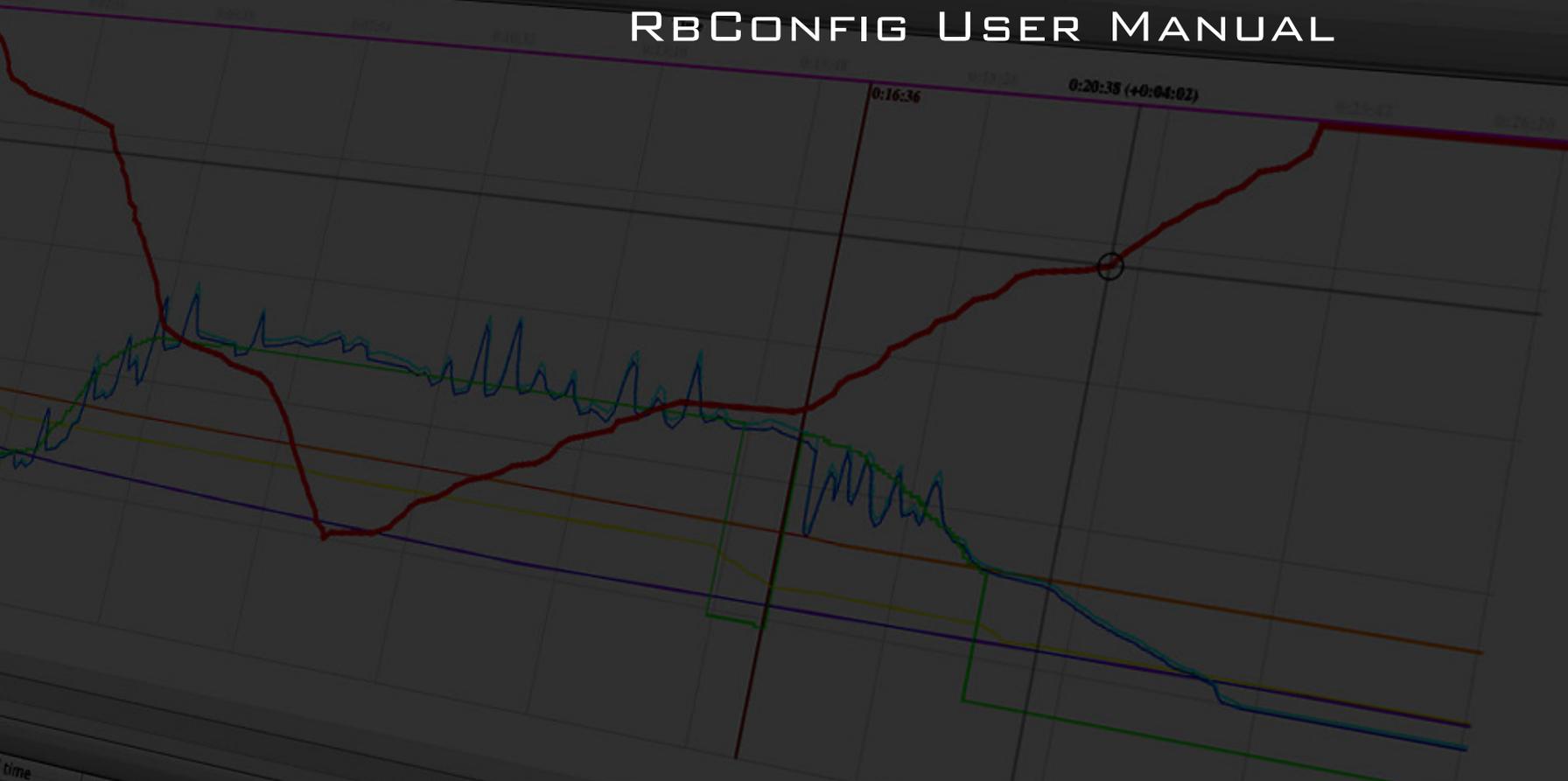


# POSEIDON RBCONFIG USER MANUAL



- Graph
- Depth
  - Setpoint
  - PO2#1
  - PO2#2
  - HP-DIL
  - HP-O2
  - Water temp
  - Deco ceiling

time	FW	Dive	Test
-03-3...	1.04	--	t41:0 - Test Cansiter Confirmation : Timeout
04-0...	1.04	--	--
04-0...	1.04	Yes	t23:0 - Test Mouthpiece closed circuit : Timeout
4-0...	1.04	--	--
1-0...	1.04	--	--
-0...	1.04	Yes	t49:47 - Test l
0...	1.04	--	--
...	1.04	Yes	--
...	1.05	--	--

Info Dive #1

Dive log list



# Poseidon RbConfig User Manual

Welcome to the RbConfig user manual for your Poseidon rebreather.  
This manual will cover everything from connecting your Poseidon SE7EN to the program, settings on your Poseidon REBREATHER to analyzing your dive logs.

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**Version 1.0, April 2014.**

## How to get started

Get started with your RbConfig program:

1. Pair Poseidon SE7EN with your computer
2. Download the RbConfig Program
3. Pair Poseidon SE7EN with the RbConfig program
4. Update your Poseidon rebreather firmware

### **1. Pair Poseidon SE7EN with your computer**

Before you connect your Poseidon SE7EN to the RbConfig program you will need to pair your computer with your rebreather. You will need to download the Bluetooth connection guide that suits your specific brand of computer. You can find these guides at [www.poseidon.com/support/se7en](http://www.poseidon.com/support/se7en).

### **2. Download the RbConfig program**

Download the program compatible to your computer (PC or MAC) and install it;  
[www.poseidon.com/support/se7en](http://www.poseidon.com/support/se7en)



### 3. Pair Poseidon SE7EN with the RbConfig Program

If you have paired your Poseidon SE7EN to your computer and installed the RbConfig program you will be ready to connect your Poseidon SE7EN to RbConfig.

Under this option you will select which Bluetooth unit you want to connect to your computer. Depending on if you are using a PC or a Mac computer this process will differ. Please see **picture 1** for visual description of select port.

#### Mac

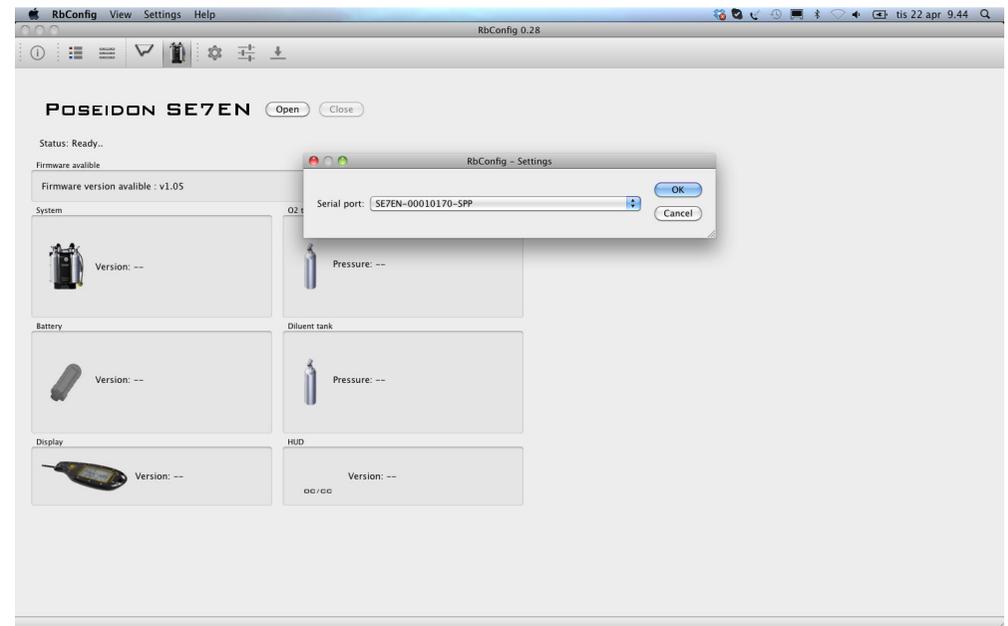
1. Start your RbConfig program.
2. Start your Poseidon SE7EN, either by pushing in the Smart Battery into the battery slot or with the wet switches on the back of your paddle. While the automatic start up procedure is running go to step 3.
3. Select the gearwheel symbol in the Shortcut menu or go to "RbConfig" and choose "Preferences" in the General menu.
4. Select your Poseidon SE7EN unit in the list. Usually it will look something like this SE7EN-XXXXXXXX-SPP. Where the Xs represents your unit's serial number.
5. Push "OK"

#### PC

1. Start your RbConfig program.
2. Start your Poseidon SE7EN, either by pushing in the Smart Battery into the battery slot or with the wet switches on the back of your paddle. While the automatic start up procedure is running go to step 3.
3. Select the gearwheel symbol in the Shortcut menu or go to Settings and choose "Preferences" in the General menu.
4. Select the COM port that has been dedicated to your rebreather on your computer (How to find the COM port is described in the document called "Poseidon SE7EN Bluetooth Connection Guide – PC Windows 7" and you can find it under the Support tab on [www.poseidon.com](http://www.poseidon.com)).
5. Push "OK"

If you have any problems selecting the right serial port please contact Poseidon Support;

[customer.support@poseidon.com](mailto:customer.support@poseidon.com)



**Picture 1.** The Preferences window for the pairing of your rebreather. The gearwheel is marked with a red square in this picture.

### 4. Update your Poseidon rebreather firmware

When you receive Poseidon SE7EN the battery and the e-module will not have the same firmware. You will need to start doing a firmware update prior to diving. You will also need to update your firmware whenever new updated firmware is available.

1. Connect your rebreather to the RbConfig program
2. Go into the "Settings" menu and select "Firmware Update"
3. The firmware update will start and it is important that you don't shut down RbConfig or your rebreather during this process.

The firmware program will be updated in all components of your rebreather: display, e-module, Smart battery and HUD. When the update is complete you will see the current firmware version in all separate components.

If the firmware update process continuously fails please contact Poseidon support;

[customer.support@poseidon.com](mailto:customer.support@poseidon.com)



## RbConfig interface

When you start up your RbConfig program for the first time you will see what is shown in **picture 2**.

The interface consists of the main “Unit SE7EN” view where you will be able to see live data from your rebreather. Then you have two menus: “Shortcut menu” and “General menu”.

### Shortcut menu

The Shortcut menu is located on top of the RbConfig window, the menu is displayed in **picture 3**. The menu has shortcuts to the most used features within the program. All these features can also be found in the General menu under “View” and select “Settings”. The features are as follows:

1. **About** – General information about RbConfig.
2. **Graph list** – Shows and removes graph list function.
3. **Dive log list** – Shows and removes the dive log list.
4. **Dive log graph** – Where you can see and analyze your dive logs
5. **Unit SE7EN** – The real time view of your Poseidon SE7EN.
6. **Settings** – Select which Bluetooth unit you want to connect.
7. **SE7EN settings** – Where you can make changes to your Poseidon SE7EN.
8. **Dive log download** – Initiates download sequence of your dive logs.

### General menu

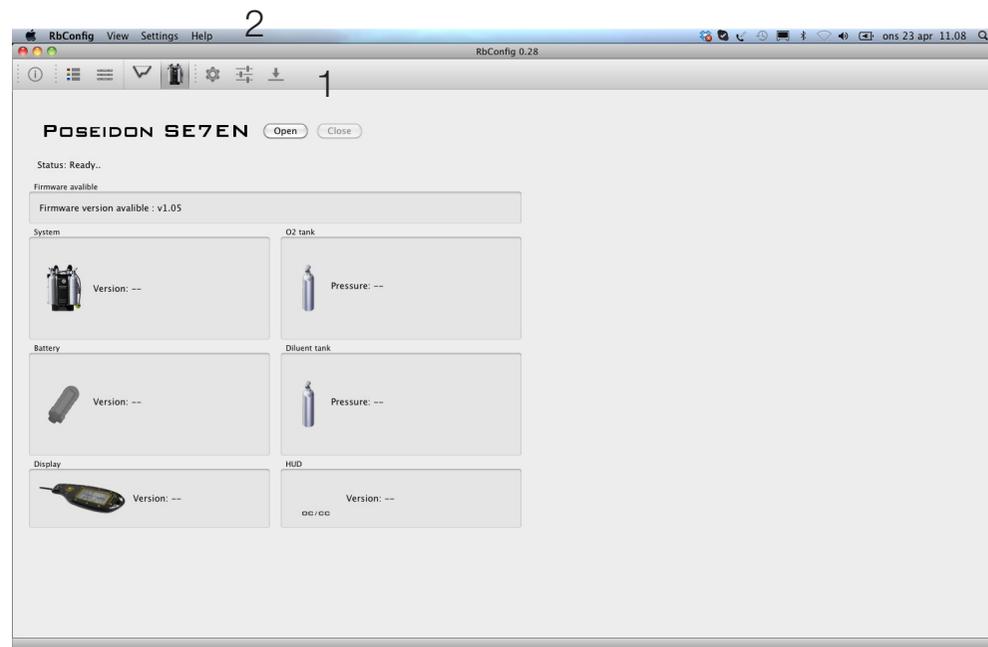
The General menu has the following menus:

1. **RbConfig** – About, Preferences, Services, Hide RbConfig, Hide Others and Quit.
2. **View** – Options to set what you want to see or hide in RbConfig.
3. **Settings** – All major settings on your rebreather or in RbConfig.
4. **Help** – General help, registration of unit and quick links.

### View Menu

The view menu has two main features:

1. Hide or show the “Dive log graph” view specific features: Graph list and Dive log list
2. Switch between the “Unit SE7EN” view and the “Dive log graph” view.



**Picture 2.** Number 1 is the shortcut menu and number 2 is the general menu.



**Picture 3.** Shortcut menu in enlargement. symbol explanation left to right: About, Graph list, Dive log list, Dive log graph, Unit SE7EN, Settings, SE7EN settings, Dive log download.



## Settings Menu – SE7EN Settings

You can open the user settings by pushing the “SE7EN settings” button on the Shortcut menu or going in to the General menu “Settings” and then select “SE7EN settings”.

When you have entered the RbConfig User settings you will have the menu displayed in **picture 4**. There are a lot of settings here that you can alter and change:

1. Set point
  - **Setpoint surface:** 0,3 – 0,9
  - **Setpoint depth:** 0,5 – 1,4
2. O2 tank
  - **Max bar graph:** Can be set up to 210 bars
  - **Tank volume:** up to 10 liters
  - **Fraction of oxygen:** 92 – 99 %
3. Diluent tank
  - **Max bar graph:** up to 300 bars
  - **Tank volume:** Up to 10 liters
  - **Fraction of oxygen:** 1 – 36 % (only with 48M – DEEP batteries)
  - **Fraction of helium:** 0 – 90 % (only with 48M – DEEP batteries)
4. Volume
  - **Counterlung volume:** 4 – 9 liters
  - **RMV**
5. Depth
  - **User max depth alarm:** Up to 125 meters (below 40 meters 48M – DEEP batteries are needed)
6. Deco
  - **Deco enable:** Only with 40M Deco – DEEP batteries
  - **Max time to surface (TTS):** up to 255 minutes
7. Display
  - **Celsius (Fahrenheit)**
  - **Meter (Feet)**
  - **Point (Comma)**
  - **High res (Temperature)**
8. Preset to default
  - **Set to default US**
  - **Set to default EU**

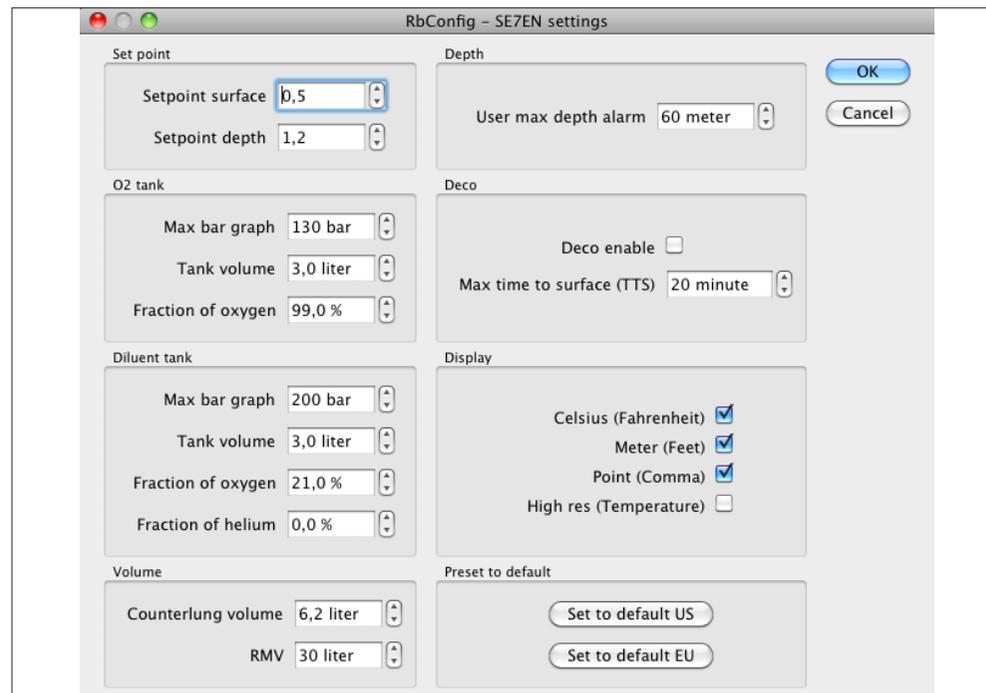


Figure 4.

### WARNING:

Four of these settings need to be changed before test number 50 is passed in the automatic pre-dive test sequence:

- O2 tank - Fraction of oxygen
- Diluent tank – Fraction of Oxygen
- Diluent tank – Fraction of Helium
- Deco – Deco Enable

After test 50 or when the unit has passed the entire automatic pre-dive test these settings will not be initiated. If a diver would click on “OK” in the “SE7EN settings” menu a warning will be displayed that these settings will not be come into affect.



### **Settings Menu - Set RTC Clock**

When you select this option your unit will use the RTC clock current settings in your computer and transfer that over to your Poseidon rebreather.

### **Settings Menu - Dive Log Download**

If you select this option RbConfig will download all dive logs that doesn't already exist in RbConfig. You can also find this option in the Shortcut menu.

### **Settings Menu - Firmware Update**

When you select this option RbConfig will go through your rebreather's different components and check if they all have the latest firmware. If one of the components does not have the latest firmware the firmware update sequence will be initiated.

It is important to not shut down the RbConfig program or the Poseidon rebreather during this process. In the beginning of the firmware update you may see that RbConfig program shuts down the Bluetooth connection to the rebreather but it will be restarted and connected again within seconds. This is all apart of the firmware update sequence. During the whole process you will see which units is being updated and the remaining time for that unit.

### **Settings Menu - Reboot Unit**

Enables you to restart your rebreather from the RbConfig program.



## How Does the SE7EN View Work?

You will be able to see a number of live data in “Unit SE7EN” view when you have connected your rebreather to the RbConfig program. Please look at **picture 5** for the real time interface for the RbConfig program.

### 1. System

- **Version:** The current firmware in the e-module.
- **SN:** The unit’s serial number.
- **Mode:** What mode the unit is currently in: Pre Dive Test / Pre Dive Mode / Dive mode / Sleep mode / Info mode
- **Test:** During the pre-dive test you can see which test is being performed.  
You can also see which error code you got on a specific test if the machine would fail during the start up.

### 2. Battery

- **Version:** The current firmware in the Smart battery
- **Type:** Show which battery type you currently have connected to the unit, i.e. 40M Rec, 40M Deco, 48M Trimix, 60M Trimix or Deep.
- **RTC:** Real time clock, provided from your computers real time clock settings.
- **Voltage:** The voltage of your Smart battery
- **SoC:** State of Charge of your Smart battery, shown in percentages.
- The vertical indicator bar is another way of showing the SoC.

### 3. Display

- **Version:** The current firmware in the display.
- **Wet switch:** If the wet-switch on the back of your display currently is on or off.
- **Temperature:** Shown in Celsius

### 4. O2 tank

- **Fraction (O2):** Shown in percentage of oxygen in the O2 tank set by the user in the “User settings”.
- **Maximum:** What is considered to be the maximum tank pressure, is set by the user in the “User settings”.
- **Size:** The size of the tank set in liters by the user in the “User settings”.
- **Pressure:** Tank pressure in bars (and percentages)
- The horizontal indicator bar is another way to see the current percentage of gas in the O2 tank.

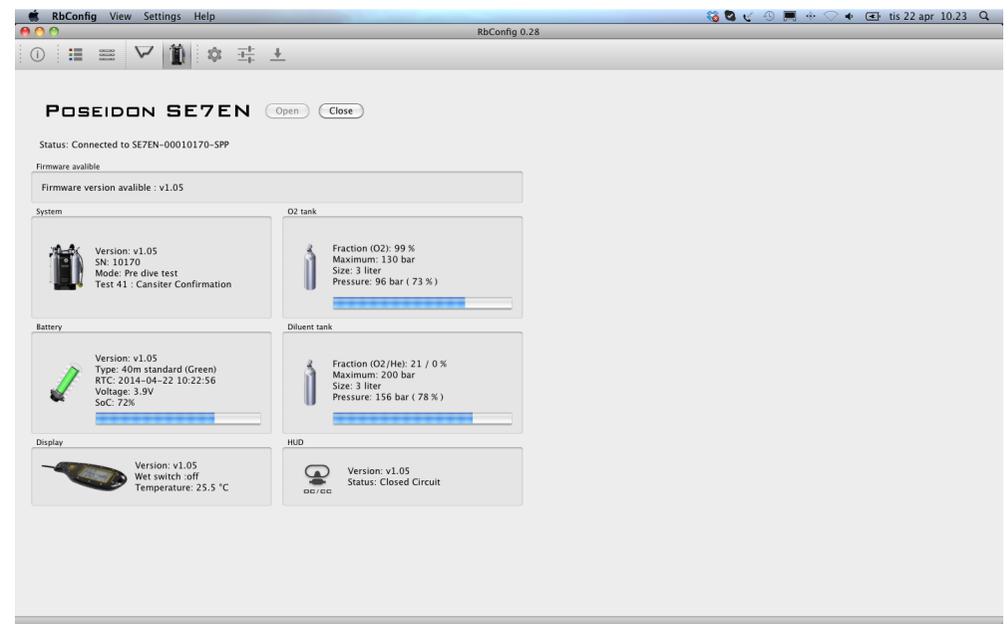
### 5. Diluent tank

- **Fraction (O2/He):** shows the percentages of O2 and Helium in the diluent tank set by the user in the “User settings”.

- **Maximum:** What is considered to be the maximum tank pressure, is set by the user in the “User settings”.
- **Size:** The size of the tank set in liters by the user in the “User settings”.
- **Pressure:** Tank pressure in bars (and percentages).
- The horizontal indicator bar is another way to see the current percentage of gas in the diluent tank.

### 6. HUD

- **Version:** The current firmware in the HUD (Head Up Display)
- **Status:** Shows in witch position the diluent valve switch is in; Close Circuit / Open Circuit / No Circuit.



**Picture 5.**

Unit SE7EN view connected to a Poseidon SE7EN rebreather with both tanks turned on.



## How Does the Dive Log View Work?

To upload your dive logs you need to do the following:

1. Start RbConfig
2. Create a connection between RbConfig and your rebreather
3. Push the "Dive log download" button in the Shortcut menu or go into "Settings" and select "Dive log download" in the General menu.
4. Your dive logs will now be downloaded into the program.

You can download several dive log histories from different Poseidon rebreathers into the your RbConfig program.

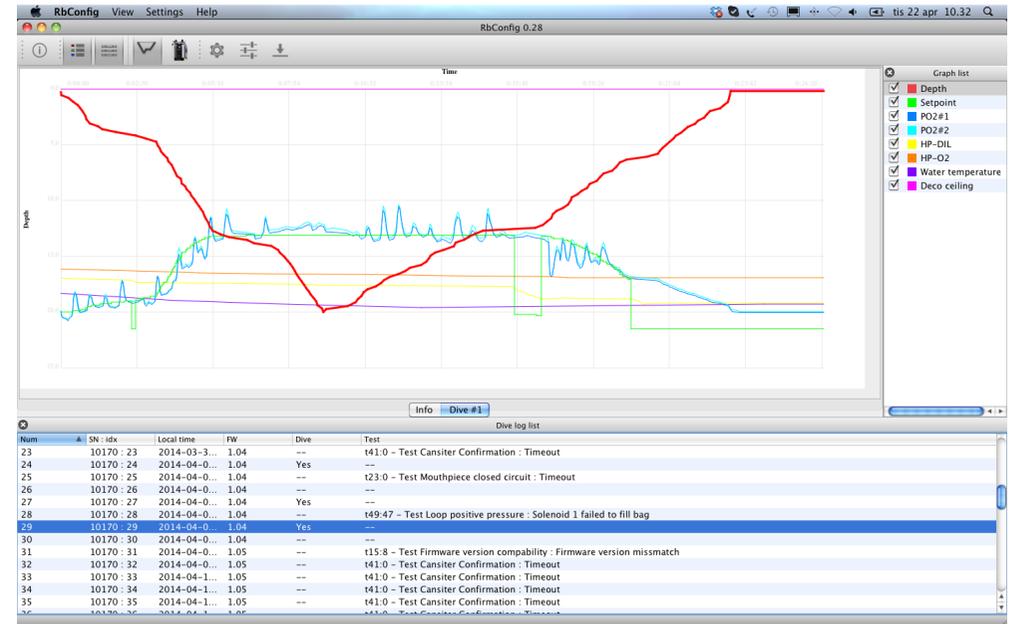
In the Dive log view you have to features that you can hide or show: Dive log list and Graph list.

To see your list of dive logs you will need to go into the menu "View" and select "Dive log list" in the General menu. The Dive log list will then appear horizontally in the bottom of the RbConfig program window. If you would prefer to place the dive logs vertically on the left or right side simply left-click with your mouse to grab onto the dive log menu window and move it.

In **picture 6** you can see the dive log analyzing windows displayed. In the bottom you can see all current dive logs that have been downloaded into RbConfig. Your Poseidon SE7EN will store all start up event so some registered logs aren't actual dives, they might just be an attempt to start the unit or to start the unit with out doing an actual dive. The information displayed and their meanings are as follows:

1. **Num**: Registered start up numbers downloaded into your RbConfig program.
2. **SN : idx**: The serial number of the unit and the registered start up number on the specific unit.
3. **Local time**: The RTC time of the registered start up.
4. **FW**: Firmware version in the rebreather when the start up and dive was done.
5. **Dive**: If the rebreather registered a dive during the time it was turned on.
6. **Test**: If the unit failed to start up you will see the test and error code displayed with a short description. If you want to trouble shoot the problem you will need to look into the Poseidon rebreather User Manual, which you can find at [www.poseidon.com](http://www.poseidon.com).

When you have selected a dive log in the Dive logs window you will be able to view the information of that log in two different windows: "Info" and "Dive #". If the unit haven't been turned off in-between dives you will be able to see several dives in the same dive log.



**Picture 6.** The dive log view and the two list windows: dive log list on the bottom and graph list in the top right corner.



In the “Info” window the following information will be displayed, can be seen in **picture 7**:

File

1. **Serial number**
2. **Dive log index**
3. **Firmware version**
4. **Power up RTC at local time**

PDT

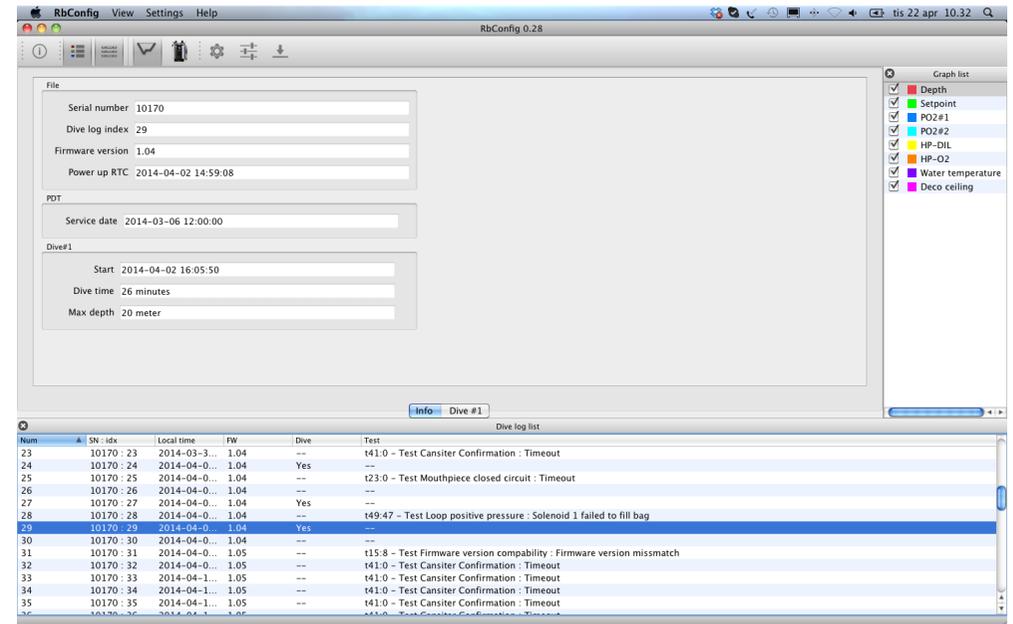
5. **Service date**

Dive #

6. **Start**
7. **Dive time**
8. **Max depth**

In the “Dive #” window you will see what is shown in **picture 7** and on the right hand side you will have a “Graph list” menu. If the Graph list is not showing go to the Shortcut menu and select “Graph list” or go into the General menu open “View” and then select “Graph list”. In the Graph list menu you can chose what you want to be displayed in the “Dive #” window. The graphs are as follows and have the following meaning:

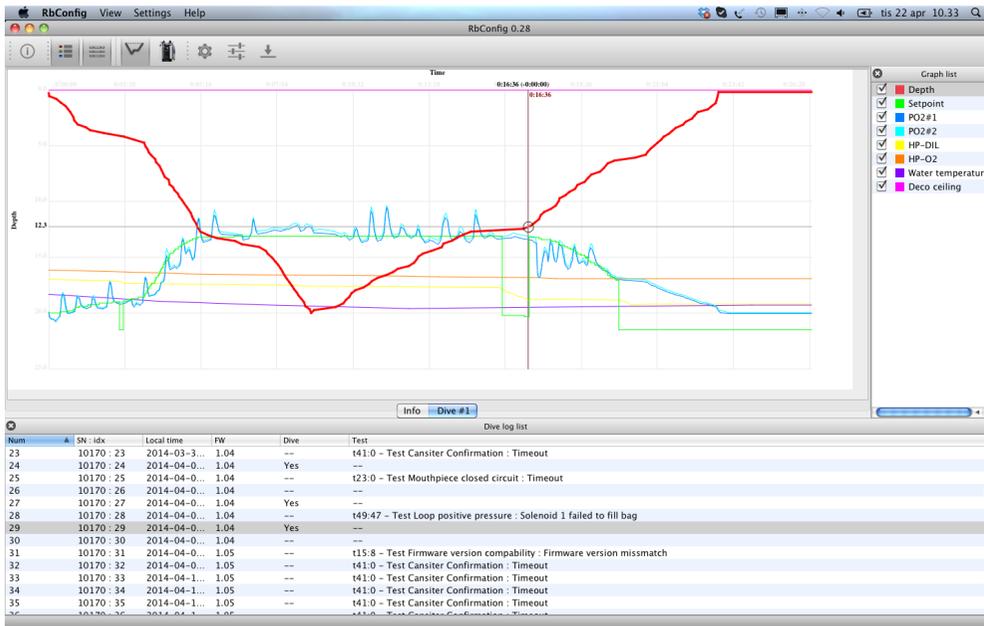
1. **Depth**: Shows the depth profile during the dive.
2. **Setpoint**: Shows the setpoint in the rebreather during the dive.
3. **PO2#1**: Shows the partial pressure reading in oxygen sensor number 1.
4. **PO2#2**: Shows the partial pressure reading in oxygen sensor number 2.
5. **HP-DIL**: Shows the high pressure read out from the diluent tank.
6. **HP-O2**: Shows the high pressure read out from the oxygen tank.
7. **Water temperature**: Shows the temperature.
8. **Deco ceiling**: Shows the deco ceiling during the dive. If the diver hasn't gone into decompression the ceiling will remain at 0.



**Picture 7.** The info window ant the two list windows: dive log list and graph list windows.

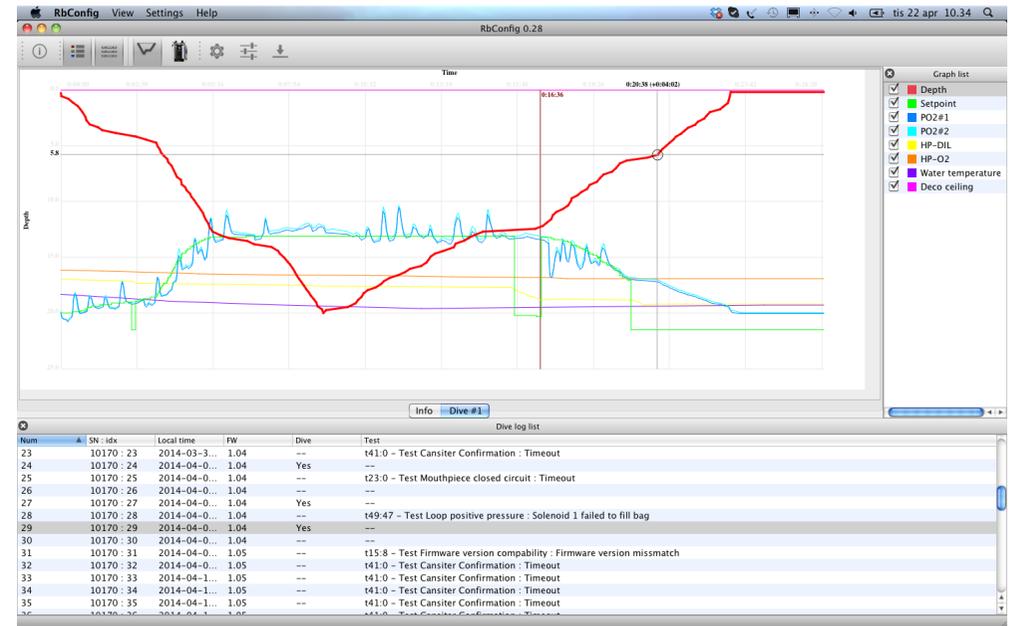


By selecting one of the graphs in the “Graph list” you will be able to follow the selected graph with a crosshair (in **picture 8** the depth graph is selected). By left clicking with your mouse you will create a marker that you then can measure the time from by moving the mouse along the graph (in **picture 9** the measurements are done on the depth graph). Reposition the marker by left-clicking again and remove the marker completely by right-clicking.



**Picture 8.**

1. Select the depth graph in the graph list window.
2. Make a marker by left clicking on a specific place on the graph.



**Picture 9.**

Move your mouse on either side of the marker to measure the time from the marker to the current position of the mouse.