily (less than 4 seconds) while in the Surface Mode (Fig. 18).

While in the Set Mode, the Advance (Left) button is used to move through the available settings, and the Select (Right) button is used to enter the setting that is shown on the screen.

NOTE: If the Atmos Pro/Aeris 300G is left unattended (no buttons depressed) for 2 minutes while in the Set Mode, it will automatically revert to Surface Mode.

SET FO2 (50%) DEFAULT - ON/OFF

Factory set for Default 'On' (Fig. 19). To turn the Default function 'Off':
- depress both buttons simultaneously while in Surface Mode.
- depress the Select (Right) button to toggle between On and Off.
- depress the Advance (Left) button once to revert to Surface Mode.

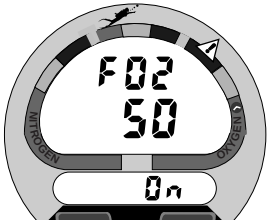


Fig. 19 - Set FO2 Default

SET AUDIBLE ALARM - ON/OFF (AERIS 300G ONLY)

Factory set for Alarm 'On' (Fig. 20). To turn the alarm 'Off':
- depress both buttons simultaneously while in Surface Mode.
- depress the Advance (Left) button 1 time to access the Alarm Mode.
- depress the Select (Right) button to toggle between On and Off.
- depress the Advance (Left) button once to revert to Surface Mode.

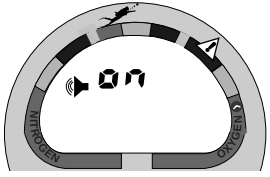


Fig. 20 - Set Audible Alarm

SET UNITS OF MEASURE

Factory set for 'imperial' units of measure , FT and °F (Fig. 21). To change display values to 'metric' units of measure (M and ℃):
- depress both buttons simultaneously while in Surface Mode.
- depress the Advance (Left) button 1 time (Atmos Pro), or 2 times (Aeris 300G), to access the Units Mode.
- depress the Select (Right) button to toggle between Imperial and Metric.
- depress the Advance (Left) button once to revert to Surface Mode.

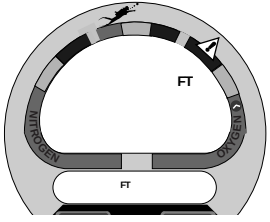


Fig. 21 - Set Units of Measure

Fig. 22a - Set Date

Fig. 22b - Set Time

SET DATE/TIME

Factory set for January 1, 1997, 12:00 AM (midnight). To change to the correct Date/Time:

- depress both buttons simultaneously while in Surface Mode.
- depress the Advance (Left) button 3 times (Atmos Pro), or 4 times (Aeris 300G), to access the Date/Time Mode.
  The DATE screen will appear with the Year 'flashing' (Fig. 22a).

Hint: To bypass a display that is flashing, do not depress the Select (right) button, instead depress the Advance (Left) button to move to the next function.

- depress and hold the Select (Right) button until the correct year appears.
- depress the Advance (Left) button once. The Month flashes.
- depress and hold the Select (Right) button until the correct month appears.
- depress the Advance (Left) button once. The Day flashes.
- depress and hold the Select (Right) button until the correct day appears.
- depress the Advance (Left) button once. The TIME screen will appear with the Hour 'flashing' (Fig. 22b).
- depress and hold the Select (Right) button until the correct hour appears.
- depress the Advance (Left) button once. The Minute flashes.
- depress and hold the Select (Right) button until the correct minute appears.
- depress the Advance (Left) button once to advance to the Profile Sampling Mode, or depress it 2 times to revert to the Surface Mode.

SET DIVE PROFILE SAMPLING RATE

This setting (Fig. 23) allows you to select the rate that the Atmos Pro/Aeris 300G samples data points for onboard storage and subsequent download to the Dive Downloader (DDA) PC software program. It does not affect the rate that data is sampled for 'display' during operation.

Factory set for 10 FT (3 M). To change to your desired rate of sampling:

- after having set the Time as described previously, or - by depressing the Advance (Left) control button 8 times (Atmos Pro), or 9 times (Aeris 300G), while in the Surface Mode.
- depress and hold the Select (Right) button until the desired rate appears. (options: 2 FT/.5 M, 5 FT/1.5 M, 10 FT/3 M, 30 SEC, 60 SEC, 180 SEC)
- depress the Advance (Left) button once to revert to the Surface Mode.

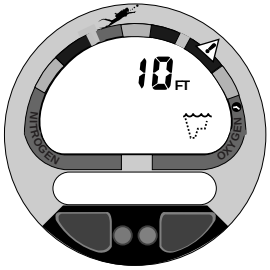


Fig. 23 - Set Sample Rate

EXTERNAL ACCESS (EA) MODE

Although this mode (Fig. 24) is within the sequence of settings, it does not have any set points or selections. The mode provides user access to the PC download feature that is described in the Post Dive Mode section of this guide. Also, the factory uses it to access diagnostic and calibration information.

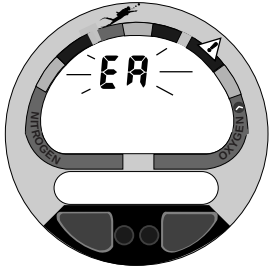


Fig. 24 - EA Mode

SUMMARY OF SET MODE SEQUENCE

To access a specific set mode from the Surface Mode, press both buttons simultaneously and momentarily (for less than 4 seconds) then press the Advance (Left) button the number of times indicated below.

MODES	ATMOS PRO	AERIS 300G
FO2 Default (On/Off)	0	0
Audible Alarm (On/Off)	n/a	1
Units (Imperial/Metric)	1	2
EA (external access)	2	3
Date (year,month,day)	3, 4, 5	4, 5, 6
Time (hours, minutes)	6, 7	7, 8
Dive Profile Sampling	8	9

PRE DIVE and DIVE MODES

OPERATIONAL MODES

The Diagnostic, Surface, and Set Modes were explained in the previous section, Activation and Setup. This section describes other modes that the Atmos Pro/ Aeris 300G operates in before and during a dive.

FO2 MODE

WARNING: The percentage of oxygen (FO2) in the nitrox mix being used must be set 'before each' nitrox dive, unless the FO2 default feature has been turned 'off'.

The Atmos Pro/Aeris 300G can be used either as an Air computer or as a Nitrox computer. After activation, it will operate as an Air computer without displaying information associated with oxygen calculations, unless it is set for a percentage of oxygen (FO2) other than Air (numerical value between 21 and 50 %).

Fig. 25 - FO2 Set for 'Air'

FO2 Set for Air

If you are using 'Air' as your breathing gas, you can verify that 'Air' is the FO2 value by pressing the Advance (Left) button twice to access the FO2 screen (Fig. 25).

When set with an FO2 value of 'Air', the Atmos Pro/Aeris 300G will perform calculations the same as if FO2 were set for 21% oxygen, internally accounting for oxygen loading for any subsequent Nitrox dives. However, oxygen related displays, warnings, and the O2 bar graph will not appear on the display for that dive (Fig. 26), or subsequent dives, unless FO2 is set for a numerical value (21 to 50 %).

Fig. 26 - No Deco Dive 'Air'

Setting FO2 for a Nitrox Dive

You can program the Atmos Pro/Aeris 300G for nitrogen-oxygen (nitrox) mixtures of 21% to 50% oxygen (O2) before each nitrox dive. If FO2 is set at a value of 21%, the unit will remain set as a '21% nitrox computer' for subsequent nitrox dives until FO2 is set to a higher value, or until it automatically turns off and is reactivated. Once FO2 is set to a value 'greater than 21%' to match the nitrox mix being used for that nitrox dive, the FO2 value displayed during the FO2 Mode that appears 10 minutes after that dive will be 50% (Fig. 27), if the FO2 default is 'On', or it will remain at the previous value set, if the FO2 default is turned 'Off'.

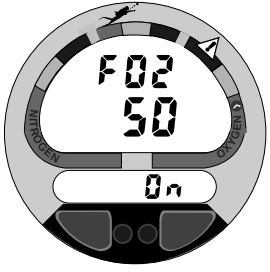


Fig. 27 - FO2 Default 'On'

If the FO2 default is 'On', the FO2 value must be reset for each repetitive nitrox dive, or the value will automatically be 50 and the dives will be calculated based on 50% O2 for oxygen calculations and 21% O2 (79% nitrogen) for nitrogen calculations. If you surface for greater than 10 minutes during a dive and the FO2 default is 'On' , a subsequent descent will be considered a

new dive and the FO2 value must be reentered.

Once a dive is made with the unit set as a nitrox computer (FO2 set for a numerical value), the unit cannot be programmed to operate as an 'Air' computer until 24 hours after the last dive. 'Air' will not be displayed as an option in the FO2 Mode. However, you can set FO2 for 21% for use with air.

To set (enter) a numerical value for the percentage of oxygen (FO2) in your nitrox mix:

- while in the Surface Mode, press the Advance (Left) button 2 times.
- depress and hold the Select (Right) button when the FO2 Mode screen appears after Surface Mode.
- the percentage displayed will advance 1 (%) per second from 21 to 50 (%), then display 'Air' again.
- when the proper value of FO2 is displayed, release the button.
- the **PO2** display that indicates the Maximum Depth that can be achieved with an oxygen partial pressure of 1.60 ATA for the FO2 value set will appear (Fig. 28a). If FO2 is set for Air, the PO2 display will not appear.
- the unit will revert to the Surface Mode after 2 minutes, or if you depress the Advance (Left) button.

Fig. 28 - Max Depth
(allowed for FO2 set)

DIVE PLANNER

Aeris strongly recommends that you review the Dive Planner prior to every dive to help you plan your dive as required to avoid exceeding no decompression or oxygen exposure limits. This is especially important for repetitive dives, when the Dive Planner (Fig. 29) will indicate for you the no decompression bottom times that are available to you on your next dive, based on any residual nitrogen accumulation following your last dive and surface interval.

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

With each depth display, you will see either 'predicted' no decompression limits based upon your previous dive profiles (if calculated to be nitrogen controlled), or 'predicted' oxygen tolerance limits based upon either a single dive exposure or your 24 hour accumulation of oxygen (if calculated to be oxygen controlled).

No decompression times are only displayed for depths where there is at least 3 minutes of dive time available at the depth, taking into account a descent rate of 120 feet (36 meters) per minute. Depths greater than the maximum depth

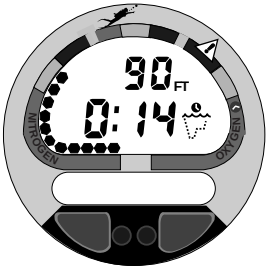


Fig. 29 - Dive Planner

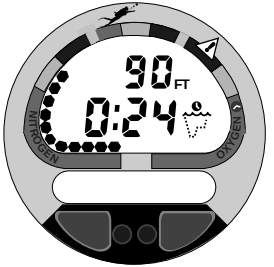


Fig. 30 - Nitrogen Control

Fig. 31 - Oxygen Control

that can be achieved with a PO2 of 1.60 BAR will not be displayed.

To access the Dive Planner while in the Surface mode:

- press the Advance (Left) button 3 times.
- press and hold the Select (Right) button to view a sequence of depths from 30 to 160 feet (9 to 48 meters) in 10 foot (3 meter) increments, or -
- press and release the button repetitively to view the information one increment at a time.

- if the Select (Right) button is not depressed for a period of 2 minutes, the unit will automatically revert to the Surface mode.
- to revert to the Surface mode at any time while in the Dive Planner mode, press the Advance (Left) button once.

The no decompression limits for a 'clean' dive (no dives in the previous 12 hours) are provided in the Reference section.

Prior to a Repetitive Nitrox Dive

If the segments of the Nitrogen Bar Graph are displayed during the Dive Planner (Fig 30), that next dive is calculated to be controlled by nitrogen loading.

If the segments of the O2 bar graph are displayed (Fig. 31), that next dive is

calculated to be controlled by oxygen loading.

The Atmos Pro/Aeris 300G will store oxygen accumulation for up to 12 dives conducted during a 24 hour period. In the event that the maximum limit for oxygen loading has been exceeded for that day (24 hour period), all of the segments of the O2 bar graph will be displayed (Fig. 32). Depth and Time displays will not appear until the O2 bar graph recedes into the green (normal) zone (i.e., your daily oxygen dosage decreases an amount equivalent to the amount accumulated during the latest dive completed).

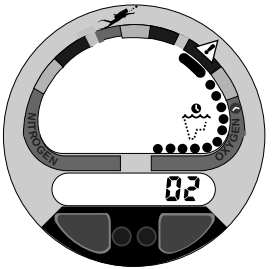


Fig. 32 - O2 Limit Exceeded

WARNING: The Atmos Pro/Aeris 300G must be manually activated and be in an operating mode prior to start of a dive. The unit will not activate automatically by immersion in water. Also, <u>the FO2 setting must be verified prior to each nitrox dive.</u>

NO DECOMPRESSION DIVE MODE

Once activated, the Atmos Pro/Aeris 300G will enter the No Decompression Dive Mode (Fig. 33) when you descend deeper than 5 feet (1.5 meters). Information displayed includes Current Depth, Elapsed Dive Time (and Elapsed Dive Time icon), Dive Time Remaining (and No Decompression Dive Mode icon), and Maximum Depth for that dive (and Max Depth icon). The bar graphs will indicate nitrogen loading, ascent rate, and oxygen loading (if FO2 was set for a value other than 'Air').

Fig. 33 - No Decompression Dive Mode

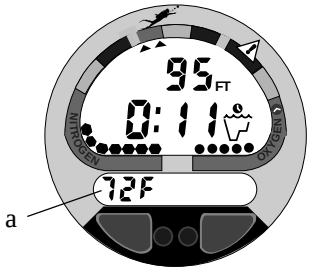


Fig. 34 - Temperature (underwater)

To activate the backlight, press the Select (Right) button. The displays will be illuminated for 5 seconds. Press and release again as desired **R1**

To view Temperature (Fig. 34a), press the Advance (Left) button. It will replace Max Depth and Elapsed Dive Time for depression time plus 3 seconds.

As your depth and elapsed dive time increase, the Nitrogen Bar Graph will fill with segments (green toward red) to represent nitrogen loading, and if FO2 was set for a numerical value, the O2 Bar Graph will fill with segments (green toward red) to represent oxygen loading for that dive or 24 hour period, whichever amount is greater. Segments of the Ascent Rate Indicator fill (and recede) as your ascent rate increases (and decreases) throughout the dive.

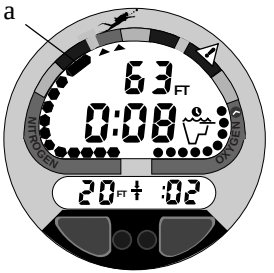


Fig. 35 - Decompression Mode

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

DECOMPRESSION DIVE MODE

The Atmos Pro/Aeris 300G provides information that will help you avoid, or if necessary, manage emergency decompression.

The Decompression Dive Mode activates when the Nitrogen Bar Graph enters the red zone (Fig. 35a).

VIOLATION MODES

The Atmos Pro/Aeris 300G enters various Violation Modes when it is unable to predict an ascent procedure.

GAUGE MODE

If the Atmos Pro/Aeris 300G enters a Permanent Violation Mode, it will not display information relating to nitrogen or oxygen loading for the remainder of that dive or for subsequent dives conducted during the 24 hour period after surfacing. Depth and Elapsed Dive Time will be displayed.

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

ASCENDING TO THE SURFACE

While ascending to shallower depths, the segments that have filled up the Nitrogen Bar Graph will begin to recede (Fig. 36), offering a graphic representation of your multilevel diving capability.

If you enter the Decompression Mode, you must not complete your ascent until the Nitrogen Bar Graph is at least inside the yellow Caution Zone.

Fig. 36 - Nitrogen Bar Graph (receding)

Even if you do not enter the Decompression Mode, a safety stop made between 15-20 feet (5-6.5 meters) is strongly recommended as a standard procedure before completing your ascent.

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

While you cannot provide a guarantee against the occurrence of decompression sickness, you may choose your own personal zone of caution based upon your individual age, physique, excessive weight, training, experience, etc. to reduce the statistical risk.

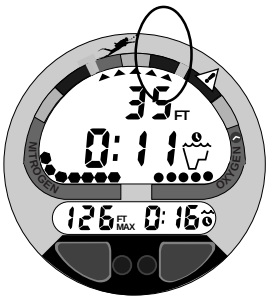


Fig. 37 - Ascent 'Too Fast'

The Ascent Rate Indicator shows how fast you are ascending. When you exceed the **maximum recommended ascent rate of 60 feet per minute (18 meters per minute)**, the bar graph will enter the red (Too Fast) zone (Fig. 37). You will be alerted by all segments of the bar graph flashing, and by an audible alarm (Aeris 300G only). The warnings will stop when your ascent rate is slowed.

ALTITUDE DIVING

The mathematical model within the Atmos Pro/Aeris 300G accounts for the reduced No Decompression dive time available at higher elevations based on NOAA (National Oceanic and Atmospheric Administration) guidelines. When

diving in high altitude lakes or rivers from 2,000 to 14,000 feet (610 to 4,268 meters), the Atmos Pro/Aeris 300G will adjust automatically, providing corrected depth and reduced No Decompression and Oxygen Exposure times.

Also, when above 2,000 feet (610 meters), depth calibration is automatically changed to read in feet of freshwater rather than feet of seawater. The Atmos Pro/Aeris 300G will not activate above 14,000 feet (4,268 meters).

More about altitude diving is presented in the Reference section.

NOTE: If activated above 14,000 feet (4,268 meters), the Atmos Pro/Aeris 300G will perform a diagnostic check followed by immediate shutdown.

WARNING: Until it has shut itself off, you must not use the Atmos Pro/Aeris 300G at a different altitude than the altitude where it was originally activated. Doing so will result in an error equal to the difference in barometric pressure, and possibly a false dive mode with erroneous data.

Be a -
RESPONSIBLE DIVER
at all Altitudes.

SUMMARY OF PRE DIVE & DIVE MODES

To access a specific Pre Dive mode from the Surface Mode, press the button(s) as follows:

MODES	TO ACCESS	TO SET/VIEW
Backlight	Right '1' time	
Time/Date	Left '1' time	
FO2 set	Left '2' times	Right (hold or repetitive)
Dive Planner	Left '3' times	Right (hold or repetitive)
Log Mode	Left '4' times	Right (hold or repetitive)
Set Mode	Both '1' time	Refer to page 24 of this Guide

During the No Decompression Dive Mode, press the button(s) as follows:

MODES	TO ACCESS
Backlight	Right '1' time
Temperature	Left '1' time

POST DIVE MODES

POST DIVE SURFACE MODE

When you ascend to 3 feet (1 meter) or shallower, the Atmos Pro/Aeris 300G will enter Surface Mode (Fig. 38) and begin counting your surface interval.

TRANSITION PERIOD

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

- The Surface Mode icon will appear (flashing).
- The 'number' of that dive appears in the upper portion of the screen.
- The main time display starts counting Surface Interval (colon flashing).
- Ambient Temperature appears in the lower screen.
- The Nitrogen Bar Graph indicates current nitrogen loading.
- The O2 Bar Graph will indicate current oxygen loading, if that was a nitrox dive (FO2 set for a numeric value).

- To activate the backlight, press the Select (Right) button.
- To view the Date/Time for 5 seconds, press the Advance (Left) button.
- To access the Log Mode, press the Advance (Left) button 2 times, or once while the Date/Time are being displayed.
  (That dive's data will be displayed, however, it will not be stored in the unit's memory until the 10 minute transition period is completed.)

Fig. 38 - Surface Mode
(less than 10 min.)

If you descend during the 10 minute transition period, time underwater will be considered a continuation of that dive. The time at the surface (if less than 10 minutes) will not be added as Elapsed Dive Time.

Once 10 minutes have elapsed, the **Surface Mode** icon and Surface Interval time display colon will stop flashing (Fig. 39) indicating that the dive and transition period are completed, and a subsequent descent will be considered a new dive. Other information will continue to be displayed and you will have full access to other modes.

Fig. 39 - Surface Mode (greater than 10 min)

FO2 MODE

If the Atmos Pro/Aeris 300G was set for FO2 of 'Air' or 21% prior to the dive, it will stay set for 'Air' or 21%, respectively, unless you reset it to a higher numeric value prior to the next dive.

If the FO2 Default was turned 'On' and the unit it was set for a numeric value of FO2 greater than 21% (22 to 50 %) prior to the dive, the FO2 value displayed after the dive will be 50 % (Fig. 40) and subsequent dives will be calculated based on 50% oxygen for oxygen calculations and 21% oxygen (79% nitrogen) for nitrogen calculations, unless you set FO2 for another value.

Fig. 40 - FO2 Default 'On'

If the FO2 Default was turned 'Off', the unit will maintain the FO2 setting previously entered until another value is entered.

Fig. 41 - PO2 Max Depth

Remember!! You must ensure that the FO2 setting matches the specific nitrox mix being used for each nitrox dive.

To verify the FO2 setting while in the Surface Mode:

- press the Advance (Left) button 2 times.

  If FO2 was set for a numerical value, the Maximum Depth that can be achieved with an oxygen partial pressure of 1.60 ATA for the FO2 value set will be displayed with the letters 'PO2' in the lower screen (Fig. 41). If FO2 was set for Air', the PO2 screen will not appear.

- press the Select (Right) button to change the setting.

Fig. 42 - Time to Fly

TIME TO FLY AND DESATURATE

During the first 2 hours after a dive, after the 10 minute Transition Period, the Time to Fly and Desaturation countdowns can be accessed by depressing the Advance (Left) button 3 times while in the Surface Mode. If a violation occurred during the dive, Desaturation Time will not be displayed and a single dash (-) will appear instead of the letters FLY. **R1**

The Fly counter, upper screen (Fig. 42), is provided to assist you with deciding when enough surface time has elapsed to fly (or travel to higher elevations).

The Fly countdown starts at 23:50 (hr:min) and counts down to 0:00 (hr:min).

The Desaturation counter, lower screen (Fig. 43), provides calculated time for tissue desaturation at sea level. The countdown starts at 9:59 (hours:minutes) maximum and counts down to 0:00. If the time is calculated to be greater than 9:59, the display will indicate 9:+ (Fig. 44) until it decreases to 9:59.

R1 Two hours after the last dive, the Time to Fly and Desaturation countdowns will be displayed continuously. Access to other modes is gained by depressing the Select (Right) button to return to Surface Mode.

After a surface interval of 12 hours, you may choose to fly (or travel to higher elevations), provided that your dive profile(s) did not enter decompression. If your diving involved decompression or a repetitive, multi day profile, it is strongly recommended that you wait a full 24 hours after your last dive to add a greater degree of protection.

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

More About Flying After Diving and DAN's guidelines is presented in the Reference section.

Fig. 43 - Desaturation Time (less than 9:59)

Fig. 44 - Desaturation Time (greater than 9:59)

DIVE PLANNER

During the first 2 hours after a dive, after the 10 minute Transition Period, the Dive Planner can be accessed by depressing the Advance (Left) button 4 times while in the Surface Mode. The Dive Planner will show 'adjusted' No Decompression Limits (Fig. 45) based on residual nitrogen calculated to be remaining from the previous dives. Two hours after the dive, while the Time to Fly and Desaturation countdowns are being displayed continuously, access is gained by first depressing the Select (Right) button to return to Surface Mode. R1

Calculated dive times and the maximum allowed depth displayed will increase as the real time surface interval increases after completion of a dive. The Dive Planner will only scroll to the maximum depth allowed by the nitrogen or oxygen limit, whichever is in control. The respective bar graph will be displayed to indicate which is in control.

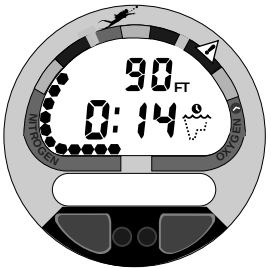


Fig. 45 - Dive Planner (adjusted limits)

DIVE LOG MODE

Information from your 12 latest dives is stored in the Log for viewing, giving you the opportunity to record data in your log book before it is eventually overwritten by subsequent data.

After 12 dives are accumulated, each subsequent dive will overwrite the oldest dive that exists in the log (i.e., the unit will add the most recent dive while de-

leting the oldest). Dive log information will not be lost when batteries are removed from the unit. Factory service will delete the log information.

Dives are displayed in a reverse sequence that starts with the dive most recently recorded back to the oldest of the 12 dives stored. Thus, your most recent dive will always be the first shown in the sequence. Each dive has three log screens. The first displays the date/time started, the second Nitrogen related data, and the third Oxygen related data. If FO2 was set for 'Air' for that dive, the O2 screen will only display 'FO2' and 'Air'.

Fig. 46 - Log Mode
(first screen - date/time)

<u>To access the Dive Log during the 10 minute Transition Period:</u>

R1 • depress the Advance (Left) button 2 times to view the first screen (Fig. 46)
  - Log Mode icon.
  - Date and Time of Day that the dive started.
  - Dive Number (1 through 9) - a function of real time, the first dive after midnight will be #1 for that calendar day. Example: If you do a night dive at 10pm (no other dive that day), then a repetitive night dive at 1am, 'both' dives will appear in the log as #1 (differentiated by the Date).

- depress the Select (Right) button 1 time to view the Nitrogen Log (Fig. 47)
  - Log Mode icon
  - Dive Number
  - Maximum Depth reached for the dive (and icon)
  - Elapsed Dive Time (and icon)

Fig. 47 - Log Mode
(second screen - nitrogen)

- Surface Interval prior to that dive (and icon).
- Ascent Rate Indicator - showing the maximum ascent rate at any time during the dive.
- Nitrogen Bar Graph - showing tissue nitrogen loading at the time you surfaced at the end of the dive.

- depress the Select (Right) button 1 time to view the Oxygen Log (Fig. 48)
  - Log Mode icon
  - FO2 value - set for that dive (and 'FO2' symbol)
  - Maximum PO2 level - reached during that dive (and 'PO2' symbol)
  - O2 bar graph - showing oxygen loading at the end of the dive.

- press the Select (Right) button repeatedly to proceed through the previous recorded dives.

Fig. 48 - Log Mode
(third screen - oxygen)

During the first 2 hours after a dive, after the 10 minute Transition Period, the Dive Log can be accessed by depressing the Advance (Left) button 5 times while in the Surface Mode. Two hours after the dive, while the Time to Fly and Desaturation countdowns are being displayed continuously, access is gained by first depressing the Select (Right) button to return to Surface Mode. R1

To exit Log Mode at any time and return to the Surface Mode -

- press the Advance (Left) button.

EXTERNAL ACCESS (EA) MODE

R1 Using special infrared linking hardware and a unique PC software program, data can be downloaded (copied) into an IBM compatible PC program running on a Windows® 95 operating system. Instructions for performing the interface and download are provided with the Dive Downloader (DDA) hardware/software package, available separately from your Authorized Aeris Dealer. The software program provides dive profile data and nitrogen and oxygen loading throughout the dive.

To enter the External Access Mode while in the Surface Mode:

- depress both control buttons simultaneously for less than 4 seconds.
- depress the Advance (Left) button 2 times (Atmos Pro), or 3 times (Aeris 300G). The letters EA appear (Fig, 49).
- To revert to the Surface mode, press the Advance (Left) button 1 time, or -
- To initiate a download operation, press the Select (Right) button 1 time.
    - The letters EA begin flashing, and the download operation begins.
    - As data is being downloaded to the PC, all of the LCD segments will be displayed. After completion of a successful download operation, the unit will revert to the Surface mode. If the letters EA continue to flash, it is an indication that a connection has not been made.

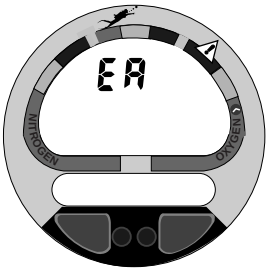


Fig. 49 - EA Mode

Refer to the instructions provided in the User Manual for the Dive Downloader (DDA) package.

SUMMARY OF POST DIVE MODES

During the first 2 hours after a dive* (after the 10 minute Transition Period has ended):

MODES	TO ACCESS	TO SET/VIEW
Backlight	Right '1' time	
Time/Date	Left '1' time	
FO2 set	Left '2' times	Right (hold or repetitive)
R1 Fly/Desaturate	Left '3' times	
Dive Planner	Left '4' times	Right (hold or repetitive)
Log Mode	Left '5' times	Right (hold or repetitive)
Set Mode	Both '1' time	Refer to page 26 of this Guide
EA Mode (Atmos Pro)	Both '1' time, Left '2' times	Right '1' time
EA Mode (Aeris 300G)	Both '1' time, Left '3' times	Right '1' time

***After the first 2 hours - the unit will remain in the Fly Mode**

To access other Modes -

- **press the Select (Right) button to return to the Surface Mode, then press the Advance (Left) button.**

HANDLING THE EXTREMES

EMERGENCY DECOMPRESSION

There are few legitimate excuses for making unplanned Decompression dives, and the consequences of this type of diving can be severe. Decompression diving requires special training and support. **The Atmos Pro/Aeris 300G is intended for use by recreational divers not engaged in intentional decompression diving. Decompression features are provided only for emergency situations.** By entering decompression, you automatically impose a "ceiling" above you which you cannot immediately ascend beyond, denying you free access to the surface.

Professional military and commercial divers plan ahead for this situation by ensuring that they have complete surface support, including a redundant breathing gas supply for emergencies. They also navigate very carefully throughout their dive to ensure that they begin and complete their ascent while maintaining contact with a rope or a line to the surface. This is necessary for making a well controlled ascent. **The Atmos Pro/Aeris 300G is not intended for use by military or commercial divers.**

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

The Atmos Pro/Aeris 300G is a sophisticated instrument designed with capabilities that go beyond the range of recreational diving with compressed air. **It should not be considered, however, that these built-in capabilities provide any implied approval or consent from Aeris for individuals to exceed the defined limits of recreational dive profiles, as agreed on by all internationally recognized training agencies.**

Decompression diving should therefore be strictly avoided. The Atmos Pro/Aeris 300G is designed to help you by providing a complete representation of how close you are to entering decompression. In the event that you do inadvertently enter decompression, as indicated by the large red segment of the Nitrogen Bar Graph (Fig. 50), the Atmos Pro/Aeris 300G can provide you with limited information to help you ascend to the surface.

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

The Atmos Pro/Aeris 300G cannot provide you with a backup breathing gas supply for emergencies or the ascent line you will need, and decompression diving greatly increases your risk of decompression sickness.

Decompression Zone

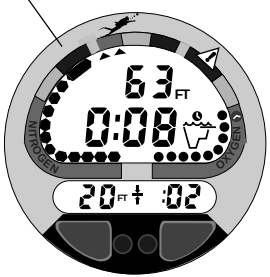


Fig. 50 - Decompression Mode (entering into)

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

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

Upon entering decompression, you must immediately change the focus of your dive to getting safely back to the surface. Upon seeing the Nitrogen Bar Graph enter the red Decompression zone, you should immediately begin a safe controlled ascent, 60 feet (18 meters) per minute or slower, to a depth slightly deeper than or equal to the required ceiling stop depth indicated (Fig. 51a) and decompress for the time indicated (Fig. 51b).

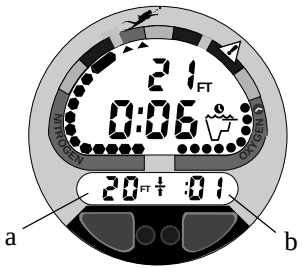


Fig. 51 - Decompression Stop

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

NITROGEN BAR GRAPH 'CAUTION' ZONE

Your dive training taught you not to get too close to the No Decompression Limits. The yellow Caution zone of the Nitrogen Bar Graph (Fig. 52) offers you a convenient way to consistently monitor how close you are coming to the No Decompression Limit. Aeris suggests always leaving the water with the Nitrogen Bar Graph **in the green** No Decompression zone.

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

Body metabolism varies from person to person, and even from day to day. If you are feeling slightly less than 100%, or you are in less than perfect physical shape, **use the yellow Caution zone as a visual reference to place a wider margin of protection between you and the No Decompression Limit.**

Fig. 52 - Approaching No Decompression Limit

DECOMPRESSION DIVE MODE

The Atmos Pro/Aeris 300G will help you to avoid and manage decompression.

Fig. 53 - Decompression Dive Mode

Fig. 54 - Alternate Display

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

Decompression Dive Mode (Fig. 53) activates when the theoretical no decompression limits are exceeded causing the Nitrogen Bar Graph to pass the yellow Caution zone and enter the red Decompression zone. The Aeris 300G will emit a double beep to alert you.

Information displayed includes current Depth, current decompression ceiling Stop Depth and Time (and ceiling stop icon), and Total Ascent Time that includes stop times required at all ceilings and vertical ascent time calculated at 60 feet (18 meters) per minute. The ceiling bar of the Decompression Mode icon will flash continuously. The O2 bar graph (if a nitrox dive) and Ascent Rate Indicator will continue to represent their respective information.

By pressing the Advance (Left) button, an Alternate Display will appear showing Maximum Depth (and icon) and Elapsed Dive Time (and icon) in the lower screen (Fig. 54) for button depression time plus 3 seconds after it is released.

The amount of decompression credit time that you receive is dependent on depth, with slightly less credit given the deeper you are. **Still, you must never ascend shallower than your decompression ceiling. Doing so**

will greatly increase your risk of decompression sickness, and place the unit into a Conditional Violation Mode, described later.

When coping with surge and swells, it may be difficult to stay at an exact depth. You should stay slightly deeper (Fig. 55a) than the required stop depth indicated until the next shallower stop depth appears. Then, you can ascend to, but not shallower than, that indicated ceiling stop depth.

Once you have performed the required decompression, the Atmos Pro/Aeris 300G will switch to the No Decompression Dive Mode, allowing additional time underwater. Though more time is theoretically available, it is strongly recommended that you spend the remainder of the dive continuing to decompress at, or slightly deeper than, 10 feet (3 meters). This will let the Nitrogen Bar Graph recede further into the yellow Caution zone or green No Decompression zone, helping you reduce your tissue nitrogen loading as much as possible.

WARNING: If you exceed certain limits, the Atmos Pro/Aeris 300G will not be able to tell you how to get safely back to the surface. These situations exceed tested limits and can result in loss of some of the unit's functions for 24 hours after the dive in which a violation occurred.

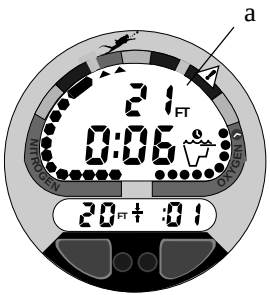


Fig. 55 - Managing a Required Stop

VIOLATION MODES

The Violation Modes that the Atmos Pro/Aeris 300G can enter, depending on the situation, are termed Conditional, Delayed, and Immediate. Gauge Mode and Permanent Violation Mode are continuations of these Violation Modes. It is important to understand each different Violation Mode and how to carry out emergency procedures in the event you enter one.

CONDITIONAL VIOLATION MODE

The Atmos Pro/Aeris 300G will alert you to the possibility of losing decompression management abilities by entering the Conditional Violation Mode. If properly handled, the Conditional Violation Mode can assist you in getting back to the surface and allow continued use of the unit.

Fig. 56 - Conditional Violation (above ceiling stop depth)

The unit will enter the Conditional Violation Mode **if you ascend shallower (Fig. 56a) than the required decompression ceiling indicated by the Required Stop Depth displayed**. A momentary rise above the ceiling, such as with a surge or swell, could cause this to happen. Therefore you should stay slightly deeper than the exact ceiling stop depth, watching the Atmos Pro/Aeris 300G closely when managing decompression. The Total Ascent Time display will flash until you descend below the required decompression ceiling stop depth. The Aeris 300G will beep once per second.

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

The added penalty decompression time will have to be 'worked off' first, before obtaining off-gassing credit. Once the penalty time is worked-off, and off-gassing credit begins, required decompression stop depths and time will decrease toward zero and the Nitrogen Bar Graph will recede into the yellow Caution zone. Upon entry into the Caution zone, the unit will revert to the No Decompression Dive Mode.

If you stay above (shallower than) the required ceiling stop depth 'for more than 5 minutes', the Nitrogen Bar Graph segments will flash and the unit will enter the Delayed Violation Mode.

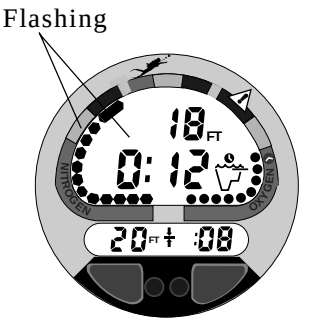


Fig. 57 - Delayed Violation (above ceiling >5 min)

DELAYED VIOLATION MODE

Three conditions will cause the Atmos Pro/Aeris 300G to enter the Delayed Violation Mode:

1. You remain above the required Decompression Ceiling Stop Depth for more than 5 minutes (Fig. 57).

As previously described, you would then need to follow the ceiling stop depths and times toward the surface as the Nitrogen Bar Graph recedes into the yellow Caution zone. Upon reaching 'zero' Total Ascent Time Remaining, you should continue decompressing until the bar graph segments are well inside of the **green** No Decompression zone.

The Aeris 300G will emit one long beep then continue to beep once per second until you descend below the required ceiling stop depth.

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

In this situation the Nitrogen Bar Graph will flash (Fig. 58). The Aeris 300G will emit One Long Beep. Total Ascent Time needed to get back to the surface will still be displayed numerically in the Main Time display.

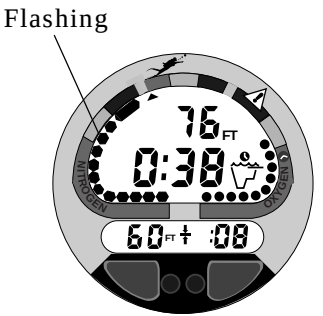


Fig. 58 - Delayed Violation (>60 FT ceiling required)

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

After Total Ascent Time reaches zero and the Nitrogen Bar Graph recedes into the yellow Caution zone, you can surface. **However, to add a greater margin of protection, Aeris strongly recommends that you wait until the segments of the Nitrogen Bar Graph are well within the 'green' No Decompression zone, unless a low tank pressure condition requires you to surface.**

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

NOTE: Aeris reminds you that the Atmos Pro/Aeris 300G is intended for no decompression diving at depths within 130 feet (39 meters). Expanded capabilities of the unit are provided as safety features to assist you with emergency situations.

Upon descending deeper than 330 feet (99.5 meters), the Nitrogen and O2 Bar Graphs will flash and the Current Depth and Maximum Depth displays will only indicate the letters 'oor' (Fig. 59) until ascent is made to a depth shallower than 330 feet (99.5 meters), at which time the Current Depth display will be restored. Max Depth will continue to display 'oor'. Exceeding the maximum operating depth is described in more detail on page 60 of this section.

Five minutes after reaching the surface from a dive in which a Delayed Violation occurred, the Atmos Pro/Aeris 300G will enter an Immediate Violation Mode and revert to Gauge Mode for 24 hours.

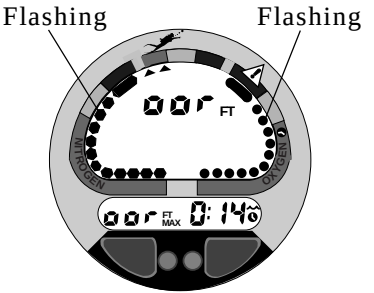


Fig. 59 - Delayed Violation (depth >330 ft/99.5 m)

IMMEDIATE VIOLATION MODE

WARNING: The Atmos Pro/Aeris 300G enters Immediate Violation Mode when a situation totally exceeds its capacity to predict an ascent procedure. These dives represent gross excursions into decompression that are beyond the boundaries and spirit of the unit's design. If you are following these dive profiles, Aeris advises you not use an Atmos Pro or Aeris 300G dive computer.

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

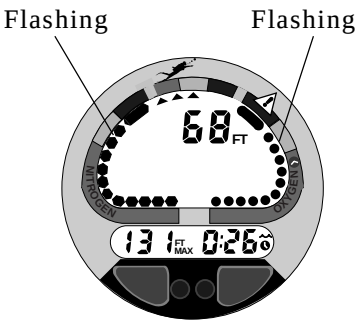


Fig. 60 - Immediate Violation (Gauge Mode)

The unit cannot accurately calculate decompression times for stop depths much greater than 60FT (18M) and offers no indication of how much time spent underwater would result in the need for greater than a 60 FT (18 M) decompression stop depth. If a ceiling *much greater* than 60FT (18M) is required, an Immediate Violation Mode (Fig. 60) will be entered. The Aeris 300G will emit a Single Long Beep. This situation would be preceded by entering Delayed Violation Mode, previously described. The unit would then operate with limited functions (Current Depth, Max Depth, and Elapsed Dive Time) in Gauge Mode during the remainder of that dive and for 24 hours after surfacing.

GAUGE MODE

Underwater, the Gauge Mode is a continuation of the Immediate Violation Mode that turns the unit into a digital instrument without any decompression or oxygen monitoring functions. Dive Time Remaining will not be displayed and the Nitrogen and O2 Bar Graphs will flash as a warning of this condition (Fig. 61).

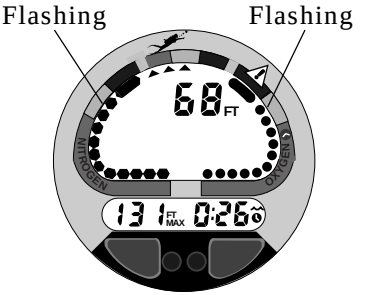


Fig. 61 - Gauge Mode (underwater)

After surfacing, Gauge Mode does not provide the Dive Planner, Time to Fly, or Desaturation features. During the first 2 hours, Surface Mode will display the surface interval, dive number, and temperature as the bar graphs flash to indicate that a violation occurred. The countdown timer that appears when the Advance (Left) button is depressed does not represent Time to Fly. It is only provided to inform you of the time remaining before normal operation can resume with full features and functions of the unit. Two hours after the dive, 22:00 will be displayed (Fig. 62) with a single dash (-).

Fig. 62 - Countdown (2 hours after surfacing)

NOTE: A full 24 hour surface interval must be served before the Atmos Pro/Aeris 300G will reset automatically and provide normal decompression and oxygen monitoring functions. If a dive is made within the 24 hour period, the Atmos Pro/Aeris 300G will operate in Gauge Mode only for that dive and the full 24 hour surface interval will have to be served.

PERMANENT VIOLATION

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

EXCEEDING MAXIMUM OPERATING DEPTH

Although the Atmos Pro/Aeris 300G will withstand the pressures found at 330 feet (99.5 meters), the depth that you can still use all of its features could be much shallower.

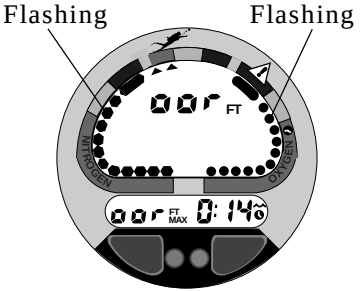


Fig. 63 - Out of Range (depth >330 ft/99.5 m)

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

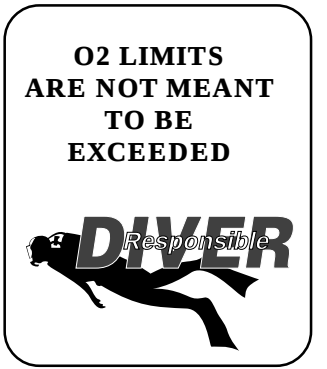
The maximum depth the unit will display all of its features is 330 feet (99.5 meters). Upon exceeding 330 feet (99.5 meters), the Nitrogen and O2 Bar Graphs will flash, and the Depth and Maximum Depth displays will only indicate the letters '**oor**' signifying that you are 'out of range' (Fig. 63). The numeric display for Current Depth will not reappear until you ascend shallower than 330 feet (99.5 meters). You will also enter the Delayed Violation Mode.

For the remainder of that dive, and in the log for that dive, only the letters 'oor' will be displayed as the value for Maximum Depth.

OXYGEN EXPOSURE

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

WARNING: The oxygen features of the Atmos Pro/Aeris 300G are intended for use only by recreational divers trained for nitrox diving by an instructor certified by a recognized training agency to teach diving with nitrox. The Atmos Pro/Aeris 300G is not intended for use by military or commercial divers.



By making a nitrox dive without the necessary **training, preparation, and equipment**, you will have placed yourself in an unnecessarily dangerous situation. The unit is a sophisticated instrument designed with capabilities that go beyond the range of recreational diving with compressed air.

It should not be considered, however, that these built-in capabilities

provide any implied approval or consent from Aeris for individuals to exceed the defined limits of oxygen exposure, as agreed on by all internationally recognized nitrox training agencies. Nitrox diving should therefore be strictly controlled.

PARTIAL PRESSURE OF OXYGEN (PO2)

As depth increases during the dive, the partial pressure of oxygen increases. As you approach the depth limit for the FO2 value set before the dive, the Atmos Pro/Aeris 300G will alert you and display the PO2 level while you reduce oxygen partial pressure according to your training.

High PO2 Dive Mode

Fig. 64 - High PO2 Mode (≥ 1.40 ATA)

The unit enters the High PO2 Dive Mode when partial pressure of oxygen becomes equal to or greater than 1.40 ATA. The current PO2 value and the symbol 'PO2' will appear in the lower screen in place of Max Depth and Elapsed Dive Time (Fig. 64). The Aeris 300G emits a double beep. The PO2 display will remain on the screen until PO2 decreases below a value of 1.40 ATA.

If partial pressure of oxygen continues to increase, the value of PO2 displayed will increase from 1.40 toward a value of 5.00 ATA in increments of '.01' ATA. When PO2 reaches the maximum allowed limit of 1.60 ATA, the large red segment of the O2 bar graph, the PO2 value, and PO2 symbol will flash continu-

ously as a warning (Fig. 65) until the level of PO2 decreases below 1.60 ATA.

The Aeris 300G emits one beep per second.

In the event that you enter High PO2 Dive Mode, you must immediately focus on reducing the partial pressure of oxygen by slowly ascending to a shallower depth at a safe rate in accordance with your nitrox training. **If you continue the dive at your current depth, or descend deeper, your exposure to CNS oxygen toxicity will increase.**

OXYGEN ACCUMULATION

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

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

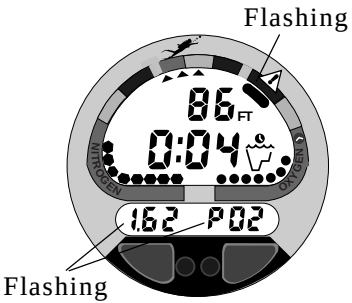


Fig. 65 - High PO2 Mode
(≥ 1.60 ATA)

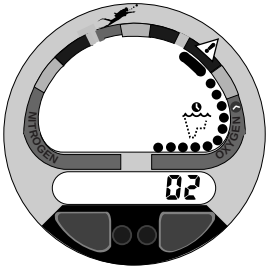


Fig. 66 - Plan Mode
(O2 Limit Exceeded)

Fig. 67 - High Oxygen
Accumulation (warning)

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

During this time, the Plan Mode will only display the letters O2 (Fig. 66)

HIGH OXYGEN ACCUMULATION

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

As your accumulation increases, the segments will fill the O2 Bar Graph. Upon entering the yellow Caution zone (Fig. 67) you should exercise caution. The Aeris 300G emits a double beep. If accumulation exceeds the limit of oxygen tolerance (Oxygen Dive Time Remaining is 0:00), and the O2 Bar Graph

will enter the red Danger zone and the full bar graph will flash as a warning (Fig. 68). The Aeris 300G will emit one beep per second.

In the event the O2 Bar Graph enters the red danger zone, you must immediately focus on making a safe controlled ascent to the surface to prevent further exposure. As your accumulation decreases during your surface interval, the O2 bar graph will gradually recede into the yellow Caution zone and green (Normal) zone. Always keep the O2 Bar Graph **in the green** zone.

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

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

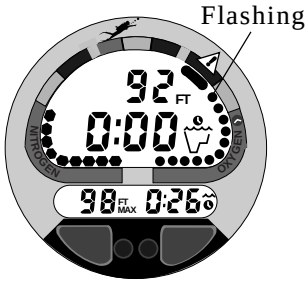


Fig. 68 - High Oxygen Accumulation (alarm)

UNEXPECTED LOSS OF DISPLAYED INFORMATION

While No Decompression diving, if you find that any major piece of equipment is not functioning correctly, you must abort the dive immediately and surface slowly in a controlled manner. If your Atmos Pro/Aeris 300G stops working for any reason, it is important that you have an-

ticipated this possibility and are prepared for it. **This is an important reason to avoid pushing the No Decompression and Oxygen Tolerance Limits, and a critical reason to avoid entering decompression.**

Regardless of your diving habits, Aeris advises you to dive with additional backup instrumentation that can provide the data necessary to properly surface if and when your primary instruments fail.

As with any other piece of equipment, unforeseen things can happen. By preparing ahead of time, you can spare yourself a great deal of frustration and disappointment. **If you dive in situations where your trip would be ruined or your safety would be jeopardized by losing the use of your Atmos Pro/Aeris 300G, an analog or digital backup system or use of standard air (or nitrox) tables is highly recommended.**

A FINAL WORD OF CAUTION

Although the Atmos Pro/Aeris 300G represents the latest in user friendly dive computer technology, it cannot force you to understand how to use it. Before diving with the Atmos Pro/Aeris 300G, be sure you thoroughly understand its functions and displays. Contact your local Authorized Aeris Dealer if you have a question. Above all remember, technology is not a replacement for training, experience, and common sense !

CARE and MAINTENANCE

CARE AND CLEANING

The Atmos Pro/Aeris 300G is a sensitive electronic instrument. Although it has been designed to withstand the rigors of diving, it still must be handled carefully to protect from shock, excessive heat, chemical attack, and tampering. The housing is made of an impact resistant resin that is extremely shock resistant but is susceptible to chemical attack and scratches.

CAUTION: Never spray aerosols of any kind on, or near, an Aeris instrument. The propellants may chemically attack the plastic.

If the transparent face becomes scratched, Aeris can replace it, although small scratches will naturally disappear underwater. For even more convenience and additional protection against scratches, place a transparent Aeris Instrument Lens Protector on the gauge faces. These and other special accessories can be purchased from your Authorized Aeris Dealer.

BEFORE A DIVE

Be careful not to place the instrument(s) in an unsupervised, unprotected location where it might be damaged. Many dive computers (and dive trips) are ruined due to carelessly tossed weight belts or cylinders.

AFTER A DIVE

Soak and rinse the unit in fresh water following each dive, and check the low pressure sensor guard cap to ensure that it is free of any debris or obstructions. If possible, use lukewarm water to dissolve any salt crystals. Salt deposits can also be dissolved using a slightly acidic vinegar/water bath. After removal from a fresh water bath, place the unit under gently running water and towel dry before storing. Transport your unit cool, dry, and protected.

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

ANNUAL INSPECTIONS AND SERVICE

Your Aeris instruments should be inspected annually by an Authorized Aeris Dealer who will perform a factory prescribed function check and inspection for damage or wear. To keep the 2 year limited warranty in effect, this inspection must be completed one year after purchase (+/- 30 days). Aeris recommends that you continue to have this inspection performed every year to ensure your unit is working properly. A convenient service record is provided in the back of this owner's guide. This should be signed by the service technician after each annual inspection or factory service.

The costs of annual inspections are not covered under the terms of the 2 year limited warranty.

WARNING: If you are in doubt about the accuracy of your Atmos Pro/Aeris 300G depth readings, DO NOT attempt to dive with it until it has been inspected by Aeris Customer Service.

HOW TO OBTAIN SERVICE

Take your Atmos Pro/Aeris 300G to an Authorized Aeris Dealer.

To return your Atmos Pro/Aeris 300G to Aeris Customer Service:

- Package it using a protective cushioning material.
- Include a legible note stating specific reason for return, your name, address, daytime phone number, serial number, and a copy of your original sales receipt. (Authorized Aeris Dealers use a Product Return Form).
- Send prepaid and insured to the nearest Aeris service facility.
- If you have any questions regarding service, call Aeris Customer Service.

NOTE: Be sure to record all dives in your personnal Log. Dive log data will be erased whenever your Atmos Pro/Aeris 300G receives factory service.

Aeris Customer Service
14212 Doolittle Dr.
San Leandro, Ca. 94577

(510) 346-0010, 8 to 5 PST

Fax: (510) 346-0015

Website: HTTP://
WWW.diveaeris.com

E-mail: info@diveaeris.com

R1

BATTERY LIFE

The unit's battery consumption rate varies throughout periods of operation, which begin upon activation and continue for 24 hours after surfacing from a dive. The exact number of dives, or hours of operation, that you will obtain with a set of batteries is subject to variables such as, the number of dives conducted during an operational period, the manufacturer, model and age of the batteries actually used, and use of the backlight.

Tests and calculations indicate that a two new CR2032 lithium batteries will maintain unit operation for approximately 50 activation periods of 24 hours. Therefore, you could expect to obtain (Fig. 69) from 50 dives (if only 1 dive is conducted each time the unit is activated) to over 150 dives (if 3 dives are conducted each time the unit is activated).

Note that extensive use of the backlight will increase the rate of battery consumption.

NOTE: The disposable batteries supplied with the unit are not covered by the Atmos Pro/Aeris 300G limited 2 year warranty.

50 Activation Periods

'Average' # Dives Each Period	Total # Dives To Expect
1	50
2	100
3	150

Fig. 69 - Battery Life

LOW BATTERY CONDITION

During Surface Mode(s), voltage level is checked every 10 minutes. If a low battery condition is sensed, a Battery icon will appear to allert you (Fig. 70a). Upon decreasing to a voltage level that will not maintain proper unit operation, the icon will flash for 5 seconds followed by shut down of the unit. **R1**

If the condition is sensed prior to a dive or during the first 2 hours after surfacing, the icon will appear while Surface Mode is displayed. If the condition is sensed while Fly Mode is being displayed continuously, starting 2 hours after surfacing, the icon will appear with the Fly countdown. If the condition occurs during the dive, there will be sufficient voltage to maintain unit operation for the remainder of that dive and the icon will appear 10 minutes after the dive.

Fig. 70 - Low Battery

Aeris strongly advises that you replace the batteries and DO NOT attempt to dive with the Atmos Pro/Aeris 300G 'any time' the Low Battery icon appears on the display. Also, to avoid any inconvenience, that you replace the batteries with new prior to any multi-day dive trip that will include a profile of numerous repetitive dives, such as multiple days on a liveaboard vessel.

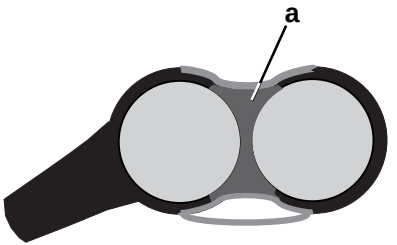
WARNING: Nitrogen and Oxygen calculations will be erased when the batteries are replaced between repetitive dives. Also, date and time settings will have to be reset.

R1 MODULE REMOVAL FROM BOOT

ATMOS PRO

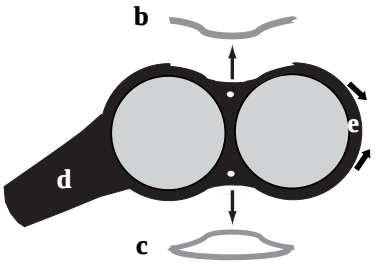
Wrist or Hose Mount Boot - peel the lips of the boot downward off the module while applying pressure from underneath, working it out slowly.
Console - bend the rubber console boot back to expose the edge of the module. If the boot is flexible enough to permit, you may bend it back far enough to scoop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

AERIS 300G



Remove the 'H'-frame (a) located between the computer and spg -

- Locate the 2 small screws located on the back of the console.
- Remove the screws with washers by turning counter clockwise.
- Carefully press inward on the 2 shafts that the screws came out of. (Alternately press one slightly then the other, pushing the 'H' frame out and away from the console.)
- Grasp the 'H' frame with your fingers and pull it straight out and away from the console. DO NOT pry it off with tools.



Remove the Color Trim pieces (b/c) located above/below the gauges -

- Grasp the sides with your fingers and pull them straight out and away from the console. DO NOT pry them off with tools.
- While holding the console handle (d) with your left hand, press the right side of the boot (e) back and away from the dual gauge unit.
- Grasp the dual gauge unit with your right hand and pull it out (toward the right) and away from the boot far enough to access the battery.

BATTERY REMOVAL

WARNING: The following procedure must be closely adhered to. Damage due to improper battery replacement is not covered by the Atmos Pro/Aeris 300G limited 2 year warranty.

The battery compartment should only be opened in a dry and clean environment, with extreme care taken to prevent the entrance of moisture or dust.

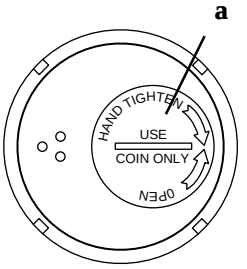


Fig. 71 - Battery Hatch

Examine the case back to find the battery hatch (Fig. 71a):

- Apply a coin (not a screwdriver) to the recessed slot of the battery hatch, and turn the hatch out counterclockwise to remove it from the housing.
- Inspect the o-ring for any signs of deterioration. If found, remove the o-ring by pressing the sides with your fingertips to cause it to protrude slightly from the groove of the battery hatch and discard. DO NOT use tools to remove.

- Closely check the threads of the battery hatch and the housing for any signs of damage which might impair proper threading. If found, return your module to your Authorized Aeris Dealer, and DO NOT attempt to use it until it has received factory service.

WARNING: DO NOT attempt to disassemble any other portion of the module. Doing so may cause a dangerous malfunction, resulting in possible injury or death. Indication of tampering with the module will also void the unit's warranty.

- Turn the unit over to drop out the batteries, and discard properly.
- Closely check the metal contacts inside the battery compartment for any signs of stress (bending or breakage), and for any signs of corrosion indicating entrance of moisture into the unit. If found, return your module to an Authorized Aeris Dealer, and DO NOT attempt to use the unit until it has received factory service.

If water or corrosion is found in the battery compartment, it is best to have your unit inspected and cleaned by an Authorized Aeris Dealer. If you are attempting a repair in the field, proceed as follows:

R1
- Inspect the lens and case to ensure they are not cracked or damaged.
- Inspect the button covering to ensure it does not have cuts or holes.
- Remove the batteries, discard and DO NOT reuse.
- Check the o-ring seating surfaces for damage (nicks, cuts, divots, etc.).

- Flush the battery hatch and compartment with a solution of 50% white vinegar and 50% water. Rinse with fresh water, and allow to air dry overnight or blow dry with a hair dryer set at no heat.

BATTERY INSTALLATION

- Lightly lubricate the battery hatch o-ring, then stretch it slightly to work it up over the slotted top of the hatch, DO NOT roll it over the threads.
- Install two new 3 volt lithium batteries (Duracell® DL2032, Radio Shack® 23-162, Maxell® CR2032, Panasonic® CR2032, or equivalent) into the battery compartment with the positive (+) side facing up (out of the battery compartment), with one directly on top of the other (Fig. 72). Avoid touching either the battery contacts or the flat surfaces of the batteries, as skin oil will impair correct contact.
- Lightly lubricate the battery hatch o-ring with silicon grease and install it onto the battery hatch. DO NOT roll the o-ring over the threads of the battery hatch. Instead, stretch it slightly to work it down over the slotted end of the battery hatch and into the groove at the base of the threads.

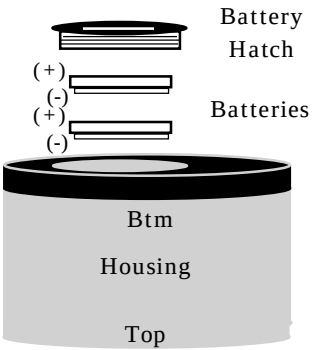


Fig. 72 - Installing Batteries

NOTE: This o-ring must be a genuine Aeris Part that can be purchased as part of a battery kit from your Authorized Aeris Dealer. Use of any other o-ring will void the warranty. R1

- Carefully insert the battery hatch into the housing and turn it slowly clockwise by hand to ensure correct threading. Turn until snug, then apply a coin and tighten until secure, so the outer surface of the battery hatch is flush with the outer surface of the housing.

INSPECTION

R1
- Activate the unit and watch carefully as it performs a full diagnostic and battery check and enters Surface Mode.
- Observe the LCD display to ensure it is consistently clear and sharp in contrast throughout the screen.
- If any portions of the display are missing or appear dim, or if a Low Battery condition is indicated, return the unit to your Authorized Aeris Dealer for a complete inspection before attempting to use it.

RETURNING THE MODULE TO BOOT

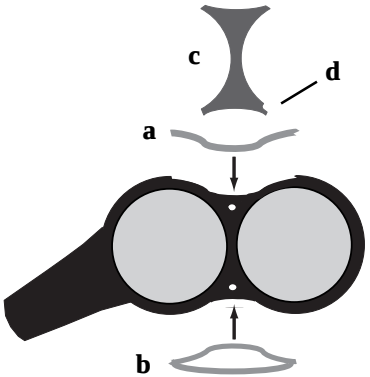
ATMOS PRO

R1
- If previously removed, replace the rubber spacer into the boot (wrist or hose mount type).
- Orient the module over the opening in the boot, and dip the bottom edge into it while pressing the top edge with the palm of your hand. Stop pressing when the bottom edge of the module has just entered the boot.

- Correct the alignment of the module as needed so that it is straight.
- Press the module completely into place with your thumbs, watching the alignment, until it snaps into place.

AERIS 300G

R1



- Grasp the dual gauge unit with your right hand and push it into (toward the left) the boot feeding the hose fitting into the handle of the boot.
- Pull the right side of the boot up/over the right edge of the computer module, and ensure it is evenly seated around the dual gauge.
- Align the upper trim piece (a) above the console and insert its tabs into the slots of the boot. Install the lower trim piece (b).
- Press the module in until the housing is completely seated.
- Position the 'H'-frame (c) over the console with the shafts aligned over the holes and the leg that has a notch (d) positioned next to the left button of the computer.
- Gently press the shafts into the holes until the 'H'-frame is completely and evenly seated on the console.
- Secure the 'H'-frame with the 2 screws with washers, turningthem in a clockwise direction until secure (torque of 2 in-lbs). DO NOT overtighten, or attempt to use any other screws.

Care and maintenance is simple and easy, and will help keep your Atmos Pro/Aeris 300G in top condition for years of diving enjoyment.

REFERENCE

MORE ABOUT FLYING AFTER DIVING

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

* excerpted from "The UHMS Flying After Diving Workshop"

The two exceptions to this recommendation are:

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

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

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

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

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

MORE ABOUT ALTITUDE DIVING

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

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

The Atmos Pro/Aeris 300G automatically compensates for decreased ambient pressure when activated at high altitudes up to 14,000 feet (4,267 meters). Its program contains a high altitude algorithm that reduces no decompression and oxygen exposure limits to add a larger zone of caution.

Whenever the Atmos Pro/Aeris 300G is manually activated at altitudes higher than 2,000 feet (610 meters), it will automatically recalibrate itself to measure depth in feet of fresh water rather than feet of sea water. Therefore, when returning to lower altitudes, diving should not be conducted until the Atmos Pro/Aeris 300G automatically clears of any residual nitrogen and oxygen loading and resets to operate at the new altitude.

WARNING: Altitude compensation provided by the Atmos Pro/Aeris 300G takes place when the unit is activated. DO NOT dive at any different altitude until the unit shuts off. It will recalibrate automatically when reactivated at the new altitude.

MORE ABOUT NITROX DIVING

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

Both central nervous system (CNS) oxygen toxicity and pulmonary oxygen toxicity were taken into consideration when the current maximum limits (Fig. 73) for exposure to oxygen were published by NOAA in the October 1991 NOAA Diving Manual. Although CNS oxygen toxicity is considered the primary constraint for higher levels of PO2, there are circumstances in which pulmonary oxygen toxicity can limit exposures.

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

The nitrox features of the Atmos Pro/Aeris 300G are intended for use only by recreational divers trained for nitrox diving by an instructor

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

Fig. 73 - Oxygen Exposure Limits

certified by a recognized training agency to teach diving with nitrox. The Atmos Pro/Aeris 300G is not intended for use by military or commercial divers.

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

MULTIPLE TISSUE TRACKING

The Atmos Pro/Aeris 300G tracks twelve tissue compartments with halftimes ranging from 5 to 480 minutes. The Nitrogen Bar Graph always displays the controlling compartment that is the only one important at that time. Think of the Nitrogen Bar Graph as twelve separate transparent displays laid on top of one another (Fig. 74). The tissue compartment that has filled up fastest is the only one the viewer can see from the top.

Be a -
RESPONSIBLE DIVER
at all times.

At any particular point, one tissue compartment may be absorbing nitrogen, while another that was previously higher may be off-gassing. Figure 75 illustrates the point at which one compartment “hands over” control to another

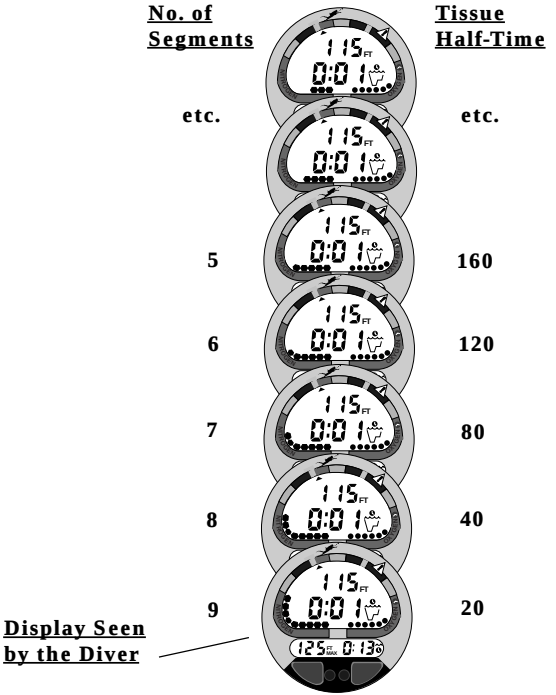


Fig. 74 - Tissue Compartment Control

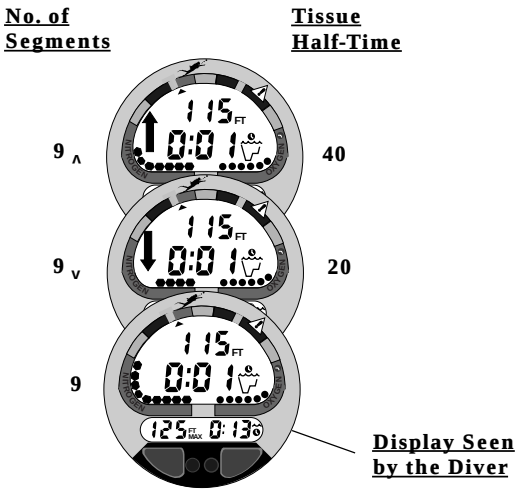


Fig. 75 - Tissue Compartment Control Hand-Over

Depth feet (meters)	Atmos Pro Aeris 300G NDL-mins. Eng (Metric)	U.S. Navy NDL -mins.
30 (9)	260 (283)	- - -
35	- - - - - -	310
40 (12)	137 (144)	200
50 (15)	80 (84)	100
60 (18)	57 (58)	60
70 (21)	40 (41)	50
80 (24)	30 (31)	40
90 (27)	24 (26)	30
100 (30)	19 (20)	25
110 (33)	16 (16)	20
120 (36)	13 (13)	15
130 (39)	10 (11)	10
140 (42)	9 (9)	10
150 (45)	8 (8)	5
160 (48)	7 (7)	5
170 (51)	* *	5
180 (54)	* *	5
190 (57)	* *	5

[* The Atmos Pro/Aeris 300G will not scroll past 160 feet (48 meters), or when projected bottom / descent time is less than one minute.]

Fig. 76 - No Decompression Limits

compartment at a different depth. This feature of the Decompression Model is the basis of multilevel diving, one of the most important contributions the Atmos Pro/Aeris 300G offers you. Take advantage of this feature and make all of your dives multilevel dives.

NO DECOMPRESSION LIMITS

Note how the No Decompression Limits for the Atmos Pro/Aeris 300G are contrasted with the U.S. Navy limits (Fig. 76). For most depths, the Atmos Pro/Aeris 300G provides somewhat less no decompression times than the U.S. Navy Tables. However, while the No Decompression Limits may be less, you will receive increased allowable bottom times as you take advantage of the multilevel dive capabilities offered by the Atmos Pro/Aeris 300G. Notice also that the Dive Planner does not scroll past 160 feet (48 meters).

REPETITIVE DECOMPRESSION DIVING

The decompression model used by the Atmos Pro/Aeris 300G is based on the no decompression multilevel repetitive dive schedules successfully tested by Dr. Ray Rogers and Dr. Michael Powell. These tests did not include repetitive dives deeper than 90 feet (27 meters) or decompression dives. Due to the present unavailability

of statistical data, Atmos Pro/Aeris 300G decompression predictions are based on U.S. Navy theory. Therefore, pay special attention to the following warnings.

WARNING: Aeris advocates responsible diving practices and does not recommend decompression diving, or diving below 130 feet (39 meters). The decompression capabilities of the Atmos Pro/Aeris 300G are intended strictly for emergency use. Decompression diving is inherently hazardous and greatly increases your risk of decompression sickness - even when performed according to the computer's calculations. In the event that you must make an emergency decompression dive, you must not make another dive for at least 24 hours.

WARNING: Using the Atmos Pro/Aeris 300G, just as using the U.S. Navy (or other) No Decompression Tables, is no guarantee of avoiding decompression sickness, i.e. "the bends."

CONCLUSION

The Atmos Pro/Aeris 300G is an informational tool whose entire worth depends on understanding all of its features and functions, and using it correctly. **Learn how to use it and use it wisely. Be a responsible diver!**

Be a -
RESPONSIBLE DIVER
at all times.

SPECIFICATIONS

NO DECOMPRESSION MODEL

Basis:
- Modified Haldanean Algorithm
- 12 tissue compartments

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

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

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

Altitude Algorithm:
- Based on NOAA tables

Oxygen Tolerance Limits:
- Based on NOAA tables

OPERATIONAL MODES

- Activation/Diagnostic
- Surface
- Date/Time
- FO2 Set Point
- Dive Planner
- Set -
  - FO2 Default (on/off)
  - Audible Alarm (on/off) - Aeris 300G only
  - Unit (imperial / metric)
  - External Access (to download)
  - Date (year, month, day)
  - Time (hour, minutes)
  - Dive Profile Resolution
- No Decompression Dive
- Decompression Dive
- Alternate Decompression Dive
- Violation (conditional, delayed, & immediate)
- Gauge
- High PO2 Level
- High Oxygen Accumulation
- Temperature
- Dive Log (nitrogen & oxygen)
- Time to Fly and Desaturate

SPECIFICATIONS (continued)

DISPLAY RANGE/RESOLUTION

Numeric Displays:	Range:	Resolution:
• Dive Number	0 - 9	1
• Depth	0 - 330 ft (0 - 99.5 m)	1 ft (.5 m)
• Maximum Depth	330 ft (99.5 m)	1 ft (.5 m)
• FO2 Set Point	21 - 50 %	1 %
• PO2 Value	1.40 - 5.00 ATA	.01 ATA
• Dive Time Remaining	0 - 9 hr. 59 min.	1 minute
• Total Ascent Time	0 - 9 hr. 59 min.	1 minute
• Decompression Stop Time	0 - 99 min. (per stop depth)	1 minute
• Elapsed Dive Time	0 - 9 hr. 59 min.	1 minute
• Surface Time	0 - 23 hr. 59 min.	1 minute
• Dive Log Surface Interval	0 - 25 hr. 59 min.	1 minute
• Time to Fly	23 hr. 50 min. - 0* (* starting 10 min. after the dive)	1 minute
• Time to Desaturate	9 hr. 59 min. - 0* (* starting 10 min. after the dive)	1 minute

BAR GRAPHS

Nitrogen Bar Graph:	segments
No Decompression zone (green)	9
No Deco Caution zone (yellow)	2
Decompression Warning zone (red)	1

Oxygen (O2) Bar Graph:	segments
Normal zone (green)	9
Caution zone (yellow)	2
Danger zone (red)	1

Ascent Rate Indicator:

	segments	feet/min.	meters/min.
	0	0 - 20	0 - 6
Normal zone (green)	1	21 - 30	6.5 - 9
Caution zone (yellow)	2	31 - 40	9.5 - 12
	3	41 - 50	12.5 - 15
	4	51 - 60	15.5 - 18
Too Fast zone (red flashing)	5	61+	18.5+

Special Displays:	Occurrence
• Diagnostic Display	Activation
• Out of Range (oor)	>330 feet (>99.5 meters)
• Gauge Mode Countdown Timer	24-00 hours (after violation)

OPERATIONAL PERFORMANCE

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

Dive Counter:
- Displays Dives #1, 2, 3, 4, 5, 6, 7, 8, 9, 0 (continues #1 to #0)
- Displays #0 for dives #10, #20, #30, etc.
- Resets to Dive #1, upon diving (after midnight - new 'date')

Dive Log Mode:
- Stores 12 most recent dives in memory for viewing
- After 12 dives, adds 13th dive in memory and deletes the first dive
- Each nitrox dive displays a Nitrogen and Oxygen Log screen

SPECIFICATIONS (continued)

OPERATIONAL PERFORMANCE (continued)

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

Power

• Batteries	2 - 3 volt lithium, CR2032 or equivalent
• Shelf life	Up to 10 years
• Replacement	User replaceable (annual recommended)
• Life expectancy	50 - 24 hour periods of activation time (approximate) Number of dives - variable.

Activation
- Manual (push button) - cannot be activated by water immersion
- Cannot be activated deeper than 4 feet (1.5 m)
- Cannot be activated at elevations higher than 14,000 feet (4,267 m)
- Needed before first dive.
- Automatically shuts off if no dive is made within 120 minutes after initial activation. Reactivation required.
- Cannot be shut off manually.

Setting FO2
- Automatically set for 'Air' upon activation
- Remains set for Air unless an FO2 numerical value is set
- Nitrox set points from 21 to 50 %
- If set for 21%, remains set for 21% until changed
- If set for >21%, reverts to 50% 10 minutes after the dive (however, if the FO2 default setting is 'Off' the previous value set will be maintained).

ACCESSORIES

Optional items available from your Authorized Aeris Dealer:

- P/N 10.0020 Lens Protector (pressure Gauge) - adheres to lens face, prevents scratches
- P/N 10.0021 Lens Protector (computer module) - adheres to lens face, prevents scratches
- P/N 10.0030 Dive Downloader (DDA) - PC download package (hardware & software)
- P/N 10.0040 Battery Kit - includes 2 batteries, 1 o-ring, silicon grease
- P/N 10.0050 Quick Disconnect - for High Pressure hose
- P/N 10.0051 Universal Transit Clip
- P/N 10.0052 B/C Retractor Attachment
- P/N 10.0053 Gauge Sock - for Transport protection
- P/N 10.0054 Gauge Bag - for Transport carrying

RESPONSIBLE COMPUTER DIVING

Since the advent of dive computers, it is a common mistake to assume that the old traditional rules of diving no longer apply, but the truth is just the opposite. Before you dive using your Atmos Pro/Aeris 300G, keep these basic rules in mind:

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

GLOSSARY

The following are diving terms to become familiar with. Some apply specifically to the Atmos Pro/Aeris 300G.

Air Dive - A dive conducted using air (approximately 21% oxygen & 79% nitrogen) as the breathing gas.
Algorithm - A step-by-step mathematical formula designed to accomplish a particular result (i.e. Dive Time Remaining in the Atmos Pro/Aeris 300G).
Altitude Dive - A dive made at an elevation above sea level (2,000+ ft. / 610+ m.) where a different set of no decompression tables is used .
Ascent Rate - The speed that a diver ascends toward the surface.
Ascent Rate Indicator - A display on the Atmos Pro/Aeris 300G that shows ascent rate as a bar graph alongside a color–coded indicator.
Audible Alarm - A computer emitted tone that alerts the diver to potential danger.
Caution Zone - The yellow sections of the Nitrogen Bar Graph and O2 Bar Graph that gives a visual warning of a diver's proximity to respective decompression or oxygen tolerance limits.
Ceiling - See decompression ceiling.
Clean Dive - A dive preceded by 24 hours of no diving activity.
CNS - Abbreviation for the Central Nervous System of the body.
Competitive Dive - A dive conducted for profit or prize.
Compartment - A term applied to the hypothetical modeling of nitrogen absorption in the tissues (more accurate than the term "tissue" because dive computer models have no direct relation to human tissues).
DCS - Abbreviation for decompression sickness, i.e., "the bends".
DECO - Abbreviation for Decompression.

GLOSSARY (continued)

Decompression Ceiling - The shallowest depth a diver may reach upon ascent without risking decompression sickness.
Decompression Stop - The depth(s) at which a diver must pause during ascent to allow absorbed nitrogen to escape naturally from the tissues.
Depth Sensor - an electro-mechanical device that converts water pressure into an electrical signal, that is converted to a visual depth display.
Diagnostic Mode - The first display seen on dive computers after initial activation during which time a self–check for internal faults is performed.
Display - A visual readout of information.
Dive Downloader - An Aeris name for a PC interface hardware/software package.
Dive Log Mode - A computer display of previous dive information.
Dive Planner - A display of available dive times at 10 foot. (3 meter) intervals from 30 to 160 feet. (9 to 48 meters) used when dive planning.
Dive Time Remaining - A display of the time before a diver must surface based on no-decompression status.
Elapsed Dive Time - The total time spent underwater during a dive between 5 feet (1.5 meters) on initial descent to 3 feet (1 meter) on final ascent.
FO2 - The fraction (percent / 100) of oxygen (O2) in the breathing gas mixture.
Icon - a small pictorial representation of an operational mode
LCD - Abbreviation for liquid crystal display, an easily viewed low voltage display usually found on dive computers
Maximum Depth - The deepest depth attained during a dive.
Mode - A specific set of functions in a dive computer.

GLOSSARY (continued)

Multiplexing Display - A display on an instrument that alternates to show different information relating to separate events.
Multi-level Dive - A type of dive profile where the diver spends various times at different depths (opposite of a “Square Wave” dive profile).
Nitrogen Bar Graph - A graphic display of simulated nitrogen absorption on Aeris dive computers.
Nitrox - A nitrogen-oxygen breathing gas mixture that contains a higher fraction of oxygen than air.
Nitrox Dive - A dive conducted using nitrox (22 to 50 % O2) as the breathing gas.
No Deco - Abbreviation for No Decompression.
No Deco Time Remaining - The amount of dive time remaining based on no-decompression status.
No Decompression - Any part of a dive where the diver can surface without requiring a decompression stop.
O2 Bar Graph - A visual representation of oxygen accumlation on a dive computer display.
OTU - Abbreviation for oxygen tolerance unit. A Hamilton's Repex method term for oxygen dose.
Out of Range - The point at which a dive computer can no longer supply correct dive information.
Oxygen Tolerance - Dose or exposure to the physiological affects of elevated levels of oxygen.
Oxygen Toxicity - The adverse physiological affects of exposure to elevated levels of oxygen.
Partial Pressure - The proportion of the total pressure contributed by a single gas in a mixture of gases.
PO2 - Partial pressure of oxygen. The proportion of total pressure of a gas mixture contributed by oxygen.
Repetitive Dive - Any dive that takes place within 12 hours of a previous dive.
Safety Stop - A depth at which a diver may choose, but is not required, to pause during ascent to allow absorbed nitrogen to escape naturally from the tissues.

GLOSSARY (continued)

Square Wave Dive - A type of dive profile where the entire dive is spent at one depth between descent and ascent.
Tissue - See Compartment.
Tissue Compartment - See Compartment.
Transducer - An electro-mechanical device in a dive computer that acts as a depth or pressure sensor.
Transition Period - The first 10 minutes of surface time after ascending above 3 feet (1 meter) from a dive.

R1

SERVICE NOTE

It is possible to damage the Atmos Pro/Aeris 300G depth sensor if it is not pressure tested properly.

WARNING

Never pressure test the Atmos Pro or Aeris 300G in an air environment. Doing so may damage the depth sensor; possibly resulting in erroneous depth or time readings.

SERVICE RECORD

Serial Number _____

Date of purchase _____

Purchased from _____

Below to be filled in by an Authorized Aeris Dealer:

Date	Service Performed	Dealer / Technician

THE CODE OF THE RESPONSIBLE DIVER

AS A RESPONSIBLE DIVER I UNDERSTAND AND ASSUME THE RISKS I MAY ENCOUNTER WHILE DIVING.

RESPONSIBLE DIVING BEGINS WITH

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

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