SHEARWATER

Shearwater Perdix 2/Perdix AI/NERD 2/Petrel 3 and Peregrine TX Firmware Release Notes

VERSION 102 2025-11-10

NOTE

Note: Version 102 is being released on multiple products simultaneously. These release notes cover the Perdix 2, Perdix AI, NERD 2, Petrel 3, and Peregrine TX.

NEW

Adds support for receiving GPS (GNSS) information from Swift GPS transmitters. After upgrading this will be disabled, as the AI Mode will be either “On, no GPS” (if previously “On”) or “Off”. To enable, change AI Mode to “On, + GPS”. See the Swift GPS manual for details.

If not using a Swift GPS transmitter, leave the AI Mode at “On, no GPS”. Enabling the GPS when no compatible transmitter is present will cause the dive computer to expend more energy on the surface searching for the GPS communications. During the dive, GPS is not available, so this search will be stopped and will not affect in-dive power consumption.

CHANGE

Default value of GF Low is now 50% in all situations. So the default Tec mode GF is 50/70 (previously 30/70). The Rec mode GF fixed conservatism values are now 50/75 (high), 50/85 (med), and 50/95 (low), and the custom default is 50/85. If using a custom GF setting, then GF Low will not change after the update. If using a fixed conservatism level, then the GF Low will be different after the update.

Reminder that GF Low does not impact no-deco dives. The effect of increasing GF Low is to move the deepest decompression stops shallower. The default values of GF High are unchanged.

CHANGE

Changed rules for determining if a starting tank pressure was recorded, which is used for whole-dive SAC calculations. This change deals better with dives in which a return to the surface was made shortly after starting the dive.

Shearwater Perdix 2 Firmware Release Notes

VERSION 101

NOTE

Version 101 was not released on the Perdix 2.

VERSION 100 2023-05-21

NOTE

A note on models: The NERD 2, Petrel 2, Petrel 3, Perdix, Perdix AI, Perdix 2, and Peregrine share a common firmware base. Due to hardware differences, not all features are available on all models. The following changes apply to all models unless otherwise noted.

This release is only for the Perdix 2.

IMPROVEMENT **IMPROVEMENT:** In 3GasNx Mode in the System Menu->Gas Setup menu the MOD for gases above 40%, when it is the only enabled gas, is now shown consistently with actual operation in dive mode.

FIX **FIX:** Fixes issue in Avelo Mode where the selected Safety Stops option would revert back to off after a power on/off cycle. This issue only affected Avelo Mode.

FIX **FIX:** Fixed Avelo Mode warning message for Hydrotank overpressure.

FIX **FIX:** When changing to/from Avelo Mode the GTR settings weren't being saved and restored previously.

FIX **FIX:** In Avelo Mode the N2 loading bar graph wasn't displaying properly.

CHANGE **CHANGE:** The Avelo Mode Hydrotank overpressure check now happens on the surface as well as when diving.

Shearwater Perdix 2
Firmware Release Notes

VERSION 99 2024-12-18

NOTE

A note on models: The NERD 2, Petrel 2, Petrel 3, Perdix, Perdix AI, Perdix 2, and Peregrine share a common firmware base. Due to hardware differences, not all features are available on all models. The following changes apply to all models unless otherwise noted.

This release is only for the Perdix 2.

NEW

Adds Avelo Mode as an unlockable upgrade. See the Avelo Mode Operating Instructions for full details.

CHANGE

For the 1.5V lithium battery type, improves battery gauge by saving previous state. This battery type has a particular challenge in gauging remaining capacity, in that measurable characteristics (voltage and internal impedance) will recover when a discharged battery is rested. So a mostly discharged battery can recover its characteristics (but not capacity) when rested for several weeks or even a few days in some cases. Such a battery may appear nearly fully when first turned back on, but will then appear to drop quickly over about a 30 minute timeframe.

By saving the battery state before turn-off, any recovery that occurs while the unit is off can be disregarded. However, if the battery is removed, then this state memory is lost since the computer does not know if the previous battery or a new one is reinstalled. Therefore, with the 1.5V lithium batteries, it is recommended to leave the battery installed during storage.

The recommendation for leaving the battery installed during storage (1 month or longer) depends on the battery type:

1.5V Lithium: Leave battery installed during storage. This allows the computer to remember previous state so any false “battery recovery” can be disregarded. These batteries are highly unlikely to leak, so it is safe to leave them installed. Shearwater ships Perdix 2 and Petrel 3 computers from the factory with 1.5V lithium batteries installed.

1.5V Alkaline: Remove the battery during storage. These batteries are prone to leakage which can damage the dive computer. The chance of leakage is higher for low or completely discharged batteries. While commonly available and low-cost, this battery type is not recommended due its likelihood of leakage.

Shearwater Perdix 2
Firmware Release Notes

VERSION 99 2024-12-18

3.7V Li-Ion: Can be left installed during storage. Rechargable li-ion batteries are unlikely to leak. However, leaving installed will slightly increase discharge rate which can lead to eventual full discharge. Fully discharging a li-ion battery can permanently damage it. To be safest, store li-ion batteries outside the dive computer at a state of charge of 40% to 60%.

3.6V Saft: Can be left installed during storage. These lithium thionyl chloride batteries are unlikely to leak. However, during periods of storage they can be become passivated, which means an insulating layer has grown on the anode. This can cause voltage droop and forms more readily at higher temperatures. When resuming use after storage, we recommend turning on at high brightness for 10 minutes to burn off this insulating layer before assessing the battery gauge level.

1.5V NiMH: Remove the battery during storage. Although rare, these batteries can leak when completely discharged. Also, many types have high self discharge and will deplete during storage. Therefore we recommend storing outside of the computer and recharging before resuming use.

Shearwater Perdix 2
Firmware Release Notes

VERSION 98 2024-07-15

NOTE

The NERD 2, Petrel 2, Petrel 3, Perdix, Perdix AI, Perdix 2, and Peregrine share a common firmware base. Due to hardware differences, not all features are available on all models. The following changes apply to all models unless otherwise noted.

Version 98 is only currently being released on the Perdix 2.

NEW
(Perdix 2)

No new features. Supports a minor variant of the LCD display with identical characteristics. This update is for manufacturing support only. Customers do not need to update from v95.

Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

VERSION 97 2023-08-16

NOTE

The NERD 2, Petrel 2, Petrel 3, Perdix, Perdix AI, Perdix 2, and Peregrine share a common firmware base. Due to hardware differences, not all features are available on all models. The following changes apply to all models unless otherwise noted.

CHANGE
(Petrel 2, Petrel 3 and NERD 2)

For DiveCAN controller models with a liability screen, when the computer is automatically turned on by detection of water, the liability screen is now bypassed.

VERSION 96 2023-06-23

NOTE

The NERD 2, Petrel 2, Petrel 3, Perdix, Perdix AI, Perdix 2, and Peregrine share a common firmware base. Due to hardware differences, not all features are available on all models. The following changes apply to all models unless otherwise noted.

NEW
(Petrel 3)

Includes new OEM start up screen.

Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

VERSION 95 2022-12-21 for Petrel 3 and Perdix 2, 2023-04-11 for NERD 2

NOTE

The NERD 2, Petrel 2, Petrel 3, Perdix, Perdix AI, Perdix 2, and Peregrine share a common firmware base. Due to hardware differences, not all features are available on all models. The following changes apply to all models unless otherwise noted.

NOTE

Version 95 is only currently being released on the Petrel 3 and Perdix 2. This fix will be released for other products at a later date.

FIX
(Petrel 3 and Perdix 2 only)

Fixes a display issue when the “MINI” or “NDL” options for the “NDL Display” setting are selected. The issue occurs at the end of a dive that had decompression stops. Once the stops have cleared, if the diver descends deeper than 25 feet (8 meters) and the NDL is 99 minutes or greater, then the NDL would erroneously show 0 instead of 99. If the NDL dropped below 99 minutes, then this error would clear and the NDL would display correctly. This fix prevents this error entirely. This error was introduced in v91.

FIX
(Nerd 2 only)

Fixes some NERD 2 cannot save dive logs issue because of “memory full error”. Unfortunately, any existing problematic dive logs cannot be recovered.

Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

VERSION 94 2022-12-15

NOTE

Version 94 is only being released for the new Petrel 3 and Perdix 2 products. Changes introduced on these models may become available on other products, where hardware allows, at a later date.

FIX
(Petrel 3 only, rEvo CCR controllers with rEvo O2SOLTEMP Generation 1 electronics firmware v05y)

Fixed issue In the PPO2 Calibration History log the overall result was shown as “Fail” even for calibrations that passed.

IMPROVEMENT
(Petrel 3 and Perdix 2 only)

Improved rejection of rare communication issues with depth sensor, preventing spurious readings in dive log.

FIX
(Petrel 3 DiveCAN only)

Fixed an issue where the remote DiveCAN wakeup request failed to turn on handset. Only affect configurations with HUD and handset on same bus.

FIX
(Petrel 3 only)

User splash screen now can be reset to default screen by using Shearwater Cloud software.

Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

VERSION 93 2022-09-27

NOTE

The NERD 2, Petrel 2, Petrel 3, Perdix, Perdix AI, Perdix 2, and Peregrine share a common firmware base. Due to hardware differences, not all features are available on all models. The following changes apply to all models unless otherwise noted.

This release is only for Perdix 2, Perdix AI, Perdix and Petrel 2.

This release for the Perdix 2, Perdix AI, Perdix and Petrel 2 has no new features or fixes. It only adds support for minor hardware changes needed due to electronic component supply constraints. The changed components are functionally identical and do not add new features or improved performance.

This firmware update is not required. No changes in operation will be noticed after updating. Hardware requiring this firmware will be factory programmed with this version.

Shearwater Perdix 2 and Petrel 3 Firmware Release Notes

VERSION 92 2022-07-13

NOTE

The NERD 2, Petrel 2, Petrel 3, Perdix, Perdix AI, Perdix 2, and Peregrine share a common firmware base. Due to hardware differences, not all features are available on all models. The following changes apply to all models unless otherwise noted.

NOTE

Version 92 is only being released for the new Petrel 3 and Perdix 2 products. New features introduced on these models may become available on other products, where hardware allows, at a later date.

CHANGE
(all models)

Default AI Reserve Pressure is changed from 700 PSI to 725 PSI (48 bar to 50 bar). This only applies on new units or after resetting settings to default on existing unit.

FIX
(Petrel 3 rEvo CCR controllers only)

Fixed the issue in the O2 Setup menu where the “Sol Depth Comp” title was misaligned.

FIX
(Petrel 3 External PPO2 monitors only)

Fixed the issue “Pause PPO2 Vib.” Menu option was missing in the PPO2 only mode (that is, the gauge mode with PPO2 monitoring). This issue did not affect PPO2 monitoring modes that include decompression.

Shearwater Perdix 2 and Petrel 3 Firmware Release Notes

VERSION 91 2022-06-01

NOTE

The NERD 2, Petrel 2, Petrel 3, Perdix, Perdix AI, Perdix 2, and Peregrine share a common firmware base. Due to hardware differences, not all features are available on all models. The following changes apply to all models unless otherwise noted.

NOTE

Version 91 is only being released for the new Petrel 3 and Perdix 2 products. New features introduced on these models may become available on older products, where hardware allows, at a later date.

NEW
(Petrel 3 and Perdix 2)

Vibrating alarms have been added.

The vibrations will occur every 10 seconds while a Warning, Error, or Alert message is actively displayed along the bottom row of the display. Once the message is cleared by a button press the vibrations will cease, even if the underlying condition remains. Low and High PPO2 alarms from externally monitored PPO2 (CCR) are an exception to this rule (see below). Vibrations can be completely disabled.

NOTE: Only the 1.5V Lithium and 3.7V Li-Ion battery types support the vibration feature. Other battery types lack the peak output power capacity to reliably run the vibration motor. Do not attempt to trick the computer into enabling vibrations by incorrectly setting the battery type. This will cause the battery gauge to be incorrect and could lead to unexpected shutdown.

The recommended battery type for both the Perdix 2 and Petrel 3 is the Energizer Ultimate Lithium AA (1.5V Lithium).

Vibrating alarms have been added whenever an Alert, Warning, or Error is being displayed

Shearwater Perdix 2 and Petrel 3 Firmware Release Notes

VERSION 91 2022-06-01

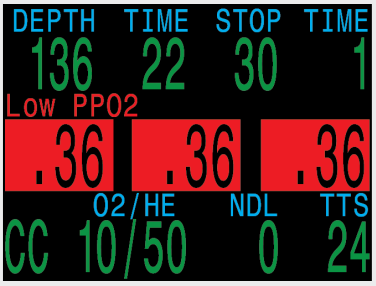
NEW
(Petrel 3 and Perdix 2)

Continuous vibrating alarms for externally monitored (CCR) low and high PPO2 have been added.

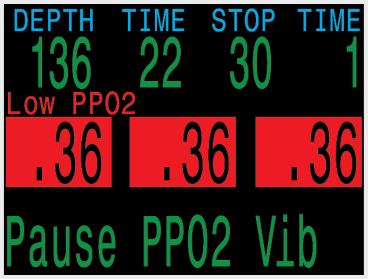
Due to the critical importance of PPO2 levels in a closed-circuit rebreather, externally monitored PPO2 alarms will continue to vibrate every 10 seconds, even after the message has been acknowledged, as long as the alarm condition remains.

A “Pause PPO2 Vib.” Menu option will be available while a PPO2 vibrating alarm condition is active. This will pause PPO2 vibrating alarms for five (5) minutes. During this time other warning conditions will still cause vibrations.

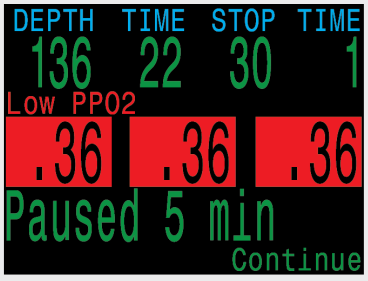
When in BO mode, the external PPO2 will not cause vibrating alarms (since PPO2 is derived from the open-circuit bailout gas).



When a Low or High external PPO2 alarm exists, the vibrating alarm will continue even after the Warning message has been cleared.



While such vibrations are active, a menu option will be available to Pause PPO2 Vibrations



This will pause vibrations for 5 minutes

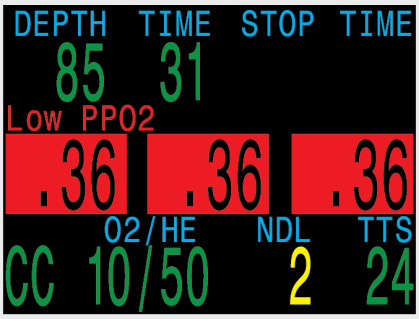
Shearwater Perdix 2 and Petrel 3 Firmware Release Notes

VERSION 91 2022-06-01

NEW (Petrel 3)

Support for Petrel 3 hardware with a 2.6” AMOLED display.

The default color for the AMOLED display is green. White cannot be chosen as an option for the Main color



The AMOLED on the Petrel 3 features bright vibrant colors and a larger 2.6” size

NEW (Perdix 2)

Support for the Perdix 2 hardware.

NEW (Petrel 3)

Add AI support for up to 4 transmitters to all variants of the Petrel 3.

NEW (Perdix 2)

All Perdix 2 models have support for up to 4 transmitters. There is no non-AI Perdix 2 model.

Shearwater Perdix 2 and Petrel 3 Firmware Release Notes

VERSION 91 2022-06-01

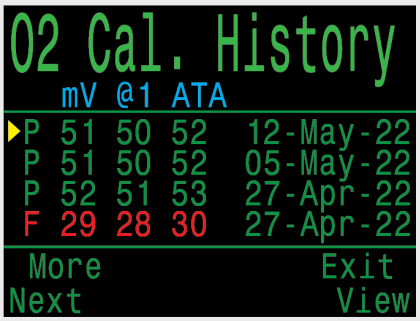
NEW
(Petrel 3)

Displays a history of PPO2 calibrations. A log browser shows the date, status, millivolt (mV) levels, and input parameters for all PPO2 calibrations.

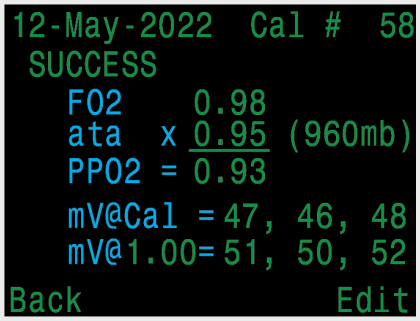
Note that the mV levels are shown in the history browser as if they occurred at a PPO2 of 1.0 ata. This allows calibrations done under varying conditions to be compared. For example, say a calibration is performed with 100% FO2 calibration gas 1.0 ata ambient pressure (so a PPO2 of 1.0 ata) and results in a reading of 50 mV. This same sensor, if calibrated with 100% FO2 at an altitude corresponding to 0.90 ata ambient pressure (PPO2 of 0.90 ata) would output only 45mV. In the history browser, both calibrations would show as 50mV to allow direct comparison of the sensor status. If the details are viewed, then the actual mV at calibration is also shown.

Unwanted PPO2 calibrations can be deleted from the log.

The “O2 Cal. History” can be accessed from either the Dive Log menu or the System Setup->O2 Setup menu.



A history of PPO2 calibration results can be viewed



Details of each calibration can be viewed

Shearwater Perdix 2 and Petrel 3 Firmware Release Notes

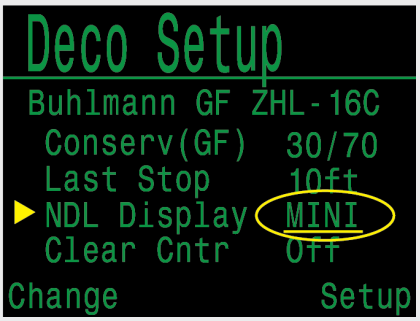
VERSION 91 2022-06-01

NEW
(Tec modes)

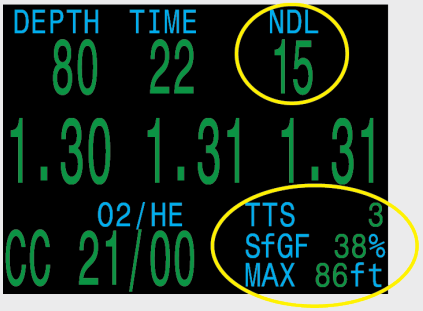
This change applies only to Tec modes like CC/BO, OC Tec, and SC/BO.

The “NDL Display” setting can be set to “Mini”. The Mini display can be configured to show 2 custom values, in addition to TTS which is fixed. The main display is slightly changed, with NDL moving up to the top right where DECO STOP is normally shown. NDL will show here until deco stops are needed, at which time it will change automatically to show deco stops.

This change allows some main screen customization for users that are displaying three PPO2 sensors.



A MINI display be chosen as the NDL Display setting



This option will move NDL up to the DECO STOP area. Once deco stops are needed they will replace the NDL.

Shearwater Perdix 2 and Petrel 3 Firmware Release Notes

VERSION 91 2022-06-01

CHANGE
(Tec modes)

This change applies when an alternate display is chosen for NDL once deco is needed (i.e. the “NDL Display” setting is not NDL or Mini).

After decompressions clears the NDL display does not revert to NDL until NDL falls below 99 minutes. For example, say the “NDL Display” is set to GF99 and the dive needed some decompression. Once the final decompression stop clears, the NDL location will continue to show GF99. If the NDL does ever fall below 99 minutes (e.g. the dive went deeper again) the display will switch to NDL.

Previous behaviour is that once deco cleared the NDL Display would revert to NDL.

NEW
(Petrel 3 and Perdix 2)

Button sensitivity can be set to Low, Medium, or High depending on user preference.

NEW
(CCR modes)

The stack timer can now be added to mini display configurations.

KNOWN LIMITATION
(Petrel 3 rEvo CCR controllers only)

In the O2 Setup menu the “Sol Depth Comp” title is misaligned. This does not affect adjusting this setting.

Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

VERSIONS 88, 89, and 90

NOTE

Firmware versions 88, 89, and 90 were not publicly released.

VERSION 87 2021-11-01

NOTE

The NERD 2, Petrel 2, Perdix, Perdix AI, and Peregrine share a common firmware base. Due to hardware differences, not all features are available on all models. The following changes apply to all models unless otherwise noted.

This release is only for AI products (Perdix AI and NERD 2).

This version addresses a minor bug where the Swift AI Tank Pressure Transmitter will occasionally send a false and unwarranted low battery warning. This change suppresses AI transmitter low battery warnings until four (4) have been received consecutively.

VERSION 85 & 86

NOTE

Firmware versions v85 and v86 were not publicly released.

Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

VERSION 84 2021-07-26

NOTE

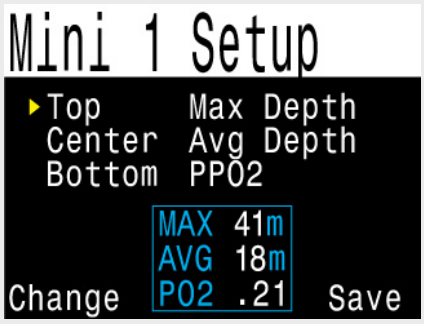
The NERD 2, Petrel 2, Perdix, Perdix AI, and Peregrine share a common firmware base. Due to hardware differences, not all features are available on all models. The following changes apply to all models unless otherwise noted.

This is a major feature release update.

NEW
(all models)

Configurable Mini displays have been added. These allow up to 3 displays to be shown in the area normally used for 1 display, although at a smaller font size.

Two Mini display sets can be configured. The set configurations are separate for the tec modes (OC Tec, CC/BO) and the rec modes (Air, Nitrox, 3 GasNx).



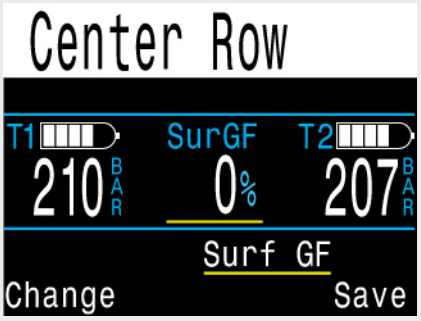
Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

VERSION 84 2021-07-26

NEW
(all models)

Previews of the tec center row display configuration have been added to make display setup easier.

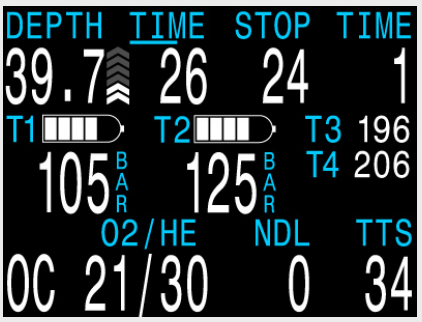
Also, more options are available in the tec modes center position.

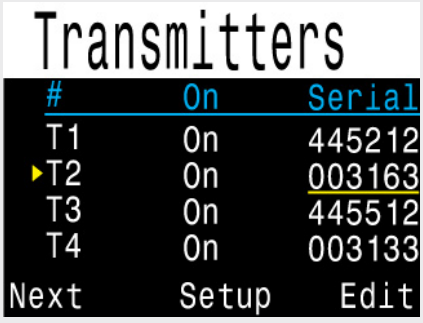


NEW
(Perdix AI and NERD 2)

Up to 4 wireless air integration (AI) tanks are now supported. Shearwater recommends use of the Swift transmitter when more than 2 transmitters are used to avoid communications channel conflicts.

The setup menu for AI has been restructured to allow 4 transmitters to be configured.





Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

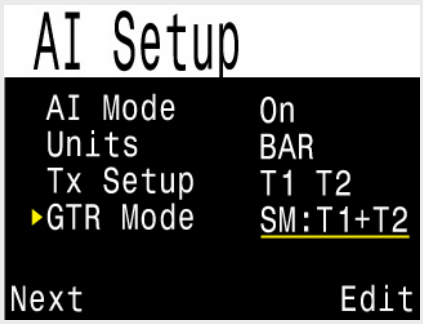
VERSION 84 2021-07-26

NEW
(Perdix AI and NERD 2)

A sidemount mode has been added.

The differences in sidemount mode are:

- Reminder indicators are shown to prompt switching tanks.
- SAC and GTR are calculated on the pooled gas quantity of the two tanks. The tanks must be the same size.
- A RTR (Redundant Time Remaining) display option has been added. This is the GTR calculated only on the tank with less pressure (i.e. the GTR if the higher pressure tank was lost).

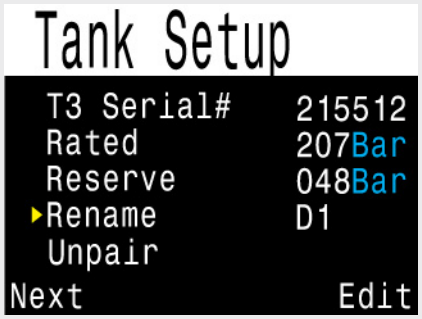


NEW
(Perdix AI and NERD 2)

AI tanks can now be renamed. Only 2 characters available per tank.

First character: T, S, B, O, or D

Second character: 1,2,3, or 4



NEW
(Open Circuit Air and Nitrox only)

DCIEM decompression model now available on some dive computer models.

Only available for Air and Single Gas Nitrox open circuit diving.

An additional fee is required to unlock this feature. Contact your Authorised Shearwater Dealer for more information.

Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

VERSION 84 2021-07-26

NEW
(External PPO2 monitors only)

Bailout CCR PPO2 monitoring option added. When the Dive Mode is CC/BO, the PPO2 Mode can be set to “BO CCR” (other options are “Int” and “Ext”).

The BO CCR option is a combination of Int and Ext.

- The external PPO2 cell measurements are displayed in the center row.
- However, the internal PPO2 setpoint is used for decompression and CNS calculations.

This allows the BO CCR to follow the decompression schedule of the primary CCR, while still displaying the current loop PPO2, in case the diver needs to start breathing from the BO CCR.

If the diver does switch to the BO CCR, they should not switch from “CC” to “BO” (since that BO is open-circuit bailout). Instead, the PPO2 Mode can be left as “BO CCR” if the PPO2 is close the internal setpoint. This produces similar decompression schedules in most situations. For best decompression accuracy, the PPO2 Mode can be changed to “Ext”.

Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

VERSION 84 2021-07-26

NEW
(all models)

Gas density display is now available.

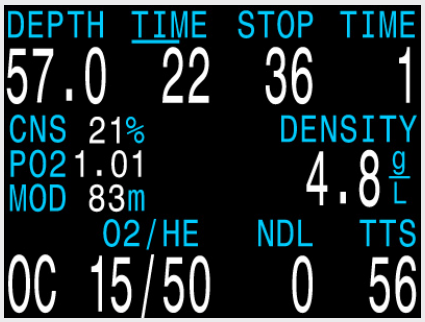
It is only available in the configurable main screen display. It shows gas density in g/L.

For Closed Circuit Diving:
The gas density display turns yellow at 5.2 g/L and red at 6.3 g/L. No other warnings are generated.

For Open Circuit Diving:
The gas density display turns yellow at 6.3 g/L. No other warnings are generated.

You may be surprised at how shallow these warning colors appear. Read more about why we chose these levels starting on page 66 here (recommendations on page 73):

Anthony, T.G and Mitchell, S.J. Respiratory physiology of rebreather diving. In: Pollock NW, Sellers SH, Godfrey JM, eds. Rebreathers and Scientific Diving. Proceedings of NPS/NOAA/DAN/ AAUS June 16-19, 2015 Workshop. Durham, NC; 2016.



NEW
(CCR modes only)

The stack timer remaining time can now count negative. Previously it counted down to zero and then stopped there.

Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

VERSION 84 2021-07-26

CHANGE (CCR modes only)

Stack timer no longer resets when editing the total stack time. The used time remains unchanged after total time is edited.

CHANGE (all models)

Gradient Factor rules have changed.

No longer enforces that GF_High must be <= 90 when GF_Low is > 50. The only rules are now:

- GF Low must be less than or equal to GF High.
- GF High must be greater than 30.
- GF Low must be greater than 10.

These are the same rules as used on the Teric.

FIX (Perdix and Petrel)

Fixed a small battery level display glitch that was present when the Li-Ion battery type is used and is fully charged.

FIX (all models)

Allows firmware to be sent immediately after the dive log manifest list has been sent.

Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

VERSION 83 2020-12-14

NOTE

Only for Petrel 2.

This is a critical update. All Petrel 2 users should update if using v81.

FIX
(Petrel 1 Only)

Fixes an issue that could occur during battery change where under certain conditions after a battery change the tissues integrity check could be bypassed resulting in corrupted decompression tissues. This resulted in an obviously incorrect display of a decompression stop depth of “OVR” while on the surface. This issue only affected the Petrel 2 and only on firmware v81.

VERSION 82

NOTE

Version 82 was not publicly released.

Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

VERSION 81 2020-09-08

NOTE

A note on models: The NERD 2, Petrel 2, Perdix, Perdix AI, and Peregrine share a common firmware base. Due to hardware differences, not all features are available on all models. The following changes apply to all models unless otherwise noted.

This is the first release for non-Peregrine products since v72. The initial Peregrine firmware (v78) introduced many new features for all products. **Please see v78 release notes below if you are updating a non-Peregrine product.**

This firmware is not being released for the Petrel 1 dive computer. The Petrel 1 model, sold from 2012 to 2014, has reached memory limitations for adding new features.

CHANGE (all non-Peregrine models) — Adds features that were first released with Peregrine v78. **See v78 release notes below.**

FIX (Peregrine Only) — Fixed issue that would not allow @+5, delta+5, or CEIL to be configured in bottom row.

FIX (Peregrine Only) — Fixed issue that prevented Bluetooth connection to some third-party log software (e.g. libdivecomputer/Subsurface).

NEW (DiveCAN CCR Controllers only) — Peripheral serial numbers now show when viewing details of a device in the Bus Devices list.

IMPORTANT NOTICE
OC REC mode users

After updating please confirm the PPO2 MOD value is set to your desired value. This may change for some users after updating.

Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

VERSION 73 TO 78 2020-07-23

NOTE

Versions 73 to 78 were not publicly released.

VERSION 78 2020-07-23

NOTE

Version 78 was released only for the Peregrine.

Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

VERSION 78 2020-07-23

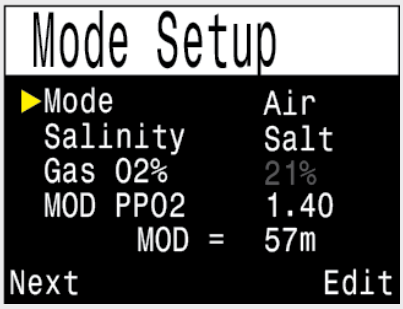
NEW (Peregrine Only)

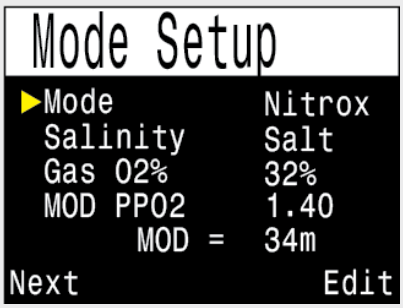
Added support for Peregrine hardware.

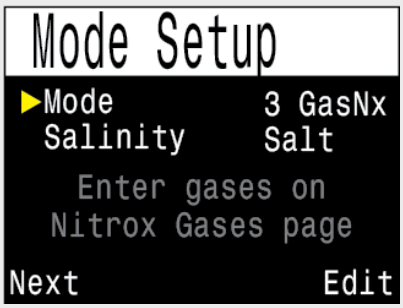
CHANGE (all models, except CCR controllers)

New single-gas modes added:

- AIR: Only a single fixed gas (21% O2 a.k.a. air) is available. Simplifies menus and chances for errors when only diving with air.
- Nitrox: For single gas nitrox from 21% to 40%.
- 3 GasNX: The 3 gas nitrox mode is simply a renaming of the existing “OC Rec” mode. Allows 3 gases from 21% to 100% O2.





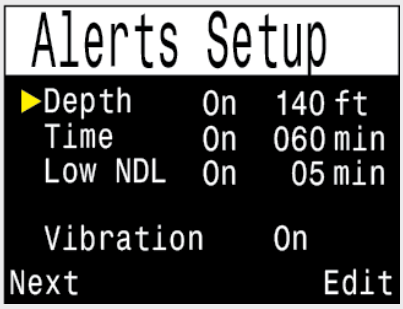


Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

VERSION 78 2020-07-23

CHANGE
(all models)

Added user configurable “Alerts”. These can be programmed to provide a warning when specified limit is reached. Also, the applicable display on the main screen will change to yellow while limit is exceeded. On the Peregrine, the vibration will activate with the warning.



Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

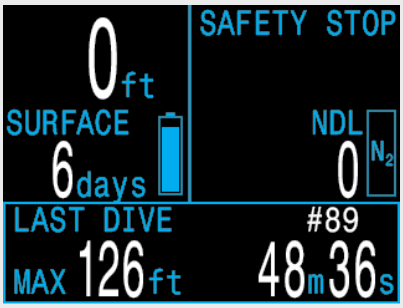
VERSION 78 2020-07-23

NOTE

The “Vibration” setting is only available on the Peregrine. Other models are visual alerts only.

NEW (All Models)

Added “Last Dive” display to show basic info from last dive (maximum depth, dive time, and #). Press right button once when on surface to view.



NEW (All Models)

Added Rate display. Can be added to configurable display locations. Shows ascent or descent at higher resolution than the ascent bar graph. Arrow points up when ascending to surface, and points down when descending.

Color coding is applied only during ascents and follows the same rules as the existing ascent rate bar graph:

Color	Ascent Rate	
	ft/min	m/min
Default	0 to 35	0 to 10.5
Yellow	36 to 65	10.6 to 19.5
Red	65+	19.6+

Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

VERSION 78 2020-07-23

CHANGE (OC Rec mode only)

Removed the “Max Depth” setting from Adv Config 1. This setting acted as an override to limit MOD to the specified depth even when PPO2 allowed that depth to be exceeded. Now MOD is purely a function of PPO2. The new “Depth Alert” feature can be used if you would like an adjustable depth based alert.

CHANGE (all models)

Renamed the “Dive Planner” to “Deco Planner”

FIX (all models)

Fixed temperature plot in dive log when log rate is not 10 seconds.

NOTE

Will show “unavailable” until a dive is completed.

CHANGE (all models)

Factory test dives now labelled “factory” and do not count to dive totals.

Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

VERSION 73 TO 77 2020-09-08

NOTE

Versions 73 to 77 were not publicly released.

VERSION 72 2020-01-17

NOTE

A note on models: The NERD 2, Petrel, Petrel 2, Perdix, and Perdix AI share a common firmware base. Due to hardware differences, not all features are available on all models. The following changes apply to all models unless otherwise noted.

CHANGE
(all models)

This release was installed on new production. No functional changes, just support for minor production changes. It is not necessary for existing users to update to this firmware version.

Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

VERSION 71 2019-09-10

NOTE

A note on models: The NERD 2, Petrel, Petrel 2, Perdix, and Perdix AI share a common firmware base. Due to hardware differences, not all features are available on all models. The following changes apply to all models unless otherwise noted.

CHANGE (OC modes)

Changed how open circuit (OC) MOD PPO2 and Deco PPO2 limit settings are applied. These limits determine the MOD of a gas, the PPO2 warning levels, and the deco profile gas switch depths.

Rules for which PPO2 limit is used:

1. The enabled gas with the lowest O2 always uses the MOD PPO2 limit.
2. Gases above 40% O2 only use the Deco PPO2 limit (i.e. they are assumed to be deco gases), except if 1) applies.
3. Gases 40% and below use the MOD PPO2 until deco stops are needed, at which time they use the Deco PPO2 limit, except if 1) applies.
4. For “High PPO2” warnings, a 0.04 ATA buffer is used. For example, if the Deco PPO2 is applicable and is set to 1.61 then:
    - Above 1.57 = PPO2 displayed in yellow (but no warning).
    - 1.65 or higher = PPO2 displayed in red and High PPO2 warning.
    - This buffer does not apply to MOD depth calculations.
    - This buffer does not apply to closed circuit (CC) PPO2 warnings.

FIX (AI models)

Fixed issue with incorrect display of SAC values in dive log.

IMPROVE (all models)

Improved font smoothing at edges of grayed-out text.

Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

VERSION 71 2019-09-10

IMPROVE (X-CCR only) — O2 and diluent tank pressures now logged at each dive sample. Same format as wireless AI tank pressure monitoring.

IMPROVE (CCR modes only) — Scrubber stack timer values saved in log opening and closing records.

CHANGE (All models) — OC Minimum PPO2 setting default changed to 0.18 ATA from 0.19 ATA.

CHANGE (All models) — Added pink as colour choice for titles font.

FIX (AI models) — In menu “Dive Setup->NDL Display” fixed issue where the option “S.GF” (Surface GF) appeared twice, but one of these was actually “GF99”.

CHANGE models with external PPO2 monitoring — The millivolts display does not time-out back to the main screen (i.e. it will remain on the screen until a button press).

IMPROVE (all models) — The deco planner results show rows in red when the PPO2 is out of range.

IMPROVE (models with compass) — When the mini-compass is on the main screen AND the large compass has been viewed for more than 10 seconds, marking the compass now goes back to the large compass. Previously, it would go back to the main screen (i.e. remove the large compass) because it assumed the mini-compass was being used. There is no change for when the mini-compass is not being used, where it returns to the compass after marking.

CHANGE (All models) — The ascent rate indicator no longer shows the grayed-out arrows. These did not add much additional information, and under some viewing conditions it was hard to distinguish the active from grayed-out arrows.

Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

VERSION 71 2019-09-10

FIX (all models) Fixed issue in OC Rec mode when the safety stop “Count Up” option was being used, where the count-up time was being added to the TTS. This issue did not affect other modes (OC Tec or CC/BO).

FIX (all models) Fixed issue where log file would report incorrect surface interval for surface intervals greater than 45 days.

Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

VERSION 65 2019-01-18

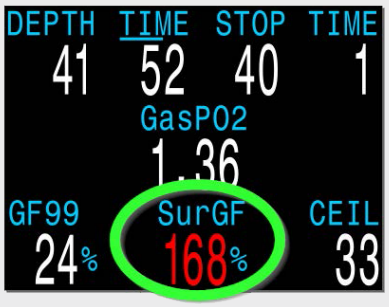
NOTE

A note on models: The NERD 2, Petrel, Petrel 2, Perdix, and Perdix AI share a common firmware base. Due to hardware differences, not all features are available on all models. The following changes apply to all models unless otherwise noted.

NEW (All Models)

Surface GF display added. This shows the gradient factor if you were to surface immediately. This is different from GF99, which shows your gradient factor at the current depth. Is available:

- On the standard info screens (i.e. after a few right button presses).
- Can be configured on open main screen locations.
- Can be configured as the NDL replacement (appears in-place of NDL once deco is needed)

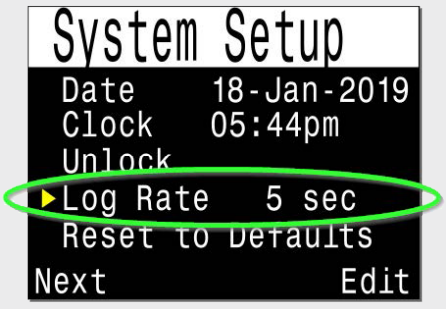


Surface GF is the gradient factor if you were to instantly ascend to the surface

NEW (All Models)

Log sampling rate can be set to 2, 5, or 10 seconds (previously always 10 seconds). Note that log downloads may take longer with faster sampling rates as more data is being recorded. Also, less logs can be stored until they are overwritten. For example, about 1000 hours are stored at a 10 second rate, but only 200 hours at a 2 second rate.

NOTE: When downloading to legacy log software (e.g. old Shearwater Desktop or third-party programs) the dive computer will down convert the log to a 10 second rate for backwards compatibility. Downloading at faster rates requires using Shearwater Cloud v2.2.2 or higher. Third-parties may offer download and display of the faster rates in the future.



Log Rate can be set to 2, 5, or 10 seconds

Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

VERSION 65 2019-01-18

IMPROVE
(OC Rec mode only)

Allows user to set customized gradient factors in OC Rec mode. Previously only fixed sets were available in OC Rec mode.

IMPROVE
(OC Rec mode only)

Allows user to select a 20ft/6m last stop depth in OC Rec mode. Previously the last stop was always 10ft/3m in OC Rec mode.

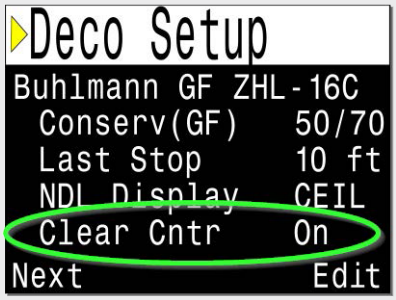
New OC Rec Deco Options

NEW
(All Models)

A “Deco Clear” up-counter option has been added.

Available in OC Tec, CC/BO, and OC Rec modes. In OC Rec mode it is available in place of the safety stop. Optional in Tec modes.

When deco clears this counter begins counting up from 0. It is useful for timing additional padding after the mandatory decompression stops. If the dive did not need deco, then begins upon entering the safety stop zone (i.e. shallower than 20ft / 6m).



The “Clear Counter” counts up once deco is clear

Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

VERSION 65 2019-01-18

CHANGE
(All models)

The PPO2 limit options have been changed for OC Tec mode.

Previously, there was an “OC Max PPO2” setting which only defined when the “High PPO2” message occurred, regardless of dive phase (e.g. bottom depth or at deco stop). This confused many users who, quite reasonably, assumed it was the “bottom depth” limit and set it to 1.40. This would result in warnings during deco when the PPO2 was pushed to the 1.60 range.

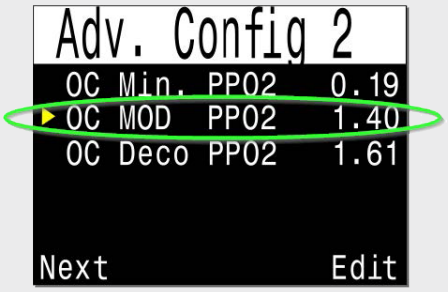
The “OC Max PPO2” has now been removed and replaced with a “OC MOD PPO2” setting. The MOD setting only applies to the bottom depth phase. The dive computer automatically switches to using the “OC Deco PPO2” limit when within 2 stops of the next deco stop. The “OC Deco PPO2” limit also sets where predictive deco gas switches occur. Also, if the current gas has greater than or equal to 80% oxygen fraction, then the deco limit is used, as the gas is assumed to be a deco gas.

After updating, the “OC MOD PPO2” value is set to 1.40 ATA and the “OC Deco PPO2” is unchanged. Defaults are:

OC MOD PPO2 = 1.40 [ATA]
OC Deco PPO2 = 1.61 [ATA]

The new behaviour matches that of the Teric.

In semi-closed (SC) mode, only the “OC Deco PPO2” limit is used for high PPO2 warnings.



The “OC MOD PPO2” replaces “OC Max PPO2” with different behaviour. Please read the description to left!

Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

VERSION 65 2019-01-18

CHANGE (All models) Either button now clears a warning or error. Previously, if a warning was being displayed, then only the right button would clear a warning and the left button would execute the normal menu operation.

CHANGE (All models) Ascent rate calculations changed for higher accuracy.

CHANGE (All models) Moved the “Dive Log” menu option ahead of the “Start Bluetooth” menu option. Feels more natural and less button presses when uploading after reviewing logs.

CHANGE (All models) Reserve pressure can now be set up to 2400 PSI / 165 Bar.

FIX (Perdix AI only) The dive log details view of Start and End pressures and SAC has been adjusted to display the values using the same calculations as on the Teric.

FIX (All models) Removed “Reset Average Depth” menu option in non-gauge modes (was appearing if the Timer was added to the main screen).

NEW (X-CCR model only) Allows high pressure sensors (e.g. O2 and Dil.) to be turned-off completely.

NEW (X-CCR model only) High pressure sensors generate warnings when below 30 Bar.

CHANGE (X-CCR model only) Changed order of the bottom-row information screens when right button pressed. Now goes: HP Sensors, CO2 Sensor and Stack Timer, Compass, ...remainder of info screen.

IMPROVE (All models) Added improved logging formatting. Will improve duplicated downloads when user edits details (like dive # or time and date).

Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

VERSION 65 2019-01-18

IMPROVE
(All models)

Added an additional info row to show more decompression information, which now includes Surface Gradient Factor (SurfGF), Dive End Time (DET) and Delta Plus 5 (Δ+5). Previously, DET and Δ+5 could only be seen if added to an empty configurable main screen location, and SurfGF is new this release.

Previously there was one row that showed:
• GF99 CEIL @+5/TTS

Now there are two deco info rows:
• GF99 SurfGF CEIL
• DET Δ+5 @+5/TTS”

Note: The “Tissues Graph” displays in-between the deco info rows.

Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

VERSION 59 2018-07-06

V59 is for the NERD 2 only.

NOTE

A note on models: The NERD 2, Petrel, Petrel 2, Perdix, and Perdix AI share a common firmware base. Due to hardware differences, not all features are available on all models. The following changes apply to all models unless otherwise noted.

NEW For the NERD 2 only, adds automatic detection of depth sensor model, so that the same firmware build can be used with either the original NERD 2 sensor, or the newer improved sensor. Previously, NERD 2 users needed to use v54 for the new sensor, and V53 or lower if they were still using the older sensor.

CHANGE Adds support for more flash memories for supply chain flexibility. No functional change.

VERSION 54 2018-04-09

V54 is for the NERD 2 only.

CHANGE Adds support for the new improved depth sensor for NERD 2. V54 can only be used with hardware that has the new sensor. If the old sensor is used, then v53 or lower must be installed. Otherwise, v54 is identical to v53.

Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

VERSION 53 2018-02-21

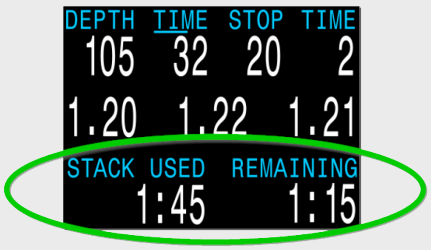
NOTE

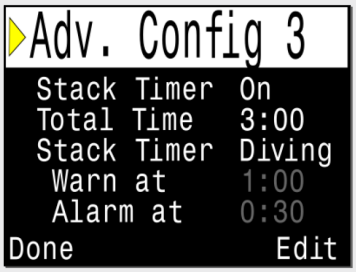
A note on models: The NERD 2, Petrel, Petrel 2, Perdix, and Perdix AI share a common firmware base. Due to hardware differences, not all features are available on all models. The following changes apply to all models unless otherwise noted.

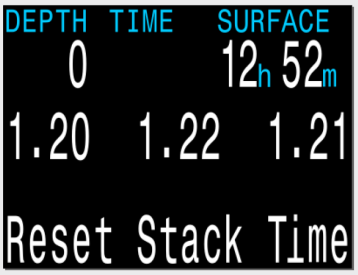
NEW Incorporates features from the NERD 2 v46 release for all models.

This includes the “Stack Timer” (CO2 scrubber duration timer). The Stack Timer is only available in Closed Circuit (CC) modes. The Stack Timer counts down when diving. It is manually reset by the user when changing the scrubber stack. The total time can be changed by the user. The warning at 1hr00min and alert at 0hr30min are fixed.

See v46 release notes in next section for all details.





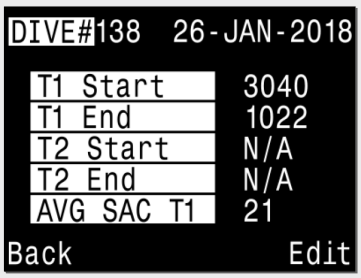


Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

VERSION 53 2018-02-21

NEW (models with AI only)

The in-computer dive log now displays start and end tank pressures and average SAC.



NEW (X-CCR model only)

Adds support for CO2 sensors. Reports CO2 as the partial pressure of CO2 (PPCO2) in millibar. Alarms when PPCO2 is greater than 5 mbar. Allows user to calibrate the CO2 with a user specified parts-per-million (ppm). For example, in fresh outdoor air a value of 400 ppm should be used.

IMPROVE

Improves capturing of the first logged sample for each dive. This moves the first sample earlier, capturing the surface conditions in most cases. Previously the first sample would be taken approximately 18 seconds into the dive (8 second delay before starting dive mode, then first sample 10 seconds later), often resulting in a fairly deep first sample.

CHANGE

The NDL Planner (available in OC Rec mode only) has been changed to include the descent time to the bottom depth in the reported NDL times. This is the industry standard approach and makes it consistent with the Deco Planner. Previously, the NDL Planner only included the time spent at the bottom depth. The result of this change is that NDL numbers reported by the NDL Planner will now be slightly longer. No changes have been made to the deco calculations. This change has no impact on in-dive NDL numbers. The Deco Planner always included the descent time in the bottom time, and remains unchanged.

CHANGE

The “seconds” bar in the Time display is now drawn in the same color as numeric values (previously was drawn in same color as the titles), making it stand out more.

Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

VERSION 53 2018-02-21

CHANGE (NERD 2 only) Reduced the inactivity auto-off time to 10 minutes (previously 30 minutes). This reduces power consumption when the NERD 2 is left on after a dive. For rEvo Controller models, the auto-off time is 20 minutes, extended to 30 minutes if the rMS is in the warmup or ready state.

FIX (rEvo SOLO Controller models only) Allow the user to set the Solenoid Depth Compensation to On or Off.

FIX (Petrel 1 models) Fixed an issue where the real-time clock could run incorrectly after certain power loss events.

FIX (models with AI only) Fixed an issue where “OVR” (overflow) was displayed for the SAC value in certain conditions. This issue only affected the displayed value, and not the calculated or logged value.

FIX (DiveCAN models only): Fixed an issue where the “Bus Devices” list could display the wrong device name.

Shearwater Petrel 2/Perdix/Perdix AI/NERD 2/ Peregrine Firmware Release Notes

VERSION 46 2017-09-01

V46 is the first release for the NERD 2, and is only being released for the NERD 2.

NOTE

A note on models: The NERD 2, Petrel, Petrel 2, Perdix, and Perdix AI share a common firmware base. Due to hardware differences, not all features are available on all models. The following changes apply to all models unless otherwise noted.

NOTE

Note on translations: Translated notes only cover the release notes from version 29 to version 44. If you need information on more recent release notes you can refer to our English release notes. If you're still having issues, please contact us at info@shearwater.com.

NEW
NERD 2 only

Added support for the NERD 2 hardware.

NEW
NERD 2 only

Added support for built-in li-ion charging and battery gauge.

NEW

Added "Stack Timer" feature for timing rebreather CO2 scrubber duration. This is a countdown timer, that can be optionally enabled in CCR modes. Has a user defined reset time, and is manually reset. Counts down when in dive mode, and generates alarms at 1 hour remaining time and 30 minutes remaining time.

FIX

Increased a Bluetooth timeout that was occasionally falsely triggering.

CHANGE

Allows user to access "End Dive" option whenever the absolute pressure is less than 1.1 ATA. This is to allow breaking out of a dive that has falsely started (mostly likely due to having turned the unit on while in an airplane).

IMPROVE

Improved calculations used in compass calibration.

IMPROVE In PPO2 mode (i.e. the Gauge mode with external PPO2 monitoring), added an info screen that shows temperature and average PPO2.

IMPROVE Reduced sleep mode power consumption for longer standby battery life when off.

VERSION 44 2017-03-02

NEW Release of translated languages for Perdix AI. Translated versions may be selected when updating firmware. The following languages are available on the Petrel, Petrel 2, Perdix, and Perdix AI:

- English
- 中文 Simplified Chinese
- Français French
- Deutsch German
- Italiano Italian
- 日本語 Japanese
- 한국어 Korean
- Português Portuguese
- Español Spanish
- 中文 Traditional Chinese

FIX Fixed problem when unit is in the turned-off state at high altitude, where it was using sea level pressure to update the tissue tensions. This resulted in overly conservative decompression profiles. This problem was introduced in v29.

NEW Add support for X-CCR rebreather model.

VERSION 40 2016-12-12

NOTE

Version 40 was only released for the Perdix AI model.

NEW
Perdix AI only

Support for the Air Integration (AI) feature. Please refer to “Perdix AI Manual”.

CHANGE

Only one way to start Bluetooth now. Removed the “Upload Log” and “Load Upgrade” menus. The new “Start Bluetooth” option is at the top-level of menus.

CHANGE

Timer (on the configurable row) now uses the big font for seconds.

CHANGE

Some pop-up messages have been re-titled from “Error” to “Info”, “Warning”, or “Error” with different colors, based on the message type. Previously, all messages were titled “Error”, even when the message was not due to an error.

VERSION 38 2016-09-26

FIX Fixed a problem where under certain conditions a value between 0 to 5 minutes could be added to the surface interval time after a turn off then turn on cycle.

FIX Changed the compass heading mark colour back to green (instead of white).

VERSION 37 2016-06-20

FIX Corrected the ascent rate arrows display. In v34 the dark gray was incorrect, making the display appear to always be full.

FIX **Petrel 1 only** Now able to add the Δ+5 to the configurable center row locations. This was mistakenly omitted from v34 on the Petrel 1 model only.

FIX **Petrel 2 Analog PPO2 only** Added ability to correct an O2 offset problem that affected Petrel 2 analog PPO2 monitoring models (e.g. the Petrel 2 Fischer) that shipped from the factory with firmware v29 installed. Please see the notice at www.shearwater.com for more details. DiveCAN rebreather controller models were not affected by this issue.

VERSION 34 2016-05-04

CHANGE

The ‘OC/CC’ mode has been renamed to ‘CC/BO’, where BO means bailout.

Purpose is to clarify that OC/CC mode was never intended to be used for purely OC dives. Using the OC/CC mode for OC dives results in sub-optimal operation. This change clarifies the CC/BO mode is for closed circuit dives, with open circuit bailout.

When diving OC, the mode should be set to either “OC Tec” or “OC Rec”.

“OC/CC” mode renamed to “CC/BO” for clarity of purpose

NEW
Perdix only

A custom image can be used as the Perdix startup splash screen. The size image size must be 320x240 pixels. Shearwater Desktop version 2.5.4 or higher is required to upload images.

Add a custom startup image to the Perdix

IMPROVE

Better dive log page navigation. Allows moving backwards and forwards through the pages of dive logs (previously could only move forward or exit).

NEW

The gas will display in flashing red when its PPO2 is outside of a safe breathing range (i.e. below the min PPO2 or above the max PPO2 setting).

In CC mode, this warning refers to the diluent only. The breathing loop PPO2 may be in a safe range, but if the diluent is unsafe to breathe directly then the gas will be red. Note that other warnings exist to warn when the breathing loop is outside of a safe range.

The CC diluent is red to indicate it is unsafe to breathe directly (PPO2 > 1.60)

NEW Units of depth and temperature can be set independently. Depth can be set to feet or meters. Temperature can be set to °F or °C.

NEW Δ+5 (Delta + 5 minutes) is added as an option on the configurable center row, configurable bottom row, and 'NDL display' replacement. Δ+5 is the difference in the time-to-surface (TTS) if you remain at the current depth for 5 more minutes. This value can be positive or negative. For example, a Δ+5 of +10 would mean that staying 5 more minutes at the current depth would result in 10 more minutes of decompression stops.

Δ+5 is similar to @+5, but the @+5 value shows the entire TTS while the Δ+5 only shows the difference from the current TTS.

CHANGE When editing the dive number for the next recorded dive, the menu is now named "Next Log=" and you enter the value for the next dive. Previously you would enter the number of the last dive and the next dive would be this value plus one. The new method is more intuitive and is better described by the menu name.

IMPROVE Added a method to recover deleted dive logs. In the 'Dive Log' menu, there is now a 'Restore Mode' option. Setting this to "ON" allows either a "Restore All Logs" option or restoring individual logs (View the log list, deleted logs will be grayed out. Enter into the log view then the edit page will have an undelete option). After the unit is turned off then back on, this option will be reset to "OFF".

CHANGE When viewing the "TISSUES" bar graph, the display will not timeout back to the main screen.

FIX Corrected the issue which the dive log was not shown properly when screen is flipped. This bug only affected the Perdix model.

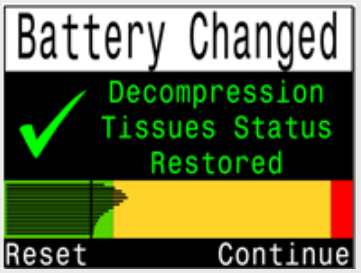
VERSION 33 2016-01-15

NOTE

Firmware v33 was the first public release for the Perdix. Perdix firmware is identical to Petrel 2 firmware, with the exception of an updated display driver for the new display in the Perdix. Improvements to the compass only apply to the Petrel 2 and Perdix models.

NEW After changing the battery, the current deco tissue loading is shown on the Tissues Restored screen.

NEW On the Tissues Restored screen, a shortcut to reset the tissues is given. If Reset is chosen, a prompt will be displayed to confirm. **Do NOT reset tissues between repetitive dives, as inert gas loading will be lost.**



The tissues bar graph is now shown on the Tissues Restored screen

CHANGE Compass mark heading menu moved to reduce button presses. Also, the compass can now be viewed while marking. Operation: when viewing compass a left button press brings up an “Exit/Mark” menu. Right press marks compass, Left press exits to main screen. Previously had to navigate to regular menus to mark the compass.

The mark heading command now requires less button presses

IMPROVE When a heading is marked, the display now shows the offset angle between the current heading and the marked heading. This is useful for navigating patterns. For example, a box pattern requires turns at 90° intervals, while a triangle pattern requires turns at 120° intervals.

IMPROVE Compass display improvement. The ‘N’, ‘E’, ‘S’, and ‘W’ characters changed to a larger font.

The offset between current and marked heading is now shown (in this example 16°)

NEW New “Cave” brightness setting. This is even dimmer than “Low” brightness, and is suitable for very dark environments like caves.

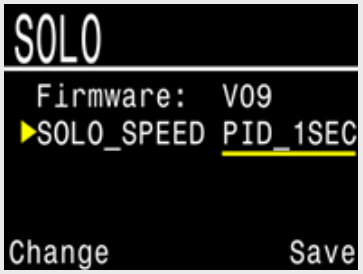
Cave brightness is very dim and thus best suited for dark environments like caves

NEW DiveCAN Models only Added support for changing settings on peripheral boards.

For example, on the SOLO board (solenoid and oxygen controller) the Solenoid Speed setting can be adjusted. Go to “Bus Devices” page on Petrel to access peripheral boards. Settings viewed here are stored on the peripheral device.

Firmware updates on peripheral boards may be required before settings can be adjusted.

On the “Bus Devices” page, choose “View” to see more info and settings



If settings are available, they can be changed here. These settings are stored on the peripheral device.

FIX Fixed problem where gas usage for bottom time segment in dive planner was too low, due to the ascent rate (33 fpm) being used to calculate descent (60 fpm). Only affected gas usage calculations and not the decompression schedule.

NEW For Perdix, backup the deco tissues and clock into permanent memory every 16 seconds when on (every 5 minutes when off). Reason is to restore to these values after battery change, since Perdix does not have super-capacitor. Also, the Petrel will use these backups if the super-capacitor gets drained.

NEW Added support for Perdix hardware and new display driver for Perdix.

VERSION 29 2015-06-26

NOTE

After upgrading to v29, it is not possible to downgrade to earlier versions.

NEW
Petrel 2 only

Added a mini compass as an optional display on the center row.

NEW
Petrel 2 only

The current compass numerical value (azimuth) is shown on the “Mark Heading” menu.

CHANGE
Petrel 2 only

After marking a heading, if the new mini-compass is shown, returns to the main screen. If mini compass is not shown, returns to the compass screen as before.

NEW

Timer (stopwatch) display added as an option on the configurable center row or configurable bottom row.

IMPROVE

More robust method of storing settings to better protect against transient conditions when a battery dies inside unit to prevent corruption of data.

CHANGE

Automatically turns on the unit when the absolute ambient pressure is greater than 1100 mbar (previously was 1300 mbar). Result is faster auto-on when dive starts with Petrel turned-off. As a reminder, this auto-on feature is designed as a backup. We always recommend turning your Petrel on before a dive starts to confirm functionality and setup.

IMPORTANT NOTICE Change to surface pressure determination

IMPROVE Improvements have been made to ensure the surface pressure (i.e. the atmospheric air pressure) determination is more reliable for divers at high altitudes, regardless of how the Petrel is turned on.

The surface pressure is now determined by the following:

- When in sleep mode (off), the pressure is sampled every 15 seconds.
- The last 10 minutes of pressure samples are saved.
- Upon turn-on (regardless of the cause), the minimum pressure from the 10 minute pressure history is set as the surface pressure.
- The exception is when the battery is changed, since there is no 10 minute history. In this case it is assumed that the unit is on the surface, so the current pressure is used as the surface pressure.

CHANGE When on surface and not wet, the no-activity shutdown timeout has increased from 15 minutes to 30 minutes (although DiveCAN controller models still have 45 minute time-out).

CHANGE In OC Rec (Nitrox) mode, a fixed value of 0.16 is now used for the low ppo2 warning. This change is to prevent low PPO2 warnings when diving at altitude (previously used 0.19). Note that O2 % cannot be set lower than 21% anyways when in OC Rec mode.

FIX Fixed wrong CNS calculation in Dive Planner during diving.

FIX Fixed wrong CNS and gas usage calculation in Dive Planner after the Salinity is changed.

FIX Fix to Dive Planner where in certain dives ascent to first stop takes place in one minute rather than actual expected time.

FIX Fixed some VPM-B dives are more conservative issue.

IMPROVE Better compatibility with some Android devices when uploading logs via Bluetooth.

IMPROVE Now can display dive time more than 999 minutes (16h40m). When dive time exceeds 999 minutes, shows as XXhXXm, up to 99h99m. However, a smaller font must be used to fit the time in the hours and minutes format.

IMPROVE Display one decimal place for max and average depth when using meters.

IMPROVE For 3.6V saft battery type, improved compensation for temperature and current draw for more accurate battery gauge and warning levels.

CHANGE Added limitation that PPO2 calibration cannot be performed when pressure is above 1080 mbar.

rEvo REBREATHERS

rEvo rMS Model:

FIX Fixed an rMS roll-under bug that could occur if rMS system lost connection with probes during dive and was operating in the countdown mode.

CHANGE If an rMS probe fails its power-up test (i.e. “TEMP PROBE FAIL” message), then the entire rMS system is locked out and does not provide information. Petrel must be turned off and back on to clear this state.

DiveCAN Controller Models:

IMPORTANT NOTICE Change to auto setpoint switching

CHANGE Changes to auto setpoint switch behaviour. The reasons for these changes are:

- Allows each setpoint switch to occur more than once per dive, but under more controlled circumstances.
- More intuitive behaviour.
- Fights less with manual setpoint switches.

CHANGE The switch down depth is now enforced to be less than the switch up depth, by at least 20ft (6m).

CHANGE The minimum switch down depth is 5ft (2m). Thus, the minimum switch up depth is 25ft (8m).

CHANGE Each auto setpoint switch can now occur as many times per dive as the switch depth is crossed. The 20ft (6m) enforced gap between the up and down depths prevents oscillations.

CHANGE A switch up will only occur while descending (going deeper) across the switch up depth.

CHANGE A switch down will only occur while ascending (going shallower) across the switch down depth.

CHANGE If a manual setpoint switch occurs, the auto switch will be cancelled if within 6ft (2m) of the auto switch depth.

Previously, each auto switch direction could only occur once per dive. Also, previously the auto setpoint switches could fight with manual switches under certain conditions, requiring the manual switch to be performed twice. This fighting could also lead to the one auto switch being inadvertently consumed, which could cause confusion later in the dive when the auto switch would not occur as expected.

CHANGE For DiveCAN controller models, reduced sensitivity of wet contacts to prevent accidental turn-on.

FIX Fixed DiveCAN doesn't log PPO2 source when bailing out to OC.