D D R

DIVE DATA RECORDER

OCEANREEF®
connecting divers

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**OWNER'S MANUAL**

1. WHAT IS THE DDR?

Personal computers record the dive data of the diver and are a very helpful system in recording the "dive history/log" of a single diver.

OCEAN REEF has designed a dive data logging device for full face masks with integrated regulators: the **DDR - Dive Data Recorder**.

The DDR is a small, lightweight, self-powered recorder of the main dive parameters: time, depth and temperature.

Its 10 year autonomy (*) makes it an asset well worth adding to your OCEAN REEF full face mask.

A full face mask requires proper care and maintenance. The DDR can help maintain proper service scheduling. Thanks to the DDR, a complete and precise log of its activity is generated by showing the number of dives, kind of dives, depth reached, dive profile, water temperature and other data that may be of great use in terms of proper maintenance, care, performance and managing of the entire full face mask.
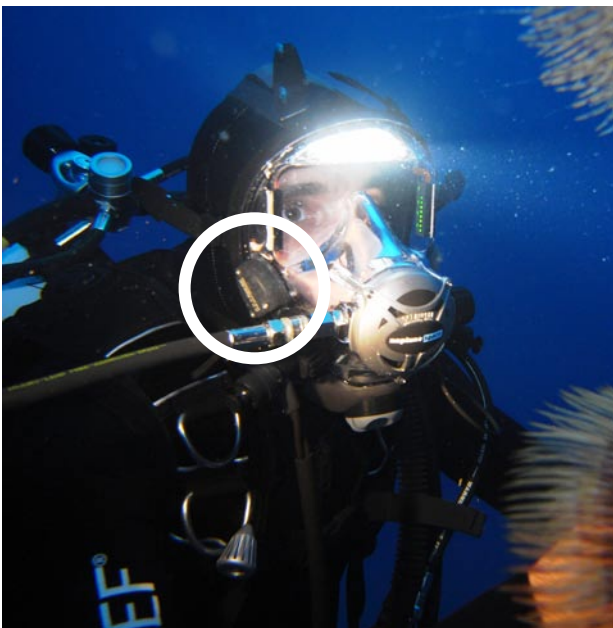
The DDR is installed at the factory on the right side of your full face mask visor.

The battery, sophisticated sensor, flash memory and processor (capable of storing 1,500 hours of dive data at a 10 second sampling interval) are sealed and protected in the DDR housing.

The DDR is ready to be used and will automatically record depth and temperature profiles for all your dives.

2. TECHNICAL CHARACTERISTICS

o Dimensions: 42x32x19mm (1.65"x1.26".0.75")

o Autonomy: Permanent lithium cell ~10 years (calculated using 10 second sampling rate (**) and assuming a single 1-hour dive per day).

o Memory: Approx. 1,500 hours of data profiles (depth & temperature). Based on standard 10 second sample interval.

o Internal Memory for mask or personal data records = 16KB

o Sampling Interval: Factory setting = 10 seconds. User-configurable from 1 sec to over 18 hrs. Capacity changes with interval (e.g. 1,500 hrs @ 10 s., 150 hrs @ 1 s.).

o Sensor resistance : 150 meters (490 feet)

o Working Limits: Depth, 150 meters (490 feet). Temperature, -20ºC to +40ºC (-4ºF to 104ºF).

o Activation: Activates at a depth of 3 ft/1 meter. Deactivates after about 3 minutes above 3 ft/1 meter. Threshold and end-timer are user-configurable.

o Data Downloading: Via exposed metal pads on case. Mates with universal download unit. Downloads to desktop, laptop, or Palm computers for profile analysis and logging.

o Depth resolution: 0.5 inches (12.7 mm) of water with +/- 1 ft (305 mm) accuracy

o Temperature resolution: 0.01°C (~0.02°F) with +/-0.8°C accuracy

o Units: Software selectable view of measurement (meters or feet), degrees (C or F), pressure (PSI or Bar).

o Identification: Individually serialized both physically and electronically. Allows tracking of several devices on one computer.

o Product code: OR 033141

The DDR has been developed in partnership with ReefNet, Inc - Canada.

THE UNIT MAY ONLY BE REMOVED FROM THE MASK BY OCEAN REEF

(Tampering with the DDR by user will result in the warranty being void.)

3. DOWNLOADING DATA TO A PC

DDR Interface with USB cable and the DDR Manager software are required. Must be purchased separately. Product code: OR033142

BEFORE CONNECTING THE INTERFACE TO YOUR COMPUTER DOWLOAD THE DDR MANAGER AND THE USB/SERIAL CABLE DRIVER FROM THE OCEAN REEF WEB SITE.

Start up the DDR Manager. To download the dive data (or to modify the adjustable parameters) it is necessary to connect the DDR to the DDR interface **WITHOUT REMOVING THE DDR FROM THE MASK**. Simply hold the mask with one hand and keep the three screws on the DDR in contact with the three nuts on the interface using your thumb, click on the download or configure button as desired and hold the position for a few seconds.

If a "communication error" appears, check that there is good contact between the unit and the interface or check if the set USB/serial port is the right one.

IMPORTANT: After having installed the DDR manager and the adapter driver always use the same USB/serial port!

4. DDR MANAGER

The DDR Manager is easy to use software to store and organize all your dive data.
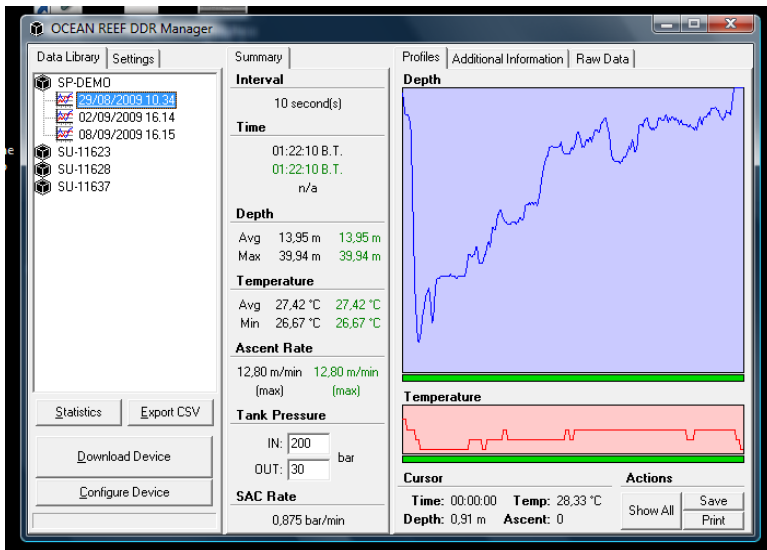

On the main page, on the upper left side, you will find the **Data Library** where all your DDR devices will be displayed by serial number. Double clicking on one will allow you to see all stored dives for that DDR device. Single click on a dive and all recorded data will be displayed.

On the right side of the **Data Library** there is the **Settings** tab. In this window it is possible to choose between metric or imperial units.

On the right side of the screen, under **Profile**, there is a depth and temperature graph, you can zoom on some parts of the graph and the instant data of the pointer position will be displayed on the bottom side.
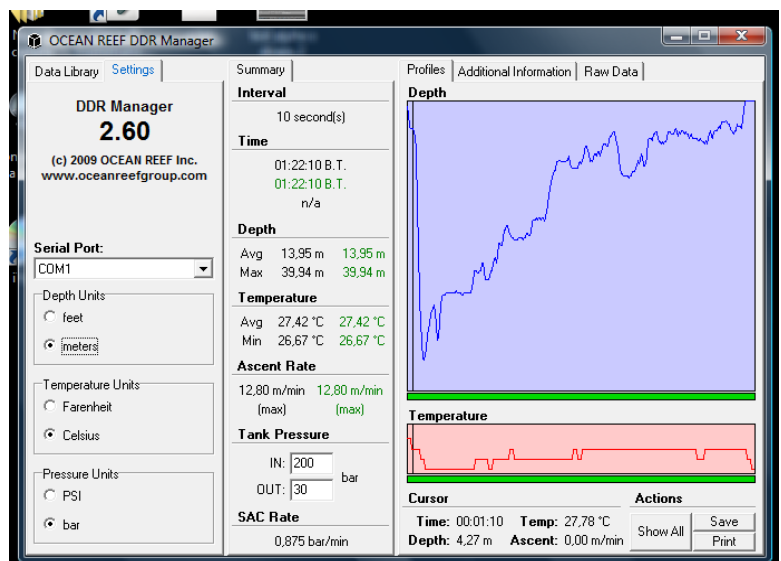
Additional info can be added by the user under the **Additional Information** window like dive site, buddy, salt/fresh water, altitude, time zone and more.
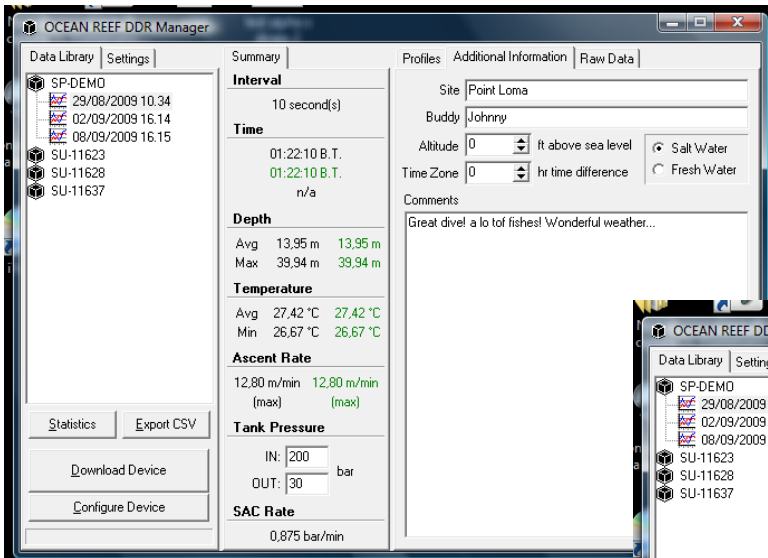
Under **Raw Data** it is possible to copy and paste all relevant dive data. For example, data may be pasted into an Excel or Matlab file for personal use.
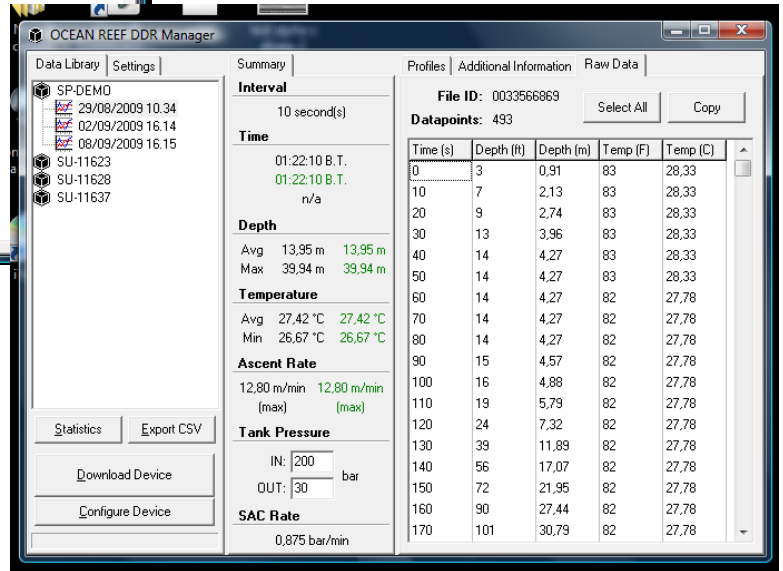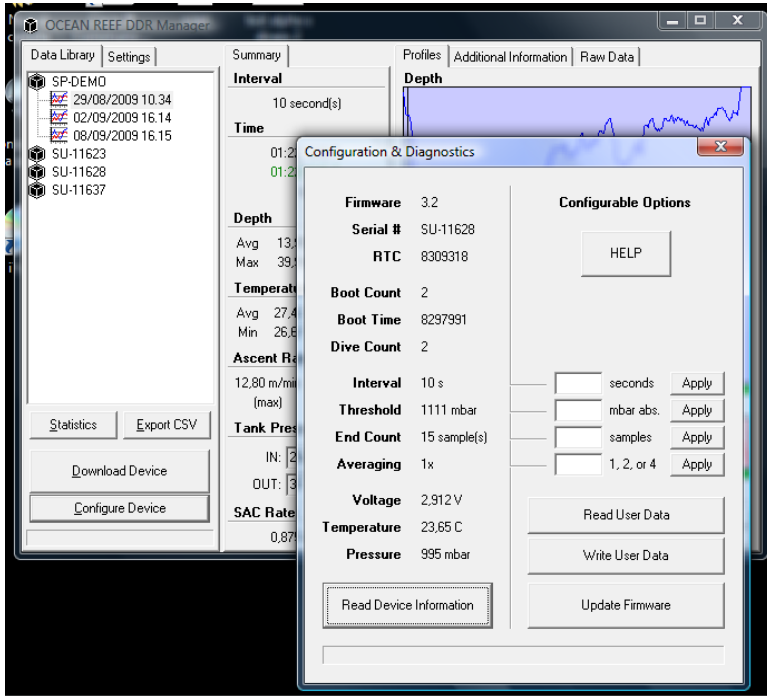

Displayed in the central part of the main window is the relevant data of the entire dive (in black) and of the selected (zoom) area (green).
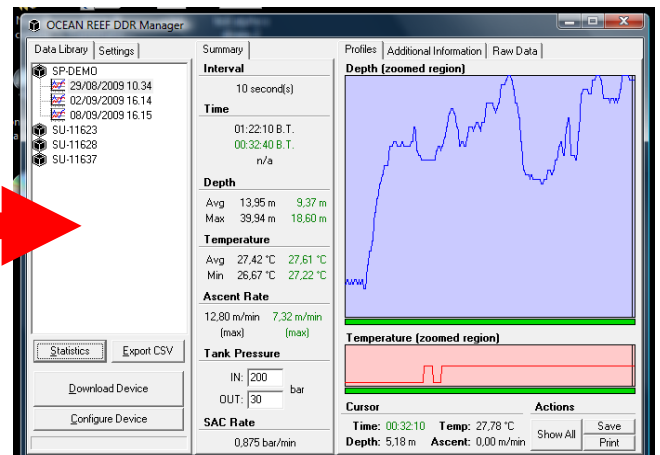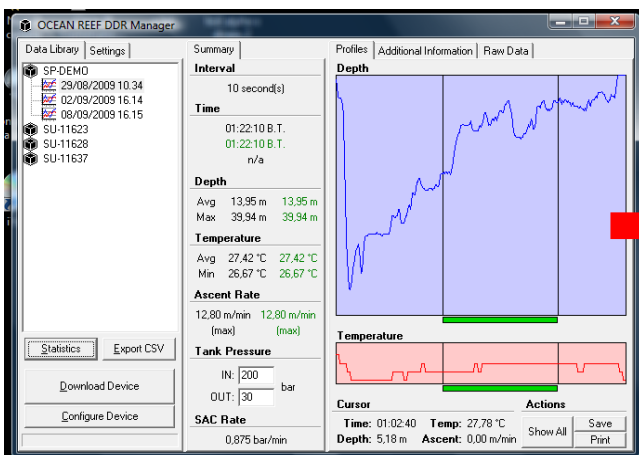
Under **Tank Pressure**, enter your in and out tank pressures and your SAC will be calculated in Bar or PSI per minute.

5. CONFIGURE DEVICE BUTTON

Single click on this button and the **Configuration & Diagnostic** window will appear, connect your DDR to the interface and click on **Read Device Information.** All setting data of your DDR device may be found on this page.

Some of the data is free to be changed as per user needs. Through the configuration window it is possible to adjust the following parameters of your DDR:

Interval: Sampling interval in seconds.
Threshold: The minimum pressure when the DDR starts working.
End count: The number of samples taken after ascending from the set pressure to turn the unit off.
Averaging: The number of pressure readings to average per data point.

To change a setting, insert the desired value into the white window and click on **Apply** while the DDR is connected to the interface.

WARNING: If you set the threshold pressure at a level lower than 1111 mBar the DDR will be ON for an extended period and the DDR lifetime autonomy will be seriously limited! The warranty will be void if DDR sampling set up is changed from the factory to below 10 seconds.

6. READ AND WRITE USER DATA

16kB of storage memory are available for storing user data like personal data, passport number, driver's license number, or also a scan of an ID.

To better use the additional memory, use notepad for text and JPG for images.

To save a file into the internal memory click on **Write User Data** and chose the file to upload (if needed insert a password), to read the internal memory just click on **Read User Data** (insert the password if required) and chose where to save the file.
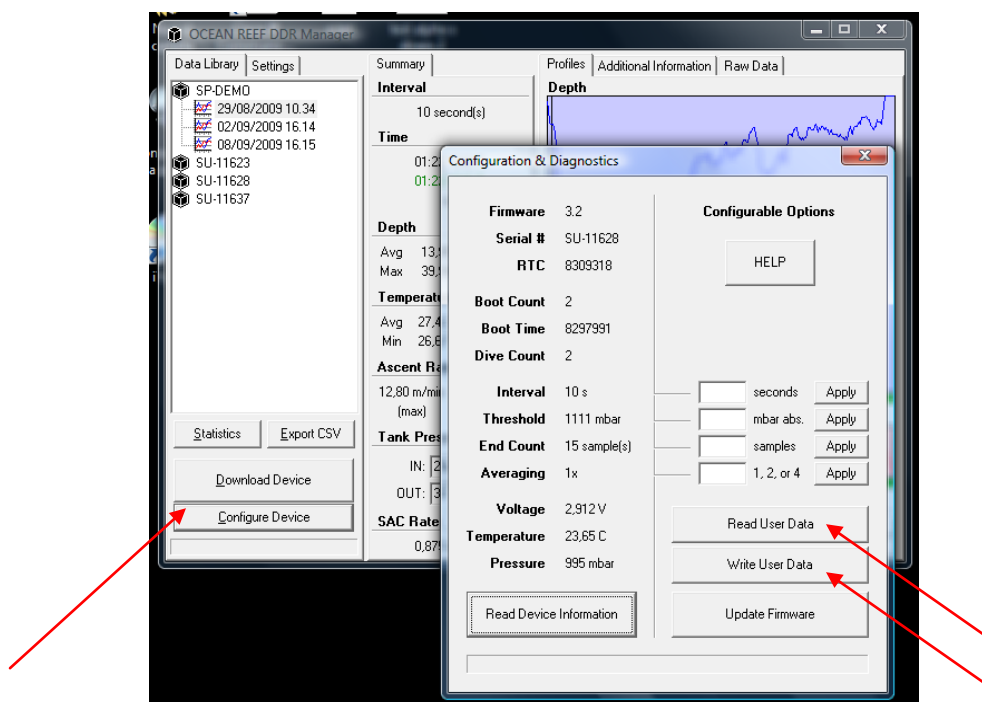
WARNING: Every time a file is saved, all previous files will be lost!

7. STATISTICS

Clicking on the **Statistics** button it will be possible to calculate a statistic regarding number of dives, bottom time, and depth of a wide range of dives or amount of time.
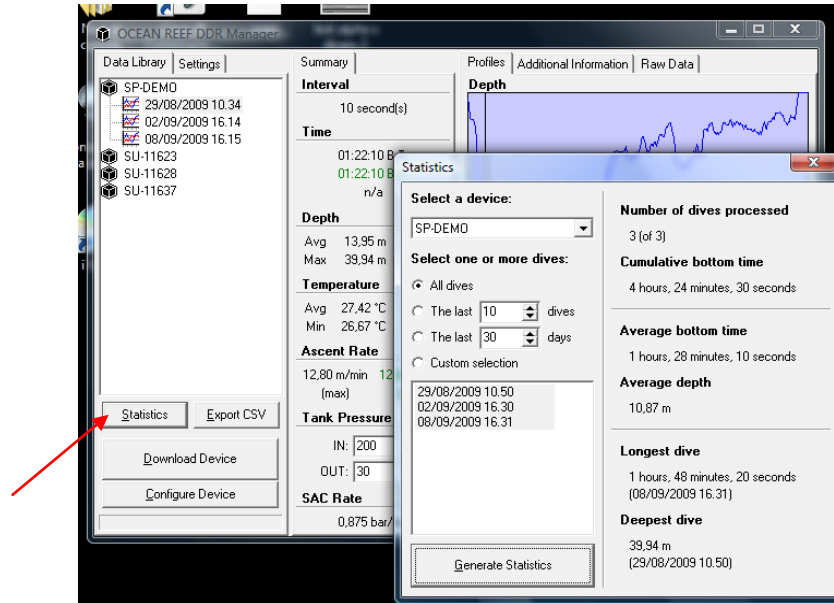
This will help finding out the right time to send the FFM for maintenance, please check OCEAN REEF website under: www.oceanreefgroup.com/techservice.html

Begin by filling out the initial data on the chart below. On the website, you can download the same chart for multiple dives.

Cumulative bottom time (hours)
Average depth (meters or feet)
Deepest dive (meters or feet)
Time from the last maintenance (days)

t	
Pmed	
Pmax	
ts	

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