

# Shearwater Teric and Tern Firmware Release Notes

## VERSION 29 2024-02-29



**NOTE**

The Teric and Tern products share a common code base. All changes apply to both products unless otherwise specified.

Version 29 is only being released on the Tern. A Teric release to add changes introduced on the Tern will be released at a later date.

**FIX**

(Tern only)

Fixes a reset that occurs if the AI transmitter serial number is changed when in watch mode.

## VERSION 28 2024-01-30

Version 28 is only being released on the Tern. A Teric release to add changes introduced on the Tern will be released at a later date.

**FIX**

(Tern only)

Fixes an issue introduced in v27 that prevents the compass needle and watch hands from displaying in the straight up position.

# Shearwater Teric and Tern Firmware Release Notes

## VERSION 27 2024-01-16



NOTE

The Teric and Tern products share a common code base. All changes apply to both products unless otherwise specified.

Version 27 is only being released on the Tern. A Teric release to add changes introduced on the Tern will be released at a later date.

**FIX**

Fixed an issue in the deco planner where the selected surface interval was not being applied to update the tissues prior to calculating the plan, resulting in overly conservative plans. This issue only affect the Deco Planner, and not NDL Planner nor regular use.

**FIX**

(Tern only)

Corrected the persistence of the vibration when an alarm clock activates. In v26 would only vibrate once.

# Shearwater Teric and Tern Firmware Release Notes

## VERSION 26 2023-12-08



### NOTE

Version 26 is only being released on the Tern. A Teric release to add changes introduced on the Tern will be released at a later date.

### NEW

First release for Tern and Tern TX products.

### NEW

Add support for the Tern and Tern TX hardware.

### NEW

Added Air and Nitrox modes. Air is for single-gas air-only dives. Nitrox mode is for single-gas nitrox dives using 21% to 40% O<sub>2</sub>. These modes offer simpler usage for single-gas dives.

### CHANGE

The OC Rec mode has been renamed 3 GasNx (3 Gas Nitrox) for the Tern products, but is otherwise the same functionality, allowing three gas mixes of 21% to 99% O<sub>2</sub>. On the Teric this will be called 5 GasNx and will allow up to five gases.

Versions 23 to 25 were not publicly released.

Versions 25 and lower were Teric only.

# Shearwater Teric Firmware Release Notes

## VERSION 22 2021-12-20



**NOTE**

This release is not a major feature release but is recommended for all users to address a few minor issues.

**FIX**

Fixes issue that could cause a AI tank pressure “Critical Low” warning and 0 pressure reading at beginning of a dive when Teric was in watch mode, or if was off and its previous mode was watch mode.

**FIX**

Increases sensitivity of motion detection for watch timeout “no motion” setting.

# Shearwater Teric Firmware Release Notes

## VERSION 21 2021-11-01

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 20



**NOTE**

Teric firmware v20 was not publicly released.

# Shearwater Teric Firmware Release Notes

## VERSION 19 2021-07-26



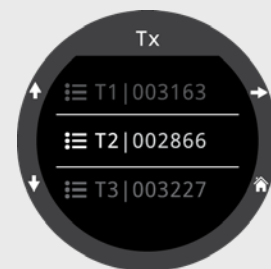
NOTE

This release contains major feature changes.

**NEW**

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.



**NEW**

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**

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



# Shearwater Teric Firmware Release Notes

## VERSION 19 2021-07-26

**NEW** 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** Additional power management options have been added. These settings can reduce power consumption by turning off earlier if desired.

These are found in Settings->Display->Timeouts.

### Dive Timeout:

Controls what happens when on the surface in Dive Mode and the timeout occurs. The Dive Mode timeout is only based on button presses.

Has 2 options “to watch” and “to off”. If “to watch” the Teric switches to watch mode after the timeout. If “to off”, the



# Shearwater Teric Firmware Release Notes

## VERSION 19 2021-07-26

Teric will turn off after the timeout. If you only use the Teric as a dive computer, then the “to off” option will save some power, by turning off quicker when not in use.

The Dive Mode timeout can be set to 5, 10, or 15 minutes.

### Watch Timeout:

From Watch Mode the Teric will always timeout to off. The watch timeout can be set to “no motion” or “no buttons”. Use “no motion” if you want the Teric to stay on all the time while being worn as a watch. Use “no buttons” if you want the Teric to turn off once you are done interacting with it.

The Watch Mode timeout can be set to a much wider range, from 15 seconds to 20 minutes.

### Changed Defaults:

Previously, there were no user options. The fixed values used by previous firmware versions are shown in the table below. The default settings have changed from the previous fixed behaviour as indicated below. The new defaults are more aggressive in power savings.

Setting	Previous Behaviour	New Defaults
Dive Timeout to	To watch	To off
Dive Timeout	5 minutes	10 minutes
Watch Timeout on	No motion	No buttons
Watch Timeout	20 minutes	1 minute

After a firmware update from a lower version, the settings will match the previous behaviour. That is, no change will be noticed. A reset to defaults will change to the new default values. New Terics will ship with the new default values.



# Shearwater Teric Firmware Release Notes

## VERSION 18 2020-06-01



### NOTE

This release is not a major feature release but is recommended for all users to address a few minor issues.

- FIX** Fixes issue that could cause a Watchdog Reset error in certain circumstances. Issue was related to entering a low-power standby state after charging and did not have any impact on normal operations or any other negative effects.
- FIX** Fixed error where in CC/BO the dive log gas lists were swapped. Only affected the dive log.
- FIX** Fixed display error in menu where in Gauge mode the GTR/SAC option value displayed as “Off (Gauge) Off” instead of just “Off (Gauge)”.

# Shearwater Teric Firmware Release Notes

## VERSION 17 2020-03-04



### NOTE

This release is not a major feature release but is recommended for all users to address a few minor issues.

### FIX

Fixes issue where under some conditions units may not shutoff when left on charger. This can result in excessive power drain with the screen off until the unit is manually turned back on.

### FIX

Fixed issue where surface interval was logged and displayed incorrectly when greater than 45 days. Logged surface interval value is now limited to a maximum of 45 days. If greater than 45 days will display as "> 45 days".

### CHANGE

O2 % threshold for considering a gas a "deco gas" now 40% O2 (previously 50%). This now matches the current Perdix/Petrel/NERD 2 release.

### CHANGE

SAC calculations for display in dive log modified slightly to match the Perdix AI.

### CHANGE

Adds "EN250" information to dive mode start screen for some models.

# Shearwater Teric Firmware v16 Release Notes

## VERSION 16 2019-05-27



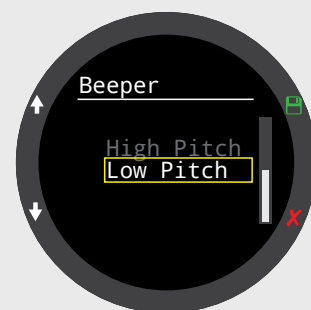
NOTE

This release is recommended for all Teric users. It adds new features and fixes minor issues.

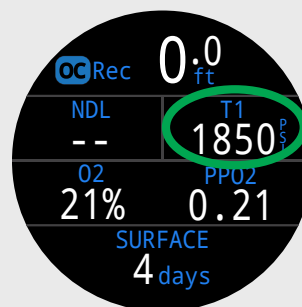
**NEW** Translated versions. Currently available for:

- 繁體中文 (Traditional Chinese)
- 简体中文 (Simplified Chinese)
- 日本語 (Japanese)
- Español (Spanish)
- other languages will be added once ready

**NEW** Lower frequency option added for beeper, which may be easier for some users to hear.



**IMPROVE** In the OC Rec Standard layout the TTS (top-right) location can be replaced by alternate displays.



**CHANGE** GF99 now displays in yellow when above GF High (and still displays in red when greater than 100%).

**CHANGE** SurfGF is no longer red when above 100%. Instead, the SurfGF color is based on current GF (GF99), so if the current GF99 is greater than GF High the SurfGF will display in yellow, and in red when greater than 100%.

# Shearwater Teric Firmware v16 Release Notes

## VERSION 16 2019-05-27

**CHANGE** Changed rules for how MOD and DECO PPO2 limits are applied. Now only uses MOD limit for the lowest O2 gas (and this gas must be less than 50% O2). BO mode only uses the DECO PPO2 limit (never MOD).

**CHANGE** Changed PPO2/MOD warnings. New behaviour:

- High PPO2 Warning message: only triggered when  $PPO2 > (PPO2 \text{ High Limit} + 0.03)$ .
- PPO2 color coding: Red when  $PPO2 > (PPO2 \text{ High Limit} + 0.03)$  OR  $PPO2 < (PPO2 \text{ Low Limit})$ . Yellow when  $(PPO2 \text{ High Limit} - 0.03) < PPO2 \leq (PPO2 \text{ High Limit} + 0.03)$ .
- Gas Colour coding: Red when  $PPO2 > (PPO2 \text{ High Limit} + 0.03)$  OR  $PPO2 < (PPO2 \text{ Low Limit})$ . Yellow when better gas available.
- OC and BO modes MOD Colour coding: Red when  $PPO2 > (PPO2 \text{ High Limit} + 0.03)$ . Yellow when  $(PPO2 \text{ High Limit} - 0.03) < PPO2 \leq (PPO2 \text{ High Limit} + 0.03)$ .
- CC MOD Colour coding: Red when  $(Dil \text{ PPO2}) > (PPO2 \text{ High Limit})$ . Yellow when  $(Dil \text{ PPO2}) > (PPO2 \text{ Dil Limit, i.e. } 1.05 \text{ ATA})$

**NEW** Deco Planner now warns when the gas PPO2 is outside the safe range by displaying the gas in red.

**CHANGE** Allow reserve pressure up to 2400 PSI /165 Bar like on Perdix.

**IMPROVE** When switching to BO from CC during a dive, the best gas will automatically be selected. This behaviour is now the same as other products (Petrel, Perdix, etc.).

# Shearwater Teric Firmware v16 Release Notes

## VERSION 16 2019-05-14

- CHANGE** Disabling of vibration motor on low battery has been removed.
- FIX** Fixed SAC calculation issue where pressure increases (which can happen in the real world) were being filtered out of the avg calc, but with an error where the denominator for the average calc was still updated.
- FIX** Fixed issue where a critically low battery shutdown during a dive would cause the unit to cycle back on immediately.
- CHANGE** When shutdown has occurred due to a critically low battery, no longer wakes up due to alarms or timers.
- FIX** Fixed issue where the first page of the BO deco planer result could be skipped if a button was pressed while the calculations were in progress.
- CHANGE** Factory dives will now be labeled as “Factory” (applies to new factory dives only).
- FIX** Fixed issue with not rotating display when put into charging cradle when the compass was completely disabled.
- FIX** Fixed issues with setting compass declination, which was not working.
- IMPROVE** Made the declination editor nicer by showing the raw and adjusted compass headings while editing.
- FIX** Fixed an issue where the log could fail to display under very specific circumstances.

# Shearwater Teric Firmware Release Notes

## VERSION 13 TO 15



NOTE

Versions V13 to V15 were not publicly released.

## VERSION 12 2019-01-25



NOTE

This release was installed on new production, but not otherwise publicly released. No functional changes, just support for minor production changes.

NEW

Added support for alternate Flash memory.

## VERSION 11 2019-01-03



This release is not a major feature release but is recommended for all users to address a few minor issues.

- NEW** Added support for another alternate OLED driver.
- FIX** Fixed issue where Freedive mode surface interval was not updated correctly after standby mode.
- FIX** Fixed serial number formatting in log opening record and final log record (now matches Petrel formatting).
- FIX** Corrected timing issue that could very rarely result in a single erroneous depth sensor reading. This could show as an incorrect maximum depth in the dive log.

## VERSION 10 2018-10-04



This release is not a major feature release.

- NEW** Added support for an alternate OLED driver
- FIX** Fixed issue in NDL Planner where turned-off gases would be used if that gas index had been enabled in a previous run of the NDL planner. This only affected the planner and not in-dive calculations.

# Shearwater Teric Firmware Release Notes

## VERSION 09 2018-08-16



This release is not a major feature release. It contains minor improvements and fixes some issues, mostly related to charging. This update is recommended for all users.

**IMPROVE** Improved the accuracy of the battery gauge, especially when charging.

**CHANGE** When battery is low, all watch faces will now force display of the battery gauge icon to alert user of low battery status.

**CHANGE** The “Low Battery” warning now only appears for 5 seconds, then automatically disappears. Previously required user to clear by acknowledging with a button press, but no longer necessary since battery gauge always shown when in low battery state.

**CHANGE** In CCR mode, now enforces a 6m (20ft) gap between switch up and switch down auto set point switch depths.

**CHANGE** Changed rules about how AI tank start and end pressures are determined and how average SAC is calculated. These rules will be applied to Cloud and other products with new releases.

**FIX** Added new time zones for Adelaide +9:30, Newfoundland -3:30, Burma & Cocos Islands +6:30.

**FIX** Fixed some corner case behaviour when on charger, especially for third-party chargers.



# Shearwater Teric Firmware Release Notes

## VERSION 09 2018-08-16

- FIX** Added ascent rate indicator to gauge mode.
- FIX** Fixed an issue where removing the Teric from the charger could lock up the display.
- FIX** Fixed an issue that could cause an “Unknown Reset” message from standby. This issue did not cause any other side effects other than the unknown reset message.
- IMPROVE** Internal improvements to increase production efficiency. No change to end user.

## VERSION 07 & 08

Versions v07 and v08 were not publicly released.

## VERSION 06 2018-05-28

First public release for the Teric was v06.