



# Version 68

## **Attention:**

When the upgrade has been loaded, all the O2 sensors will show FAIL FAIL FAIL. This is because the O2 calibration now uses barometric pressure so your calibration is no longer valid. This is not a problem. Just recalibrate.

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### **O2 Sensor Calibration**

- The calibration function has been improved to show both millivolts and PPO2 during calibration so that it is clear whether there is a problem with a sensor or cable.
- Calibration now takes the current barometric pressure into consideration during calibration.
- The computer used to show flashing 0.0 when calibration failed. Users would then switch sensors and expect it to show a number. It would never show a number since the calibration had failed and the number displayed would be wrong. To get rid of this confusion, we have done two things. First, the calibration screen now shows mV and PPO2, so it is obvious what is going on. Second, instead of flashing 0.0, it displays a message FAILED in the sensor position. Since it is a message, users will probably understand that plugging in a sensor without calibrating isn't going to change the display. When they calibrate, they will see the mV in O2 and that should make it easier to understand.
- Allow 100% cal gas for rebreathers that have calibration kits. Calibration kits supply 100% O2 with no water vapor and can legitimately calibrate to 1.00 PPO2
- You can now display millivolts from a right button information display at any time.
- The calibration gas is now shown during calibration

### **Surface Interval**

- A diver can surface for up to 5 minutes then continue and still have the dive considered one dive

### **Support and Simplicity**

- New manual for IrDA included in software update
- Text warning for low internal battery in addition to the battery symbol
- Cosmetic clean up of "Display Log"
- It is no longer possible to select SC in display mode. This could cause a problem when an SPD was inadvertently switched to Semi-Closed and then upgraded to an SPOCT. There would be no way to switch from Semi-Closed back to CC.



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*Simplicity is the ultimate sophistication.*

## Automatic Altitude Adjustment.

- The computer now reads the altitude on power up and stores that as the surface altitude. Depth and decompression is now relative to that altitude. There are two additions to the info screen. Screen two now shows the instantaneous altitude, and there is a new screen three that shows the stored surface altitude that the computer is using in mBar and ATA. Each time the computer is turned on, the stored surface is updated. Note that if the computer isn't turned on before the dive and comes on underwater, it will use whatever was the previously stored surface altitude.

## New Model

- A controller without decompression has been created to make it easier to get started with Shearwater controllers.

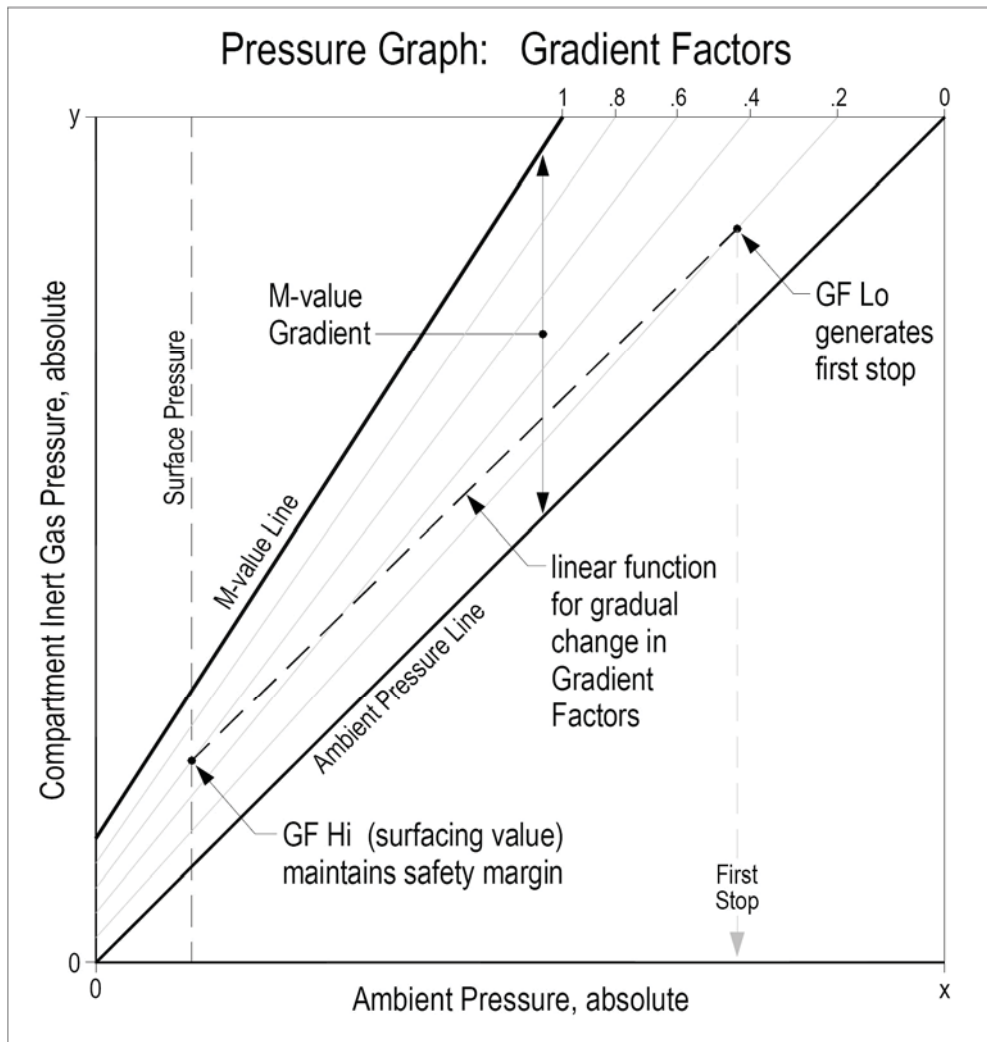
## More Information Displayed

- When the computer goes into decompression, there are two new displays available. These replace the NDL display since once you are in decompression, NDL is no longer useful.
  - Ceiling – You can select the ceiling display which will show the raw ceiling. This is like the man on a rope display. The NDL title on the bottom line of the display will change to CEIL and the ceiling will be displayed below it. You can follow the continuous ceiling rather than the stepped ceilings at 3 meters or 10 feet. Since this is a controversial practice, the computer will still display the “Missed Deco Stop” display once during the dive and once when the computer is next turned on if you stay above the stepped ceiling for more than a minute.
  - GF99 – You can select the GF99 display to see the real-time gradient between the ambient pressure line and a pure Buhlmann M-Value line or 99/99 decompression. The NDL title will change to GF99 and the NDL of 0 will change to the current gradient for a 99/99 profile. This can be used to judge how much decompression effect you are getting at your current (below ceiling) depth. It can also be used when trying to determine operational risk versus decompression risk in a faster than planned exit. This is an advanced topic and should only be used by those who understand the risks they are trading.



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## CE conformance

- We now show depths in the units proscribed by CE. Pressure of 1 Bar increases depth by 10 meters. This is between salt and fresh densities and is close for both. Dive timing starts a 165 mBar.
- We now allow a surface interval of less than 5 minutes to continue counting as one dive. The CE specification is still met by not counting that portion of the dive at a depth of less than 165 mBar as part of the dive time.