RATIO
COMPUTERS

iDive

iDive Easy, iDive Deep, iDive Tech+

User Manual

ver. 4.2

Sport edition

Avantgarde edition

Warning!

To receive all updates of this manual and notice of future updates of the "iDive" by e-mail, please send a message writing "iDive"
to the following address: update@ratio-computers.com
This service is highly recommended
and it is completely free of charge.

For further support, have a look at the tutorial videos
soon available on www.ratio-computers.com

For assistance by mail write to support@ratio-computers.com

Warning!

This Manual **DOES NOT** replace an adequate diving training and should be used only by those divers who have been appropriately trained by a certified diver training organization.

To completely understand the terminology used in this manual and the functions of the dive computer a proper diving training is required.

Think Green

If possible do not print this manual.
Use your tablet or your PC to consult it .

THINK BEFORE YOU PRINT

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Introduction

Thank you for having purchased the RATIO® computer.

RATIO®, with the quality of its products, always stands by you to guarantee comfort, leisure and safety when diving.

Check periodically the presence of possible updates of this manual on web site www.ratio-computers.com
The manual version (e.g. 4.0) is shown on its cover.

Important Warnings

General Warnings

It is necessary to read this manual carefully before using the computer RATIO®. A wrong use of this computer or its accessories will nullify the warranty and could cause permanent damages to the device and/or its accessories.

• The diving computer DOES NOT replace an adequate diving training and should be used only by those divers who have been opportunely trained.

• The RATIO® computer is an auxiliary instrument to the dive, so it is compulsory having always an appropriate diving chart in order to carry out the decompression phase in case the device is malfunctioning.

• Diving involves risks relating to decompression sickness, Oxygen toxicity and other risks relating to the diving itself. Even a careful reading of this manual and the use of this device don't prevent possible dangers. Anyone who doesn't know or doesn't accept consciously these risks, must not dive with iDive computer.

• Diving has some intrinsic risks which cannot never be completely eliminated.
No computer or diving chart can guarantee that the risk of Decompression Sickness (DCS) or Oxygen toxicity to the central nervous system don't exist, even if the diver follows meticulously and accurately the indications given by the computer or the diving chart.

• The computer cannot take into consideration the individual physiological variations which might change day by day. For this reason it is good practice to use the device in a conservative and preventive way, remaining within the limits indicated by the computer, to minimize the risks of DD and Oxygen toxicity to the central nervous system.

• The computer doesn't replace the learning of the diving decompression charts which we recommend to have always as backup along with a depth gauge and a watch.

• Never share a unique computer for two divers while diving; every diver must have his/her device at his/her wrist, which can give information to him/her only.

• Never dive with a computer which has not taken into consideration the previous dives a diver made; the computer calculation CANNOT use unknown data or take into consideration dives which it has not done.

Danger Warning

The computer IS NOT meant for a PROFESSIONAL use.
The computer is meant exclusively for a sport, recreational or technical use.

• A use which is not compliant to what has been said above, could expose the diver to an increasing risk of incurring in the Decompression Sickness (DCS). For this reason we discourage its use in case of professional or commercial dives, unless it is used as an operator's further support device.

• Before diving it is necessary to check the battery autonomy. DO NOT dive if the battery level is at 30% or at lower percentages; make sure that the screen doesn't show malfunctioning signs. It must be read clearly.

• Check always that settings are the ones desired. Don't let the computer be manipulated by someone else before diving. In this case, check that settings are the ones you desire.

• Consider that our body experience changes everyday. The computer cannot take into consideration all these changes. If you don't feel at your best physical conditions or if you feel physical problems, don't dive.

• Avoid all behaviours increasing the risks connected to the DD such as rapid ascents, yo-yo dives, violation of compulsory decompressive stops, dives with too close surface intervals and any behaviour which is contrary to the common sense and to the training received.

• This device doesn't allow its use without having the due skill, given by a specific training.

The failure to comply with the basic rules of diving exposes the diver at death danger.

• We recommend to do dives within the safety curve, to reduce the risks inherent to the Decompression Sickness (DCS).

• We recommend dives not deeper than 40 mt or according to the oxygen percentage contained inside the tank.
Maximum PPO2 1,4 BAR

• Respect the ascent speed recommended by the device; an excessive ascent speed exposes the diver to death danger.

• The computer calculates the total ascent time but this could be longer than the one visualised, according to some parameters calculated by the computer during the whole dive. Trying to ascend at the correct speed and respect the visualised depth of the stops helps to respect this time.

• Respect always the No FLY Time: never take a plane if the No FLY Time icon is still visible on the screen. Remember to plan the last dive of the series taking into consideration the advices given by DAN (Divers Alert Network).

• Even respecting all expected intervals, the current Hyperbaric Medicine cannot exclude the onset of the Decompression Sickness in a plane after diving .

Diving with Mixes

The safety approximation of the Mix has to be decided by the diver.

If you are not sure about the EAN safety approximation to be set for your dive, ask your diving instructor or your diving certification agency

• Check the setting of the max PpO2 and never exceed the value of 1,4 BAR.
• DO NOT DIVE without having checked the tank content with instruments that have been declared as trustworthy.

Ensure that the gas set on the computer matches with the one contained inside the tank you are going to use for diving.

The Nitrox-Trimix-CCR dives need a specific training, DO NOT dive without having received the due training.

 Passing the PPO2 set and advised maximum limit imposes an ascent at minor depths and in case the CNS (Central Nervous System) has values very close to the maximum limit, a reduction to O2 exposure is recommended.

• Use the diving computer only after having read the User's Manual in all its parts making sure to have understood its functioning.

In case of doubts or questions, address yourself to your instructor or to your dealer before diving.

• It is essential to know that every diver is fully responsible of his/her safety.

• Diving with gas mixes involves different risks in comparison with those made with standard air. A suitable training is necessary to learn to identify and avoid these risks, which are not immediately recognisable. Such risks concerns serious injuries or death.

Limits of dive computers

The computer takes into consideration the most updated safety guide lines, nevertheless, it is always necessary to know that such studies are theoretical and elaborated to reduce, not to avoid, the risk of Decompression Sickness (DCS).

At the moment, the Hyperbaric Medicine doesn't allow to eliminate totally the risk of DD.

Care and Maintenance

• Keep the computer clean and dry. DO NOT expose the computer to chemical agents, alcohol included.
To clean the computer, use exclusively fresh water, removing all salt sediments. Leave the computer dry naturally, without using cold or warm air jets.

• Do not expose the computer to the sun directly or to heat sources higher than 50°C. Store the computer in a fresh (5°C-25°C) and dry place.

• Do not attempt to open, modify or repair the computer by yourself. You must always address to a RATIO dealer.

• Do not put the computer inside a hyperbaric chamber.

The computer is designed for a reading precision of +/- 2%
(the precision level required by the EC laws is +/- 3.5%.)

The EC laws require that the unit is checked periodically from the reading precision, depth and time point of view.

• Warranty is voided if the computer is opened by a not authorised assistance centre.

• The RATIO iDive computer is designed to be waterproof in sea water but, at the end of every dive, it must be well rinsed in fresh water and it must not be dried exposing it at the direct sun light or at heat sources.

• Make sure that there is no humidity signs inside the screen.

ATTENTION: Do not try to open the computer for any reason.
Any problem, turn to a RATIO® authorised center or to RATIO® directly.

Computer's Technical Characteristics

Hardware

The computer is made in composite material - stainless steel and mineral glass (Sport Edition) or completely in stainless steel with sapphire glass (Avantgarde Edition).

The screen is provided with a 100% matrix display with 80x80 pixel resolution and "Superbright" backlight each Led.

Particular dedication has been put in developing a navigation system allowing the diver to have access to the different settings in an easy and intuitive way.

- Sensor's guaranteed precision: 130 mt.
- Maximum depth: 150mt / 500ft (Sport Edition) - 220mt / 721 ft (Avantgarde Edition)
- Absolute Pressure Measurement precision

	min	max
p = 0 .. 5bar	-20 mbar	+20 mbar
p = 0 .. 10bar	-40 mbar	+20 mbar
p = 0 .. 14bar	-100 mbar	+20 mbar

- Sensor's maximum error margin in measuring Temperature: -2 / +6°C

If worn at wrist the temperature measurement in air is conditioned by body's heat. For an accurate temperature measurement, put the device in water or leave it far from heat sources for some minutes.

Certification

The computer's hardware is CE and EN13319 certified.

Software

Algorithm: The computer uses the Bühlmann ZHL-16B and VPM-B (iDive Deep and iDive Tech+ only) models for scuba diving.

Summary of Technical Charachteristics

(See the table)

RATIO®	iDive Easy	iDive Deep	iDive Tech+
Dive Modes	Air / Nitrox Gauge / Freedive	Air / Nitrox / Trimix (normoxic) Gauge / Freedive	Air / Nitrox / Trimix / CCR Gauge / Freedive
Mix	2 Mix (O$_2$: 21% - 99%)	3 Mix (O$_2$: 18% - 99% / He: 0% - 40%)	10 Mix (O$_2$: 05% - 99% / He: 0% - 95%)
Deco model (Algorithm)	Buhlmann ZHL-16 B	Buhlmann ZHL-16 B and VPM-B	Buhlmann ZHL-16 B and VPM-B
Algorithm adjustment	6 User Settable protection Levels.	6 User Settable protection Levels.	User settable Gradient Factors User settable Bubble Radius
RDM (Repetitive Dives Manag.)	Yes	Yes	Yes
Gas switch and Gas break	Yes	Yes	Yes
PO2	1.2 - 1.6	1.0 - 1.6	0.4 - 1.6
CNS Calculation	Yes	Yes	Yes
Altitude adjustment	Automatic	Automatic	Automatic
Water type	Salt / Fresh	Salt / Fresh	Salt / Fresh
Deep Stop	Yes	Yes	Yes
Safety Stop adjustment	Yes, Time and depth	Yes, Time and depth	Yes, Time and depth
Last deco stop adjustment	Yes	Yes	Yes
Alarms	Acoustic + visual	Acoustic + visual	Acoustic + visual
Dive Planner	No Deco Limit + Deco Planner	No Deco Limit + Deco Planner	No Deco Limit + Deco Planner
Wireless Air Integration	Yes, up to 2 transmitters	Yes, up to 3 transmitters	Yes, up to 10 transmitters
Compass	3D Compass, 1° resolution	3D Compass, 1° resolution	3D Compass, 1° resolution
Outdoor functions	Altimeter, Barometer, temperature, Weather forecast	Altimeter, Barometer, temperature, Weather forecast	Altimeter, Barometer, temperature, Weather forecast
Pedometer	Yes	Yes	Yes
Fitness Functions	Number of steps, distance, speed, calories burned.	Number of steps, distance, speed, calories burned.	Number of steps, distance, speed, calories burned.
Other special Functions	Stopwatch, Pitch&Roll, Magmeter, Lunar phases, Alarm clock, Dual Time	Stopwatch, Pitch&Roll, Magmeter, Lunar phases, Alarm clock, Dual Time	Stopwatch, Pitch&Roll, Magmeter, Lunar phases, Alarm clock, Dual Time
Oxygen Analyser	Yes (optional)	Yes (optional)	Yes (optional)
Backlight type	Led SuperBright	Led SuperBright	Led SuperBright
Backlight activation mode	Timer, Manual On&Off, Always-On in water	Timer, Manual On&Off, Always-On in water	Timer, Manual On&Off, Always-On in water
Display	100% matrix, 80x80 pixel	100% matrix, 80x80 pixel	100% matrix, 80x80 pixel
Case material:	*Avantgarde:* Stainless Steel *Sport Edition:* Composite	*Avantgarde:* Stainless Steel *Sport Edition:* Composite	*Avantgarde:* Stainless Steel *Sport Edition:* Composite
Glass material	*Avantgarde:* Sapphire *Sport Edition:* Mineral	*Avantgarde:* Sapphire *Sport Edition:* Mineral	*Avantgarde:* Sapphire *Sport Edition:* Mineral
Strap Extension:	Included	Included	Included
Battery:	USB Rechargeable Li-ion ~ 40 hr (diving) ~ 2-3 months (Watch-mode) ~ 6-7 months (Stand-by)	USB Rechargeable Li-ion ~ 40 hr (diving) ~ 2-3 months (Watch-mode) ~ 6-7 months (Stand-by)	USB Rechargeable Li-ion ~ 40 hr (diving) ~ 2-3 months (Watch-mode) ~ 6-7 months (Stand-by)
Logbook	~160 hr scuba (sampling 10 sec)	~160 hr scuba (sampling 10 sec)	~160 hr scuba (sampling 10 sec)
Max Depth	*Avantgarde:* 220 mt / 721 ft *Sport Edition:* 150 mt / 500 ft	*Avantgarde:* 220 mt / 721 ft *Sport Edition:* 150 mt / 500 ft	*Avantgarde:* 220 mt / 721 ft *Sport Edition:* 150 mt / 500 ft
PC/Mac Connect.	Yes, USB cable included	Yes, USB cable included	Yes, USB cable included
Updates	User updatable	User updatable	User updatable

How to recharge the battery

The iDive has a rechargeable Li-Ion battery without memory effect, the given autonomy data may change of +/-15% depending on the environment temperature. The autonomy may also change according to the device's settings, the installed applications, operative system version, backlight settings and use.

 ATTENTION: Charge the computer completely before using it for the first time.
The recharge can be done by plugging the iDive and the provided USB cable to an USB wall charger (not included) .

We recommend to use an USB wall charger (as the one of your mobile phone/tablet) to recharge the iDive.
In case of use of a PC USB charger (not recommended), make sure that the PC doesn't interrupt the electricity feeding when in stand-by. Recharge the iDive with a PC is however not recommended because there is the risk to carry out only a partial recharge cycle.

Even if the iDive new generation Li-Ion battery hasn't the memory effect, it is however recommended to recharge it completely.
The average recharge time is 3-5 hours, depending on the battery residual charge level.
Attention: Do not dive when the computer indicates 30% of charge or less.
When plugging the USB cable to recharge, the symbol => indicating the recharge in progress appears in the watch screen in 45 seconds.

The charging process is finished when the battery symbol disappears from the watch screen and the sleep mode is activated.

Once the battery is completely charged, even if the device remains connected to electricity, the iDive interrupts the electricity feeding automatically. If you leave your device in charge longer than necessary (for ex. all night long) you could find the iDive in Sleep Mode.
You can check your iDive charge % by pressing any button in the watch screen.

If the charging cycle is not completed the battery indicator could not be precise until the next complete recharge.

After having installed an APP or an Operative System update, we recommend to recharge your device completely.

Attention: Do not leave the iDive completely without charge for a long period (for ex. 4-5 months). This may damage the battery. The iDive registers an alarm if left without charge for long time. This event is not covered by warranty.

Diving in cold or freezing waters

The RATIO Computers can be used even in case of dives in cold or freezing waters (<3°C); however, the exposure at particularly low temperatures, may affect negatively on the battery residual voltage.

When diving in cold or freezing waters, the battery voltage may decrease more rapidly than normal.
So, we recommend to recharge the battery before diving in extreme conditions.

ATTENTION: when diving in cold or freezing waters (<3°C) recharge the device at 100% or make sure that there is at least 50% of battery power.

ATTENTION: Diving in cold or freezing waters (<3°C) requires a specific training.

DAN DL7

The RATIO iDive is 100% compatible with the program for gathering data DAN DL7 of DSL Level 5

The DAN DL7 is a format owned by DAN, which summarizes all necessary information which are needed for the studies, arranging them to be sent directly to DAN Europe's central database.
All these data include, besides the diving profile, also information relating to the diver (fitness excercices, the medicines he/she ingested etc) and to the dive itself (possible problems, thermal conditions etc).

Contributing to the data gathering is easy: you just have to fill in all fields relating to the program DAN DSL (Diving Safety Laboratory) inside the Divelogger, export them in the format DAN DL7 and send them by e-mail to:
dsl@daneurope.org

Give your diving profiles to the Research!
The profile of a dive made with a self breathing device contains extremely important information, such as the time spent in the depth, the ascent speed, how many dives enter in decompression, how many dives contain deep stops etc.

Giving our own diving profiles to the Research means to give a great help to DAN's scientists who, with great dedication and passion, are trying to render the diving activity more and more safe.

Privacy
Unless you send your data, neither the RATIO iDive nor the Divelogger will send anything automatically.

The iDive outside water:

The Sleep Mode

The iDive is provided with the Sleep Mode function.
After 1 minute of complete stillness (for ex. when putting it on a night table during the night) to save battery the iDive display is switched off automatically. All iDive functions go on functioning regularly (alarm clock, possible desaturation, time etc.).

Thanks to the integrated accelerometer the screen is switched on automatically once the iDive perceives a vibration or a movement (it is not necessary to press a button to switch the screen on).
You can deactivate the Sleep Mode (not recommended) from the DISPLAY menu (see dedicated section in this manual)

🔒 Sleep mode

🔒 Lock screen

Unlock

Unlock

Ⓐ

Ⓑ

vibration or movement

RATIO

12:30
EASY
01/01   Th
iDive

Ⓒ

Ⓓ
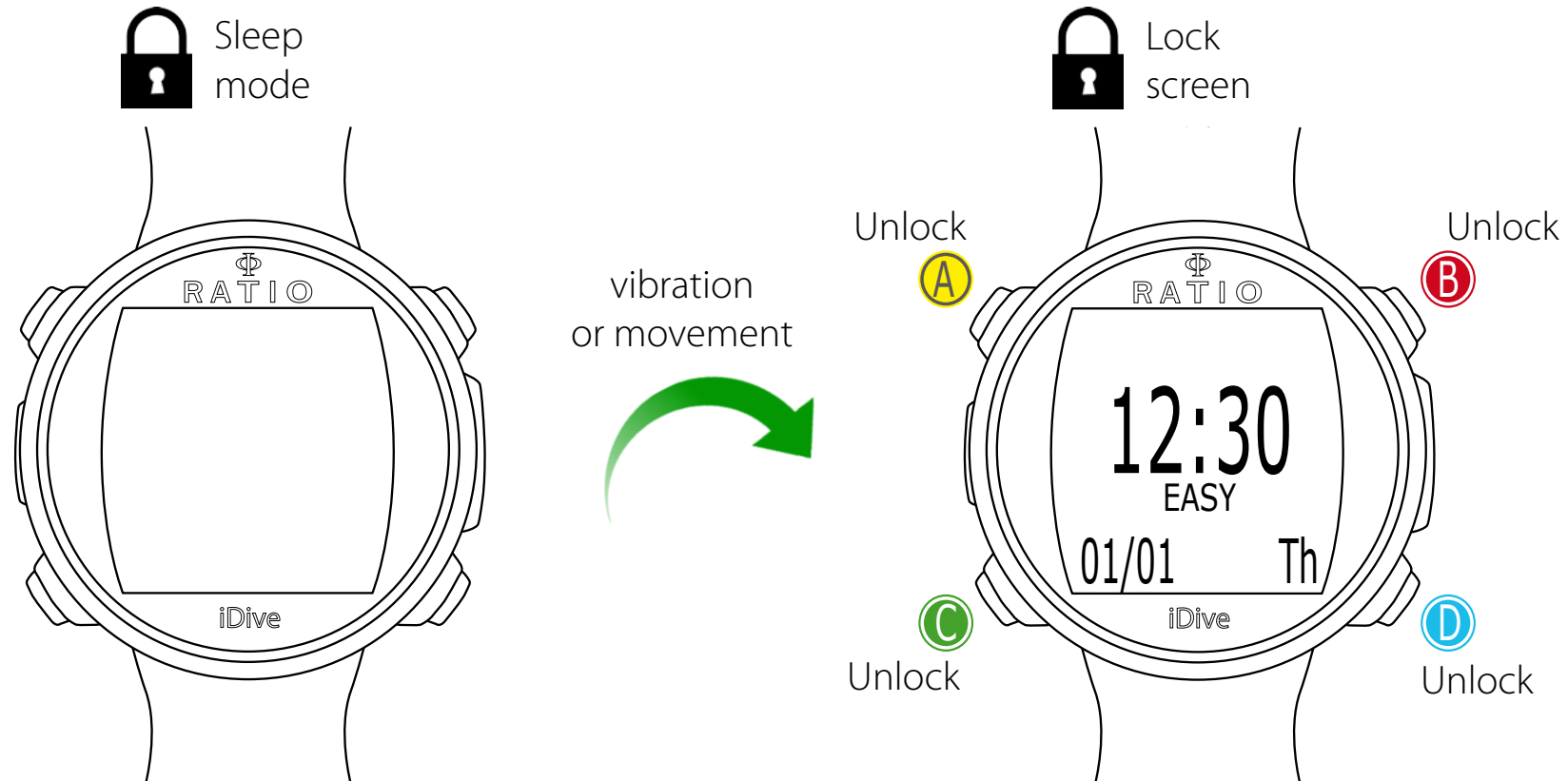
Unlock

Unlock

Lock Screen

After 3 seconds of stillness in Watch mode the iDive goes in "block" mode automatically.
After 60 seconds from the lock screen activation, the iDive model name is displayed under the time.

Press any button to unlock the iDive.
The iDive is unlocked when the battery % is displayed under the time screen, in the same position of the model name.

Lock screen

Unlock **A**   Unlock **B**

12:30
EASY
01/01   Th
iDive

C Unlock   **D** Unlock

Unlocked iDive

Backlight **A**   Compass and Apps **B**

12:30
95% 🔋
01/01   Th
iDive

C Watch Mode Menu   **D** Dive Mode

iDive menu structure

Activate backlight
(the button only function)

Ⓐ

Start here.

🔓 unlocked
iDive

RATIO

12:30
95% ▮▬▬
01/01   Th

iDive

Watch

Ⓑ

RATIO

NE·**E**·SE·**S**
54°
200m
+27°C   990mb

iDive

Compass and Outdoor

Ⓑ

RATIO

CHRONO
MIX CHECK
PITCH&ROLL
MOON
MAGMETER
FITNESS
CLOCK ALARM

iDive

Ⓑ UP /exit/

Ⓒ Select

Ⓓ Down

App

RATIO

DISPLAY
SYS SET ▶
PC MODE
TRANSMIT

iDive

Ⓑ UP

Exit

Ⓒ Select

Ⓓ Down

Watch Menu

RATIO

COMPASS
DEFAULT ▶
INFO

iDive

Ⓑ UP

Exit

Ⓒ Select

Ⓓ Down

Watch Menu page 2

RATIO

OC
0.0   0:00

DIVE   m/min   DEPTH
0   0.0   0.0

iDive

Scuba Mode

Ⓒ   Ⓓ   Ⓑ

RATIO

GAUGE
0.0   0:00

DIVE   m/min   DEPTH
0   0.0   0.0

iDive

Gauge Mode

Ⓒ   Ⓓ   Ⓑ

RATIO

FREE
0.0   0:00

DIVE   m/sec   DEPTH
0   0.0   0.0

iDive

Free Dive Mode

Ⓒ   Ⓓ Torna a orologio

RATIO

DIVE SET 1
DIVE SET 2 ▶
MIX
CCR SET

iDive

Ⓑ UP

Exit

Ⓒ Select

Ⓓ Down

Dive Menu

RATIO

DIL
PLANNER
LOGBOOK ▶
ALARM

iDive

Ⓑ UP

Exit

Ⓒ Select

Ⓓ Down

Dive Menu page 2

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23 Φ

The watch screen

Lock screen

Unlock (A)   **Unlock** (B)

RATIO

12:30
Tech+

01/01   Th

iDive

Unlock (C)   **Unlock** (D)

Unlocked iDive

Backlight (A)   **Compass/App** (B)

RATIO

12:30
95%

01/01   Th

iDive

Watch Mode Menu (C)   **Dive Mode** (D)

When not in Dive Mode, the watch screen is considered to be the iDive main screen. During the navigation among the different menu the iDive will come back to the watch screen automatically if any button is not pressed for over 60 seconds.

In watch screen there is displayed:

In the centre in big types: Time in 24 hrs or 12 hrs format (it is possible to change the date format in the SYS SET menu)

In the centre in small types: Battery % ("Model Name" in the Lock screen).
ATTENTION: Do not dive if the battery % is less than 30%

On the bottom left side: date in dd/mm format (it is possible to change the date format in mm/dd on the DIVE SET 1 menu setting the imperial system).

On the bottom right side: Name of the day.

Mo => Monday
Tu => Tuesday
We => Wednesday
Th => Thursday
Fr => Friday
Sa => Saturday
Su => Sunday
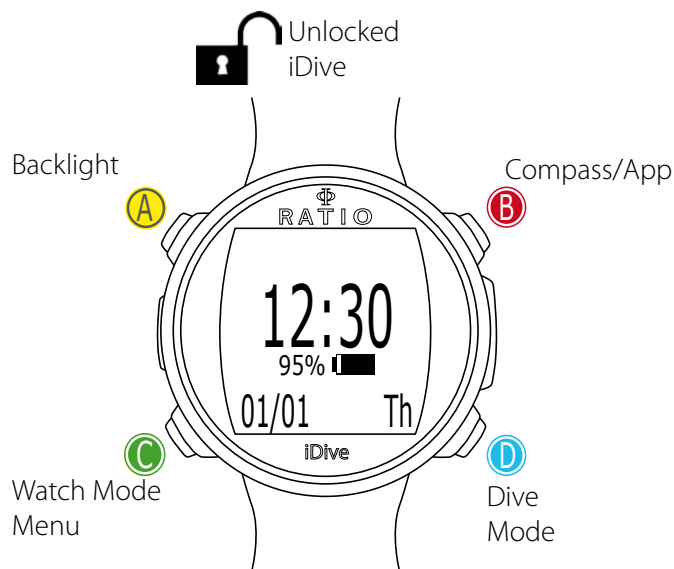
Watch Menu

The Watch Menu contains all settings not directly associated with the dive.

To have access to the Watch Menu unlock the iDive pressing any button and press **C** button in Watch Mode.
Press buttons **B** and **D** to browse the menu entries rapidly and press **C** button to select the desired entry.

Keep on pressing **D** to enter the menu second page.
To exit the menu select the symbol ▶ or do not press any button for 60 seconds.

Activate the
backlight
(The button only function)

Begin
from here

Unlocked
iDive

A

B
Up

DISPLAY
SYS SET
PC MODE
TRANSMIT

Exit

C
Select

D
Down

iDive

12:30
95%
01/01   Th
iDive

C

Watch

Watch
Menu

B
Up

COMPASS
DEFAULT
INFO

Exit

C
Select

D
Down

iDive

Watch
Menu
page 2

25
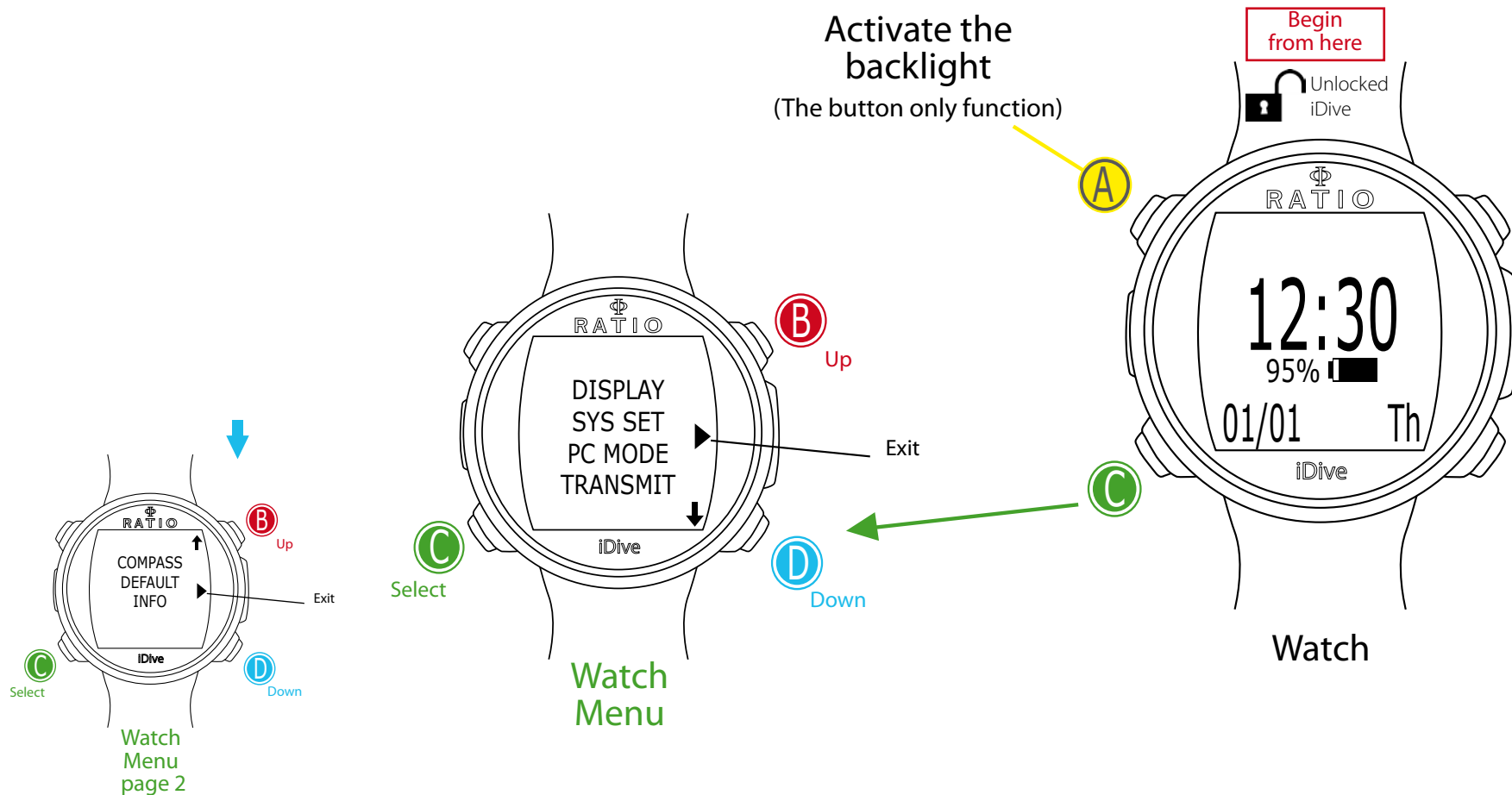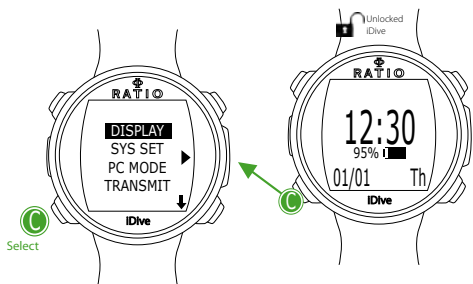
DISPLAY (Screen settings)

The DISPLAY menu allows to change the iDive screen settings. Make reference to the picture at the side to navigate the DISPLAY menu.

BKL LEVEL: (0-10). It regulates the backlight intensity.
ATTENTION: setting a very high intensity will reduce the iDive autonomy.

BKL TIME: (0-60). It regulates the backlight duration for the AUTO mode.

BKL MODE: (AUTO-MAN-DIVE). It sets the backlight mode.

AUTO: The back light deactivates itself automatically after some minutes (BKL TIME)

MAN: The backlight is managed manually (press once to activate, press once again to deactivate)

DIVE: The backlight activates itself automatically and remains active all dive long. When not in Dive Mode it uses the AUTO settings.

***ATTENTION**: In watch screen, no matter if in BKL MODE or BKL TIME, the backlight deactivates itself after 3 seconds.*

CONTRAST: (0-7) It sets the types contrast intensity.
ATTENTION: setting a very high value will reduce the iDive autonomy.

SLEEP: (0-60) In minutes, it indicates the time after which the iDive activates the Sleep Mode when it remains static. (the value 0 deactivates the Sleep mode)

ATTENTION: Deactivating the Sleep mode reduces the iDive autonomy drastically.

To exit select EXIT (or wait 60 seconds without pressing any button)
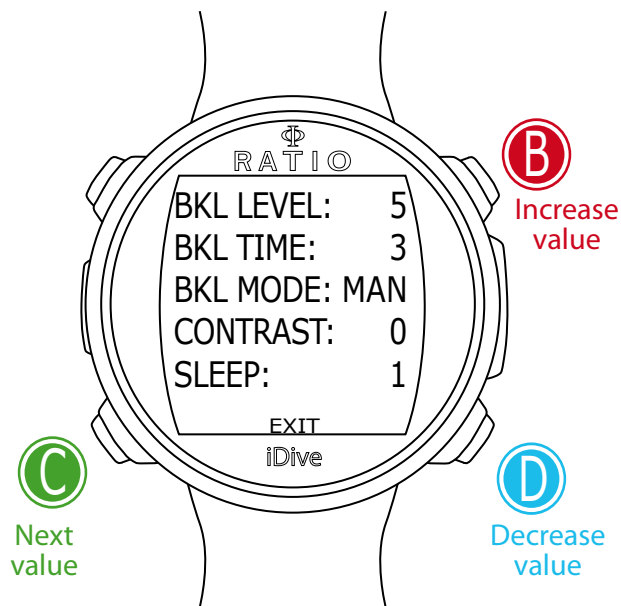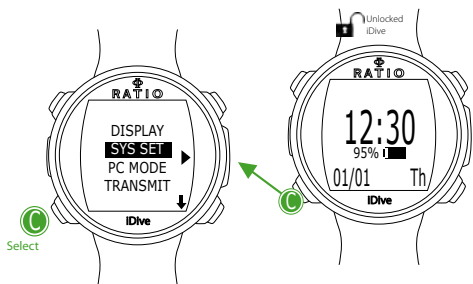
SYS SET (date and time)

The Menu SYS SET allows to change the settings relating to the date and the time.

UTC (Coordinated Universal Time): It regulates the first time zone "home".

UTC 2 (Coordinated Universal Time): It regulates the second time zone.
Set UTC e UTC 2 with two different values to display the double time zone in the iDive watch screen. Set the same UTC value to display a unic time.

UTC 2 = UTC

UTC 2 ≠ UTC
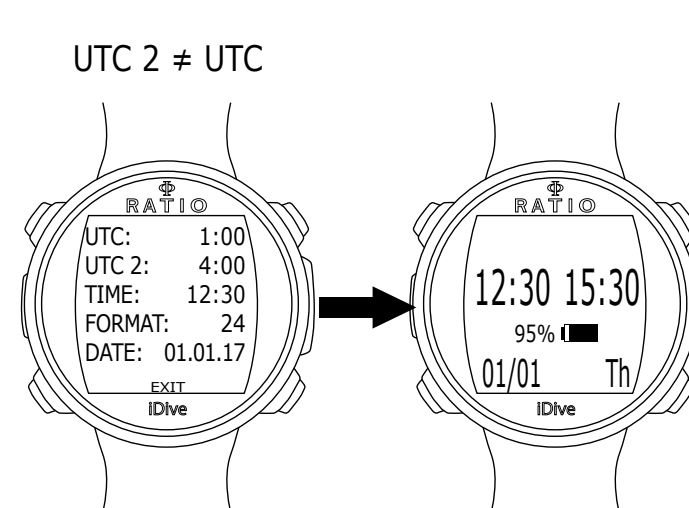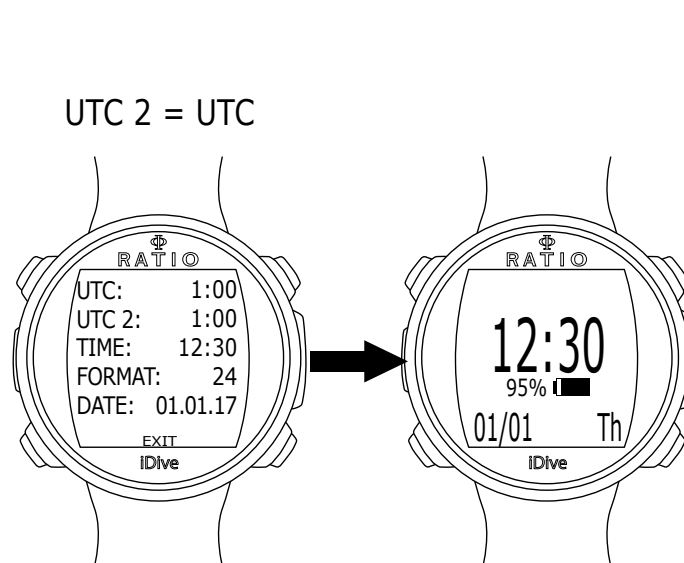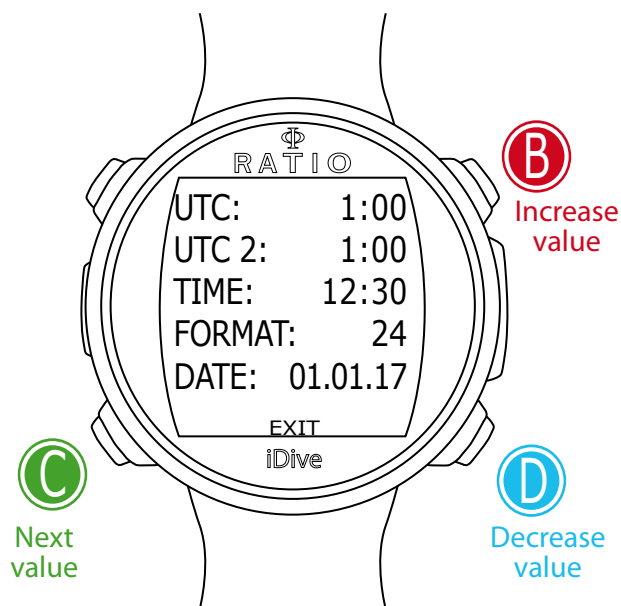
TIME: To set the time (24hr format)

FORMAT: To set the time format of the displayed time (24hr or 12hr)

To exit select EXIT (or wait 60 seconds without pressing any button)

PC MODE (connection to PC/Mac)
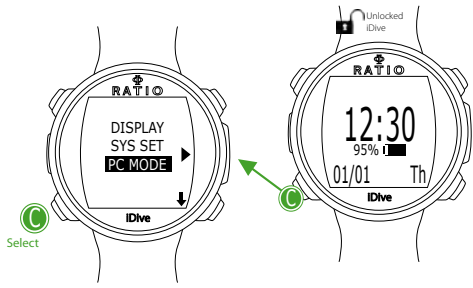
The PC MODE is used to connect the iDive to a PC/Mac by the DiveLogger.

To download the DiveLogger RATIO® and connect your iDive to a PC/Mac to download your dives and carry out the updates log on the following address:

http://www.ratio-computers.com/it/support/
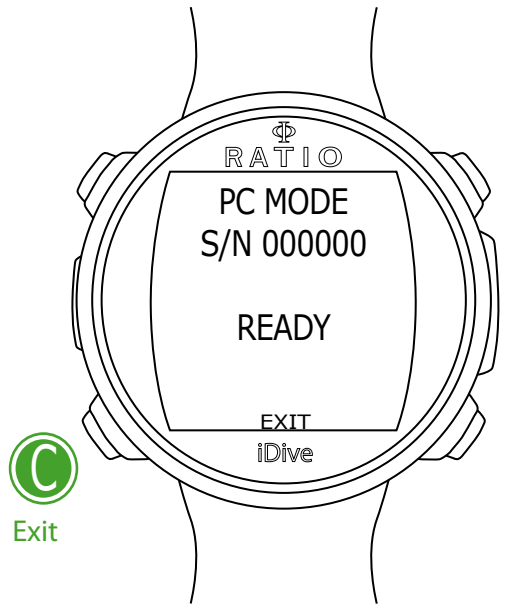
On the web site you will find a step-to-step tutorial to connect your iDive to the Divelogger. To download the program and and the updates a connection to Internet is necessary.

ATTENTION: The DiveLogger and the updates are completely free of charge.
However, to work properly they need a connection to Internet; in case you use a consumption connection, your provider might debit you the costs for the traffic generated. It is always recommended to use an ADSL Flat connection to Internet. For further information refer to your Internet provider.

To exit press **C** button (the automatic exit after 60 seconds is not **is not active** in PC MODE)

TRANSMIT (Pairing with the CC Transmitter)

If your iDive is compatible with the RATIO® Wireless CC Transmitter (CC Transmimtter sold separately) the TRANSMIT menu will show up.
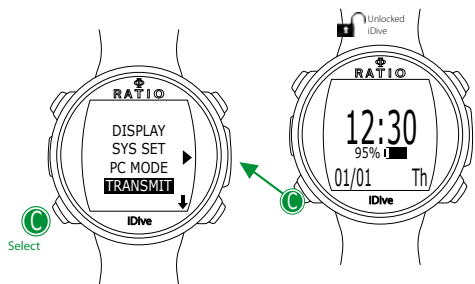
The RATIO® CC Transmister dedicated manual (how to pair, how to use, etc.) is available on:

http://www.ratio-computers.com/support/
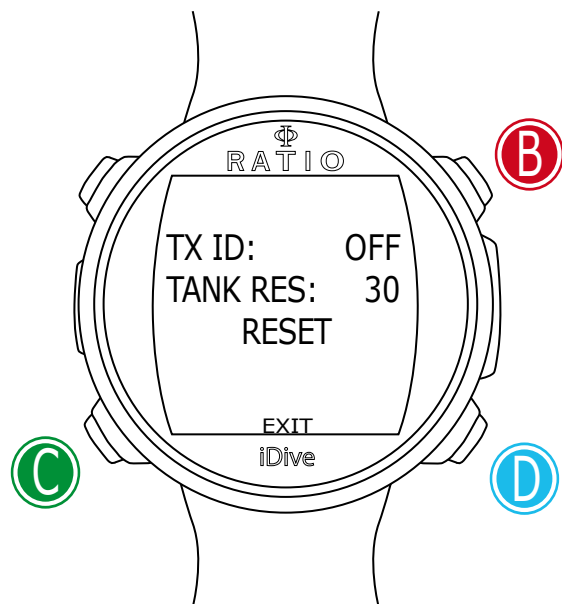
Select EXIT with **C** button and press **D** to exit (the automatic exit after 60 seconds is not **is not active** in TRANSMIT)
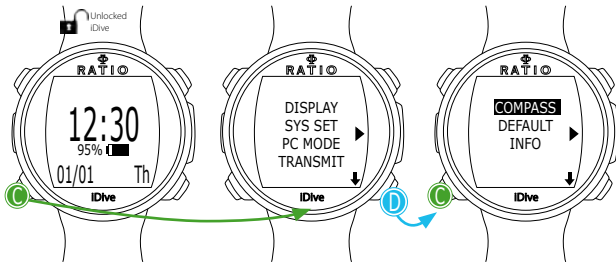
COMPASS (Compass settings)

The COMPASS menu allows to set the compass.

DECLIN: The declination is used to compensate the difference between the geographic and the magnetic north. This data can be obtained visiting specific web sites.
(If you don't know how to set the DECLIN value, leave it at 0.0)

DIR: (EAST or WEST) The direction is used to indicate the Earth magnetic field's declination direction. (If you don't know how to set the DIR value, leave it at EAST)

CALIB: (Calibration) Press B or D to start the compass calibration.
For a correct calibration ensure to be far from magnetic field sources (PC, TV, street lights etc.)
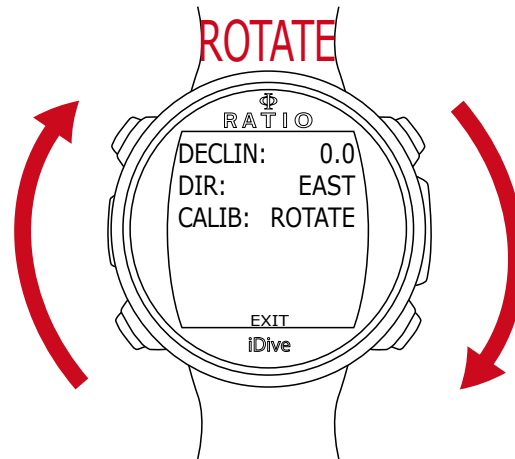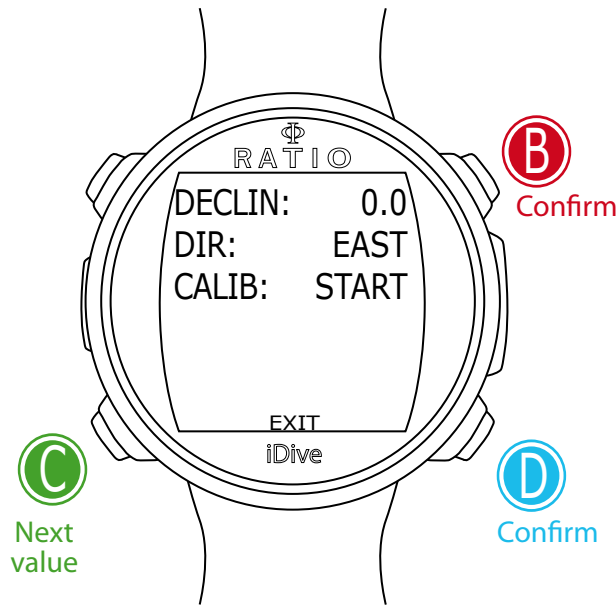
Rotate slowly and constantly on a flat surface.
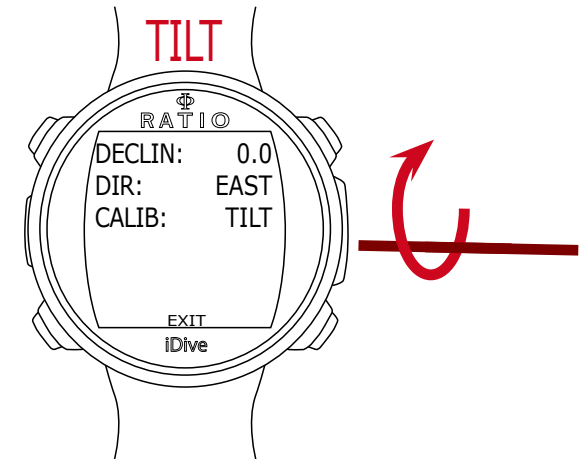
Rotate slowly and constantly on the horizontal axis.

To exit select EXIT (or wait for 60 seconds without pressing any button)
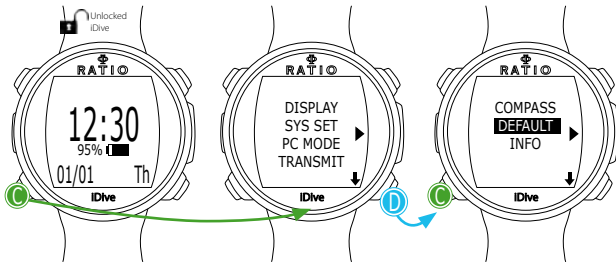
Reset to Default

To navigate this menu follow the instructions shown in the picture on the left.

SETTINGS: Yes/No. To reset all menu entries to the default settings. The SETTING command resets all menus and settings (MIX, Alarms, etc.). It doesn't reset the diver's tissue saturation.

TISSUES: Yes/No. To reset the diver's tissue saturation.

Attention: NEVER reset the tissue saturation if the device is always used by the same person! This doesn't allow the iDive to make a correct decompression calculation!

EXECUTE: To reset the entries set as YES.

Select the EXECUTE function and press **C** to carry out the reset)
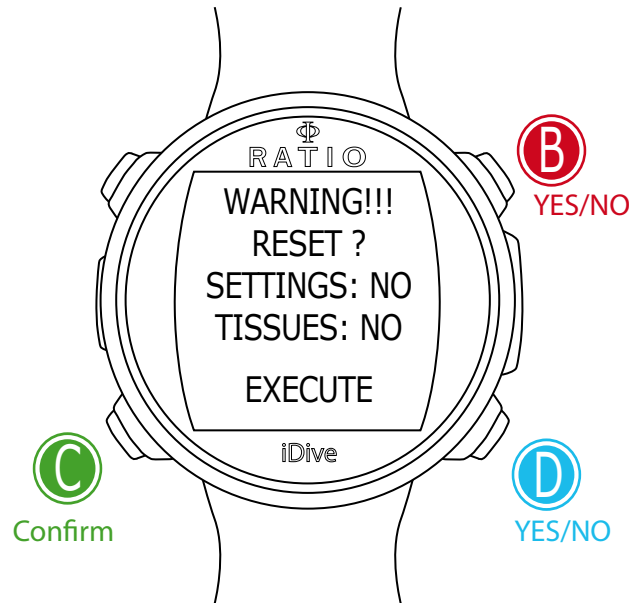
WARNING - DANGER

DO NOT carry out the tissue saturation reset (TISSUES=YES)
if the device will be always used by the same person !!!
This may cause the risk of accidents, even lethal.

It is possible to reset tissues only in case the device is used by a person who has not made dives during the previous 48 hours.

ATTENTION!
A possible tissue reset is registere indelibly in the iDive dive Logbook

The user is completely responsible of the tissues saturation Reset.
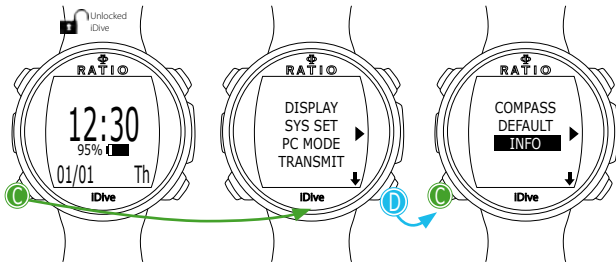
INFO (iDive Information)

The Menu INFO displays the information relating to the iDive.

Complete model name (RATIO - iDive "model name")
S/N: the unit's serial number.
APOS: Operative system version installed in the unit

To exit select **C** (or wait for 120 seconds without pressing any button)

RATIO
iDive Tech+
S/N:000000
APOS 4.0.0/011

Made in Italy

C

Exit

Dive Menu

The dive Menu contains all settings directly connected to the dive.

To enter the Dive Menu unlock the iDive pressing any buttons and from the watch screen press **D** button to enter the dive screen, thenpress C button to enter the Dive Menu.
Press buttons **B** and **D** to browse the menu entries and press **C** button to select the desired entry.

Keep on pressing **D** to display the menu second page.
To exit the menu select the symbol ▶ or don't press any button for 60 seconds
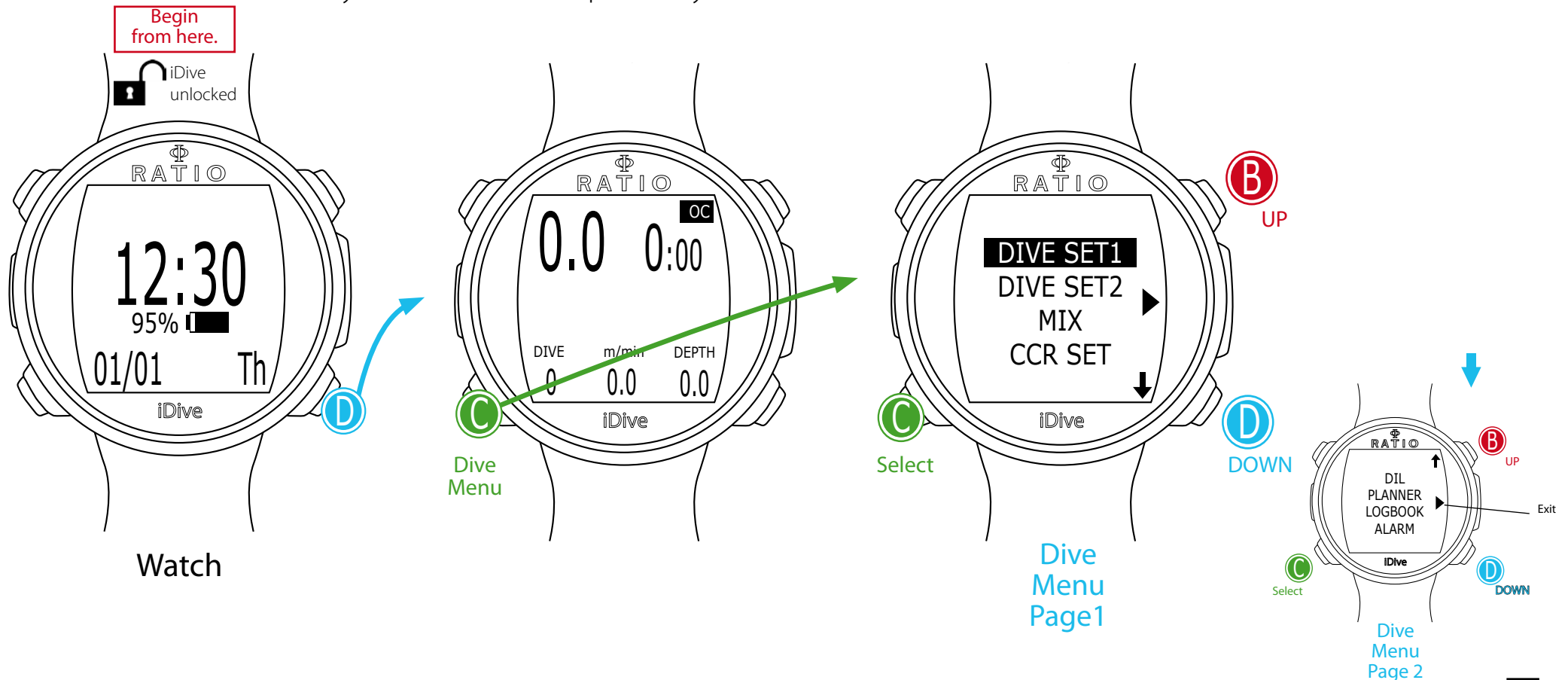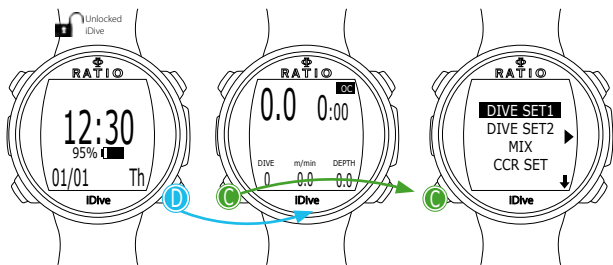
DIVE SET 1

The DIVE SET 1 menu displays the first part of the iDive dive settings.

WATER: (SALT/FRESH): It selects the kind of water (SALT= Salty, FRESH= fresh)

Did you know?

The dive computers measure the pressure and convert it depth using the water density as constant. Without the SALT/FRESH setting the depth reading might be altered (If you dive in fresh water with WATER=SALT setting the depth detected by the iDive will be lower than the real one, vice versa if you dive in salt water with WATER=FRESH setting the depth detected will be higher than the real one.)

UNITS: It selects the kind of unit of measurement you want to use:

m/°C = decimal metric system

(Metres | temperature in °Celsius | date dd/mm/yy | pressure in Bar | volume in Litres)

ft/°F = American habituals system

(Feet | temperature in ° Fahrenheit | date mm/dd/yy | pressure in Psi | volume in cubic feet)

MODE: It sets your favourite kind of dive which will be activated by the iDive when entering water. ATTENTION always check that the kind of dive matches with the one actually carried out.

SCUBA: the iDive begins a dive with tanks
GAUGE: the iDive begins a dive in Gauge mode
FREE: the iDive begins a free dive (without tanks).

Did you know?

If you want to use a different mode without changing the MODE parameter, you can enter the desired mode pressing the D button in the watch screen and make a dive deeper than 2 m. This way, the iDive will activate the mode you have selected without changing the MODE value for that dive only.
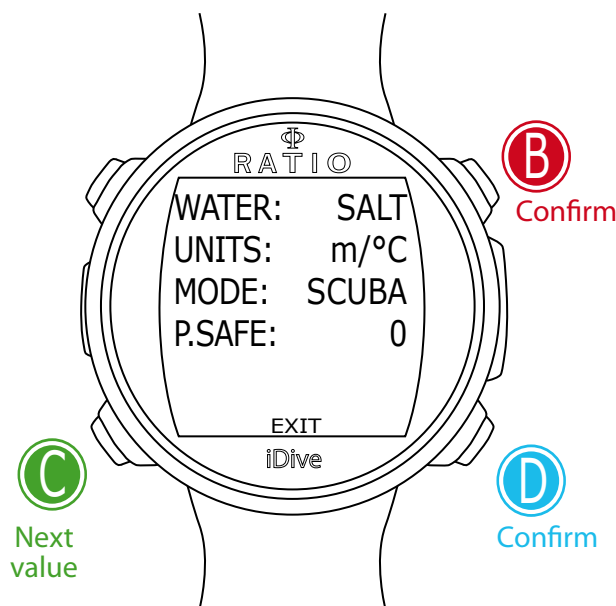
Warning: For safety reasons, it is NOT possible to set the FREE mode as main mode if at least 12 hours have passed from the last SCUBA or GAUGE dive. The iDive reset the SCUBA mode automatically if you try to force your dive with the main mode set on FREE.
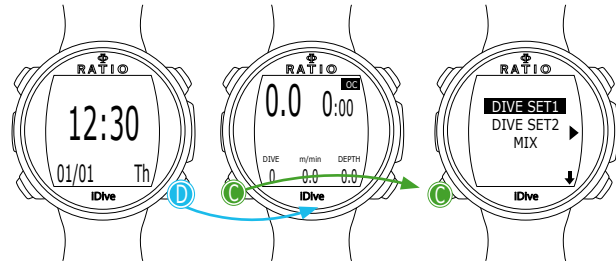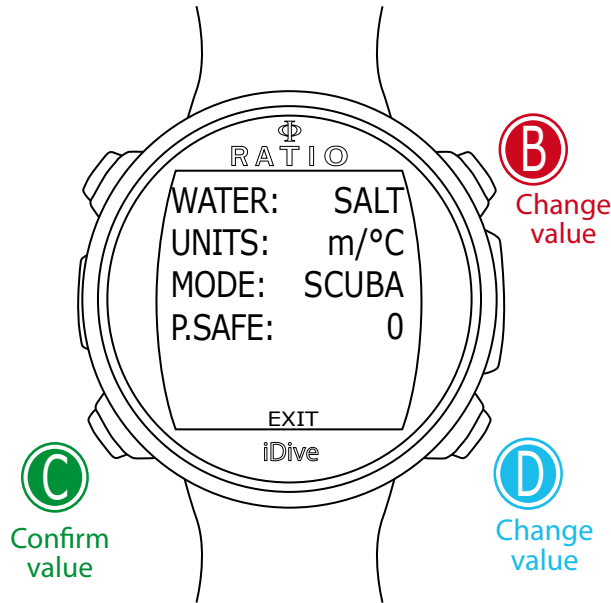
DIVE SET 1 for iDive Easy

P.SAFE: Protection Level (OC = Open Circuit Dive)

The iDive Easy (in OC mode) uses the **Bühlmann ZHL-16 B** algorithm for decompression calculation.

The iDive conservatism can be changed on pre-set levels from 0 to 5.

The levels match with the following values:

Bühlmann ZHL-16 B (gradient factors)

GFL/GFH

0 = 93/93 standard conservatism

1 = 90/90

2 = 80/80

3 = 75/75 max linear conservatism

4 = 30/90

5 = 20/89

Used in scuba mode only
OC

B
Change value

C
Confirm value

D
Change value

WATER: SALT
UNITS: m/°C
MODE: SCUBA
P.SAFE: 0

EXIT
iDive

Did you know?

A higher conservatism will allow the computer to make calculations in a more precautionary way, decreasing the time to be spent at a given depth without going beyond the safety curve (or increasing the decompression duration in case of dives made beyond the safety curve)

In general it is recommended to increase the conservatism if you feel tired after your last dive.

A hyperbaric doctor can advice how to set the conservatism depending on your clinic situation.
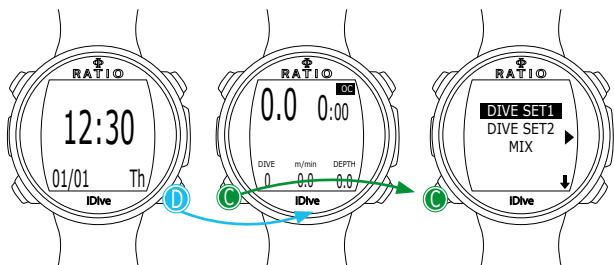
DIVE SET 1 for iDive Deep

P.SAFE: Protection Level (OC = Open Circuit Dive)

The iDive Deep (in OC mode) uses the **Bühlmann ZHL-16 B** or the **VPM-B** algorithm for decompression calculation.

You can choose the algorithm to use changing the "ALGORITHM" value:

BUL = **Bühlmann ZHL-16B**

VPM = **VPM-B**

The iDive conservatism can be changed on pre-set levels from 0 to 5.
The levels match with the following values:

For iDive Deep only

B Change value

C Confirm value

D Change value
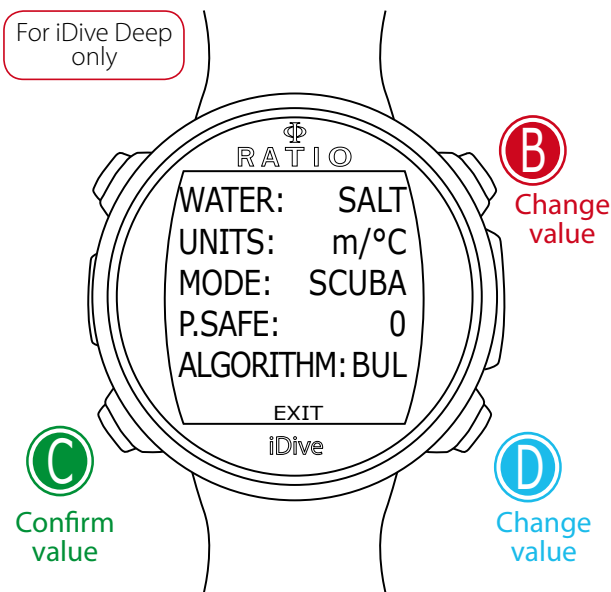
Bühlmann ZHL-16 B (gradient factors)

GFL/GFH

0 = 93/93 standard conservatism

1 = 90/90

2 = 80/80

3 = 75/75 max linear conservatism

4 = 30/90

5 = 20/89

VPM -B (Bubble radious)

R0

0 = 0.5 standard conservatism

1 = 0.55

2 = 0.6

3 = 0.7

4 = 0.8

5 = 0.9 max linear conservatism

Did you know?

A higher conservatism will allow the computer to make calculations in a more precautionary way, decreasing the time to be spent at a given depth without going beyond the safety curve (or increasing the decompression duration in case of dives made beyond the safety curve)

In general it is recommended to increase the conservatism if you feel tired after your last dive.

A hyperbaric doctor can advice how to set the conservatism depending on your clinic situation.
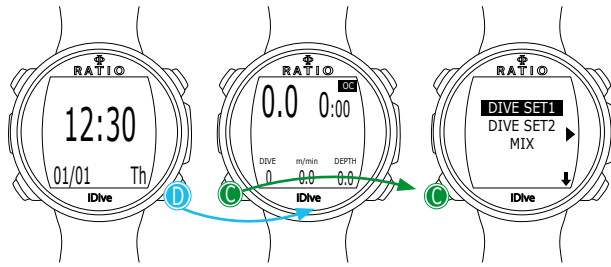
DIVE SET 1 for iDive Tech+

Algorithm: Set the Algorithm you want yo use for your next dive

BUL: Bühlmann ZHL-16 B
VPM: VPM-B (next page)

If Algorithm = BUL:

GFL/GFH: set the Gradient Factor Low (GFL) e Gradient Factor High (GFH).

Attention: The GFL can NEVER be higher than the GFH.

t is possible to set the GFH from 20% to 100% (20% < GFH < 100%)
It is possible to set the GFL from 20% to GFH (20% < GFL < GFH)

Do you know what?: You can keep pressed the buttons C or D to change the iDive data more rapidly.

**ATTENTION:** To change the Gradient Factor's value a suitable theoretical knowledge is needed.

DO NOT CHANGE THE GRADIENT FACTOR WITHOUT HAVING RECEIVED A SUITABLE TRAINING.

The RATIO iDive is not responsible for damages to people or objects due to a wrong setting of such parametres.

If you have any doubts on your device's setting, you can set the company's parametres from the menu DEFAULT

Do you know what?:
Generally speaking, reducing the GFH involves a computer increasing conservatism. The GFL's reduction involves a shift towards a major depth of the first compulsory decompressive stop.
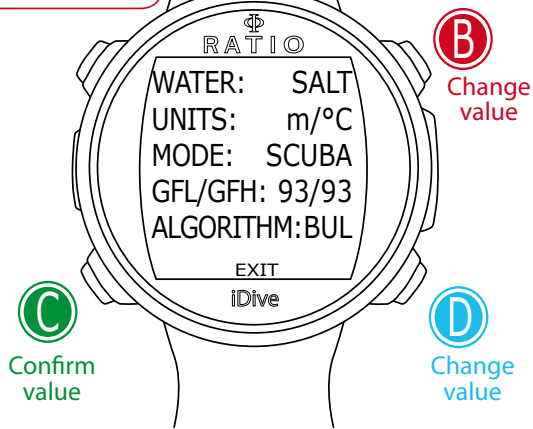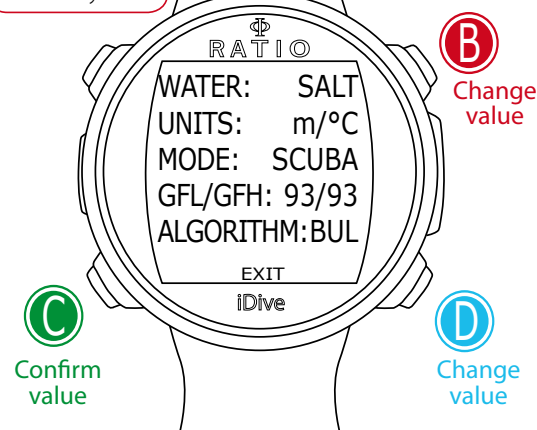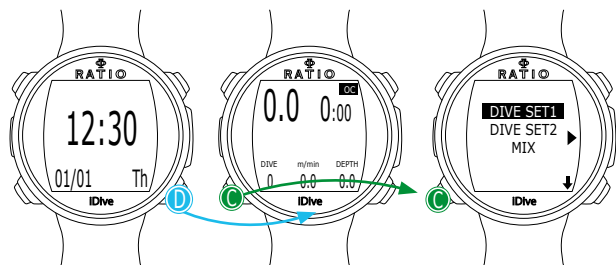
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Algorithm: Set the Algorithm you want yo use for your next dive

> BUL: Bühlmann ZHL-16 B
> VPM: VPM-B (next page)

If Algorithm = VPM:

For iDive Tech+ only

WATER: SALT
UNITS: m/°C
MODE: SCUBA
GFL/GFH: 93/93
ALGORITHM:BUL
EXIT
iDive

B — Change value
C — Change value
D — Change value

R0: sets the Critical Bubble Radius' value.
It is possible to set R0 from 0.4 to 1.0

Do you know what?: You can keep pressed the buttons C or D to change the iDive data more rapidly.

ATTENTION: To change the Critical Bubble Radius' value a suitable theoretical knowledge is needed.

DO NOT CHANGE THE CRITICAL BUBBLE RADIUS WITHOUT HAVING RECEIVED A SUITABLE TRAINING.

For iDive Tech+ only

WATER: SALT
UNITS: m/°C
MODE: SCUBA
GFL/GFH: 0.50
ALGORITHM:VPM
EXIT
iDive

B — Change value
C — Change value
D — Change value

The RATIO iDive is not responsible for damages to people or objects due to a wrong setting of such parametres.

If you have any doubts on your device's setting, you can set the company's parametres from the menu DEFAULT

Do you know what?:
Generally speaking, the increasing of the R0 involves your computer's conservatism increase.
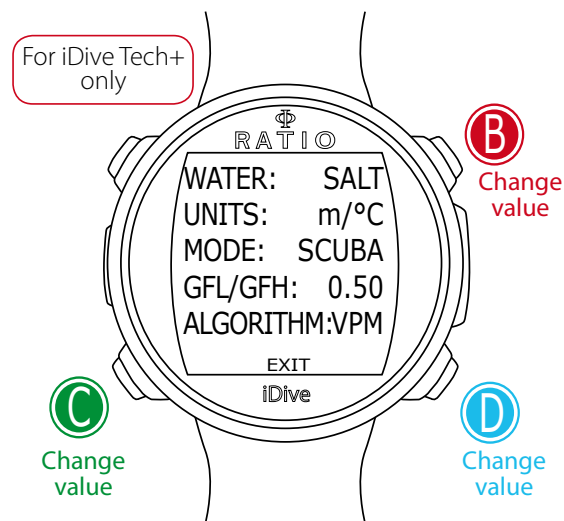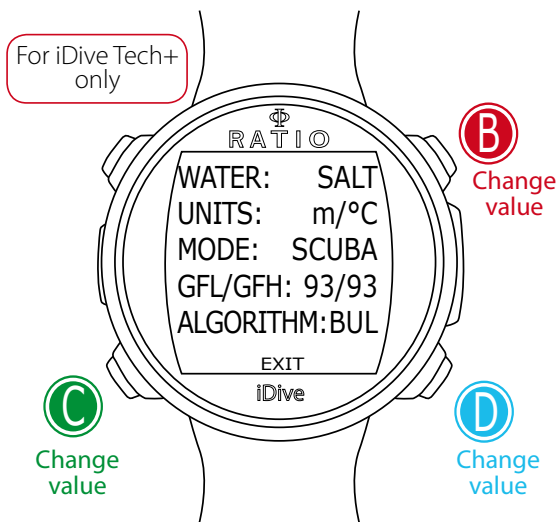
DIVE SET 2

The DIVE SET 2 Menu displays the second part of the iDive dive settings.

S.S. DPT: (Safety Stop Depth) (3-9): The depth at which you want to carry out the Safety Stop

S.S. TIME: (Safety Stop Time) (OFF-9): Safety Stop time in minutes
Even if it is always recommended to carry out the Safety Stop in all dives made inside NDLs, it is possible to deactivate the Safety Stop setting the S.S. Time value on OFF

DEEP STOP (OFF/STD): If activated, it inserts a further not mandatory stop with the Standard method (STD) (The maximum depth's half for 2,5 minutes)

LAST STP: (Last Stop) (1-10): The depth at which you want to carry out the last decompression stop (if the dive is outside NDLs and expects decompression stops)

DECO CTRL: (ON/OFF): If activated (ON) the iDive will not allow to carry out a new dive during the 12 hrs after a dive in which there have been several deco violations. The DECO CTRL deactivation (OFF) is not recommended and will remain permanently in the iDive Logbook.

ATTENTION: The Safety Stop is NOT considered to be mandatory in those dives carried out within the safety curve. The Safety Stop violation doesn't entail penalties in decompression during your next dives and it is not considered to be a "deco violation". So DO NOT deactivate the DECO CTRL if you don't want to carry out the Safety Stop.

ATTENTION: The Safety Stop is automatically omitted if the decompression profile goes outside NDLs. Even if the accumulated decompression is assimilated before the safety stop depth, the dive is not considered to be "inside NDLs" any more, so the iDive will not recommend the Safety Stop.
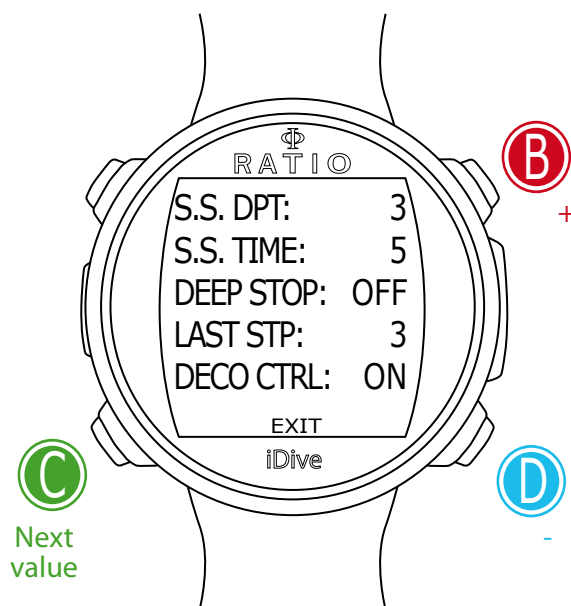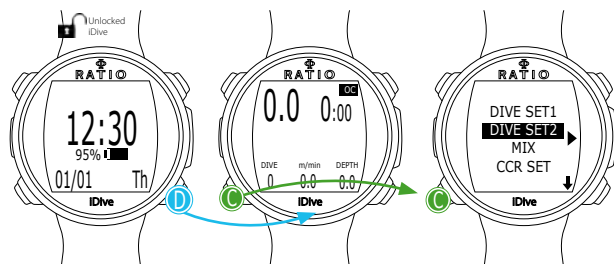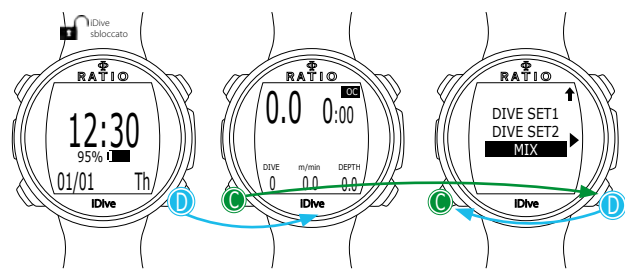
MIX (Mix settings)

The MIX menu allows to set the mixes for your next dive.
According to your iDive model you can set:

iDive Easy: up to 2 mixes Oxygen % from 21% to 99%

iDive Deep: up to 3 mixes

Mix 1: %O_2 from 18% to 99% %He from 0% to 40%
Mix 2-3: %O_2 from 18% to 99%

iDive Tech+: up to 10 mixes (%O_2 from 05% to 99%; %He from 0% to 95%)

WARNING: Diving with Enriched air mixes or with Trimix requires a specific training. Diving with EAN or Trimix without a suitable training or without the due cautions is dangerous! If you have not received the specific training do not change the MIX settings and do not dive with EAN or Trimix!

Set mixes are considered in the decompression calculations. Do not set mixes that are different from the mixes that you will use in your dive!

MIX: (Oxygen / Helium): It indicates the % of Oxygen (first value) and Helium (second value, only for iDive Deep and iDive Tech+) of the mix.

PPO2: (Partial O2 pressure): It indicates the maximum PPO2 whith which you intend to use the mix. (for iDive Easy: 1.2-1.6; for iDive Deep: 1.0-1.6; for iDive Tech+: 0.4-1.6)

MOD: Maximum depth to which the mix created can be used. The MOD is re-calculated automatically every time the MIX or the PPO2 value are changed. It is not possible to change the MOD manually.

During the dive an acoustic alarm will be activated if MOD value is passed.
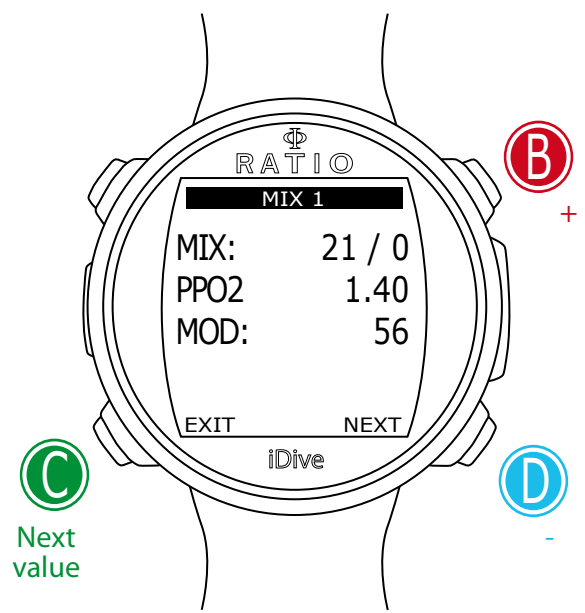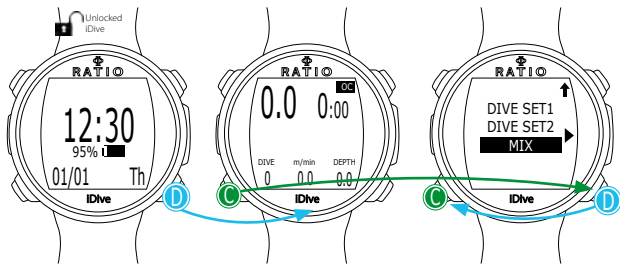
Diving with more than 1 mix

WARNING: Diving with Enriched air mixes or with Trimix requires a specific training. Diving with EAN or Trimix without a suitable training or without the due cautions is dangerous! If you have not received the specific training do not change the MIX settings and do not dive with EAN or Trimix!
The iDive will calculate the TTS considering alle the active mixes (DECO=YES).

MIX: (Oxygen / Helium): It indicates the % of Oxygen (first value) and Helium (second value, only for iDive Deep and iDive Tech+) of the mix.

PPO2: (Partial O2 pressure): It indicates the maximum PPO2 whith which you intend to use the mix. (for iDive Easy: 1.2-1.6; for iDive Deep: 1.0-1.6; for iDive Tech+: 0.4-1.6)

MOD: Maximum depth to which the mix created can be used. The MOD is re-calculated automatically every time the MIX or the PPO2 value are changed. It is not possible to change the MOD manually.

During the dive an acoustic alarm will be activated if MOD value is passed.

DECO: It indicates the iDive if the current mix will be used in the next dive or not.
If set on YES the device considers the mix change in the calculation of decompression at the depth indicated by the MOD if set on NO the Mix table is deactivated.

ATTENTION: Mix 1 is always the starting one.
The iDive will automatically suggest a mix as soon as a best deco mix is available considering the MOD of the set mixes regardless the label of the mix (Mix 2, Mix 3 etc.)
(For more information see "Mix change during the dive" in this manual)

The iDive suggest the "best mix" during the ascent and during the descent.
If you don't want to use the best mix during the descent phase ignore the suggestion. The iDive will adjust the deco calculations automatically.
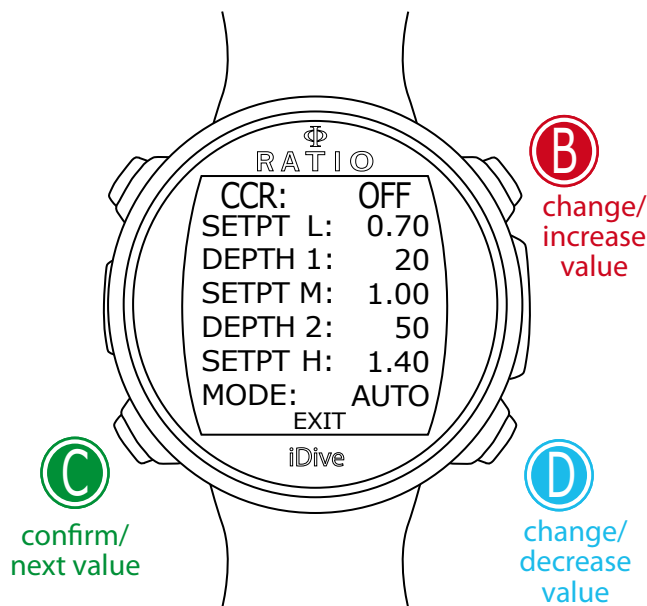
Select NEXT to set Mix2, Mix3 etc.
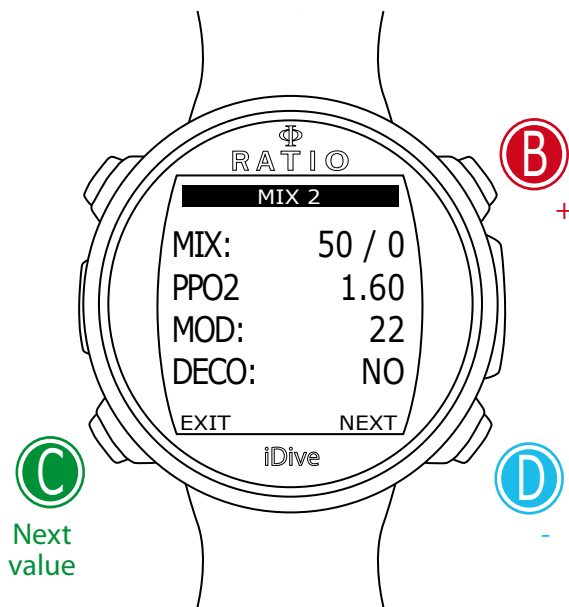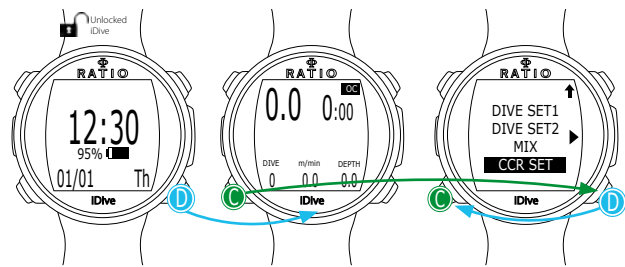
CCR SET (for iDive Tech+ only)

Attention: Enable the Rebreather mode (CCR) only for dives with rebreather. **The CCR mode is not suitable for dives in open circuit!**
Attention: Diving with Rebreather requires a specific training !!!
Diving with Rebreather without a suitable training or without the due caution can cause injuries or death.

CCR MODE: ON= CCR enabled in scuba mode. /// OFF= Deactivated.

SETPOINT LOW: Range 0.40 a 1.60 (Step 0.05). It is the starting setpoint.
DEPTH 1: Automatic switch from SETPOINT LOW to SETPOINT MID and vice versa.
SETPOINT MED: Range 0.40 a 1.60 (Step 0.05)
DEPTH 2: Automatic switch from SETPOINT MID to SETPOINT HIGH and vice versa.
SETPOINT HIGH: Range 0.40 a 1.60 (Step 0.05)

SETPOINT MODE:
AUTO = During the dive the iDive will automatically switch from SETPOINT **LOW** to SETPOINT **MID** at **DEPTH 1**, from SETPOINT **MID** to SETPOINT **HIGH** at **DEPTH 2** and (during the ascending) from SETPOINT **HIGH** to SETPOINT **MID** at **DEPTH 2** and from SETPOINT **MID** to SETPOINT **LOW** at **DEPTH 1.**

MAN= The Set Point have to be managed manually during the dive.
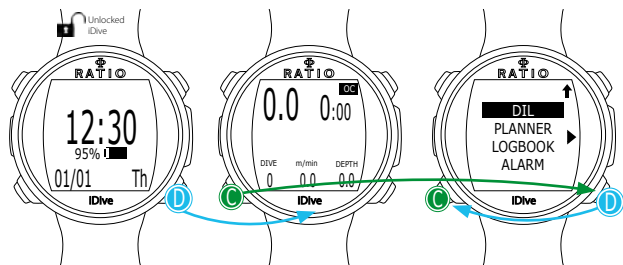(See "Change the set point during a dive" on this manual)
During the dive you can switch from AUTO to MAN,
During the dive you can NOT switch from MAN to AUTO.
(See "Change the set point during a dive" on this manual)
Refer to your Rebreather instructor to get instructions on how to set the SET POINT.

B
change/
increase
value

C
confirm/
next value

D
change/
decrease
value

CCR: OFF
SETPT L: 0.70
DEPTH 1:   20
SETPT M: 1.00
DEPTH 2:   50
SETPT H: 1.40
MODE: AUTO
EXIT

DIL (Diluents) (for iDive Tech+ only)

ATTENTION: The diluents are active ONLY if the CCR mode is ON
ATTENTION: The diluent 1 is always the starting one.

It is possinble to set up to 3 diluents.
Use the command NEXT => to pass to the next diluent

O2%: It Indicates the Oxygen % contained inside the mix.
 Min. 7% Max. 100%

HE%: t Indicates the Helium % contained inside the mix.
 Min. 0% Max. 95%

MOD: It indicates maximum depth for the mix you have created.
  The MOD is automatically calculated anytime that the O2% or HE%
  are modificated

Attention: Enable the Rebreather mode (CCR) only for dives with rebreather. The CCR mode is not suitable for dives in open circuit!

Attention: Diving with Rebreather requires a specific training. Diving with Rebreather without a suitable training or without the due caution can cause injuries or death.

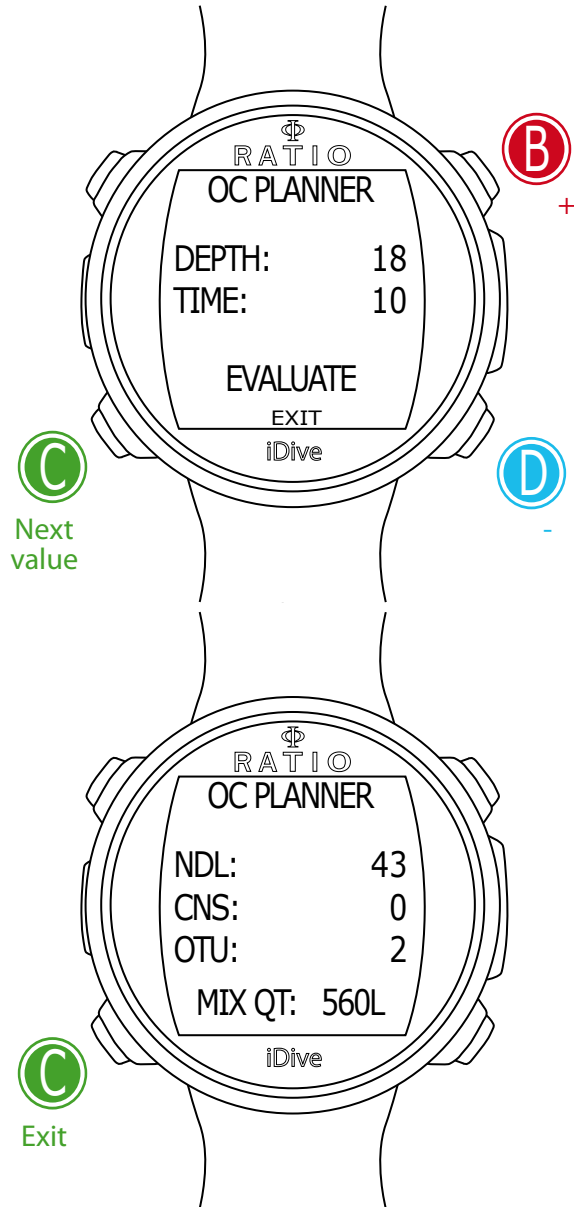Refer to your Rebreather instructor to get instructions on how to set the correct diluents.
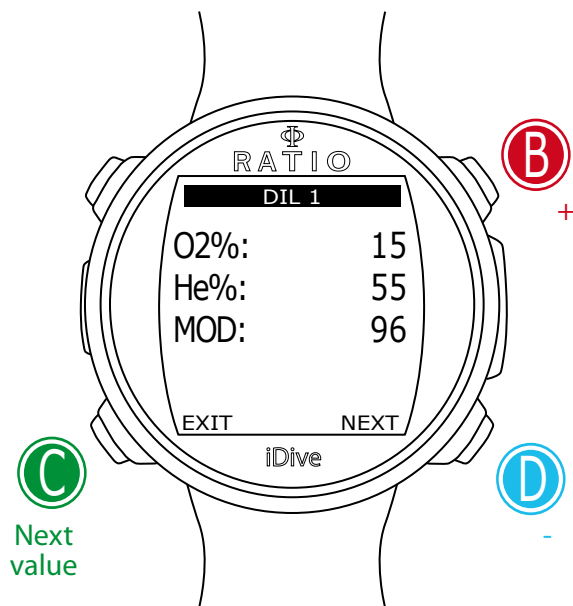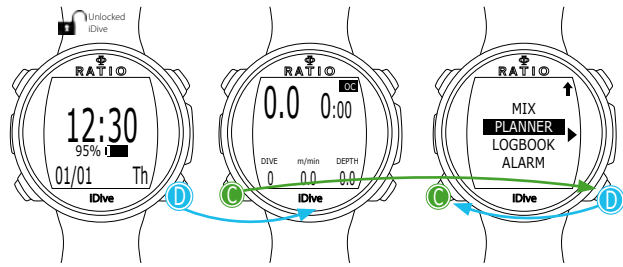
PLANNER (inside NDLs)

The iDive integrates a complete planner (both for no-deco and deco dives)

Attention: To change the dive parameters set on the iDive through the DIVE SET and MIX menu, the iDive will simulate a dive using the current settings.

DEPTH: Insert the dive's maximum depth planned.
TIME: Insert the dive's bottom time in minutes.
EVALUATE: Start the dive's simulation. (Select with **C** and press **D**)

If the dive is inside NDLs (deco stops are not contemplated)

NDL: Residual non decompression time (after the set bottom time).
CNS: Accumulated CNS % (after the set bottom time).
OTU: Accumulated OTU % (after the set bottom time).

MIX QT: Mix volume expected to be necessary for the dive.

ATTENTION: The gas quantity used is purely approximate and referred to a standard consumption. Take into consideration the indications provided by your diver certification agency to concernting the necessary gas quantity during a dive!

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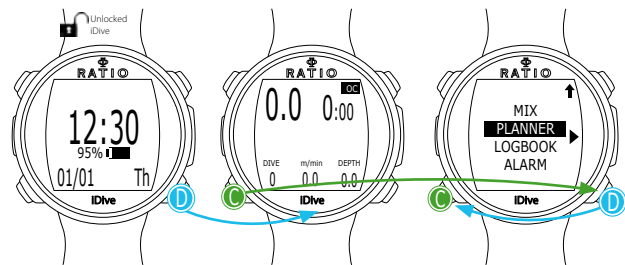
PLANNER (deco planner)

The iDive integrates a complete planner for squares dives .

Attention: To change the dive parameters set on the iDive through the DIVE SET and MIX menu, the iDive will simulate a dive using the current settings.

For DEPTH, Time and Evaluate make reference to "Planner inside NDLs" (previous page)

If the dive is OUTSIDE NDLs (Deco stops are contemplated)

DPT: Deco stop depth in metres (in feet is imperial unit is set)
DT: Stop time expressed in minutes
RT: Time passed from the dive beginning to the deco stop.
MIX: Mix used during the deco stop.

ATTENTION: Besides the deco stops, also the info concerning the bottom time end are always stated as last value (in the example on the left side 35 |25 | 25| 21/0)

ATTENTION: Press buttons **B** and D to browse the pages in case there are more than 3 deco stops

ATTENTION: For carry out the decompressive calculations, the planner takes as descent speed 18m/min and a ascent speed 9m/min.

ATTENTION: The Planner function does not carry out the profile "validation", that is it does not take into consideration a possible CNS excess, limits in the mix volumetric availability, a possible isobaric counter-diffusion due to a mix change or the MOD of a possible mix used.

To plan a technical dive properly, a suitable training is necessary. Make reference to your Instructor or by your diver certification agency to in case of doubts about planning a dive.

For Planner's graphic formatting reasons, the maximum visualized DT is 99 minutes. In case the single deco stop is longer than 99 minutes, in the Planner it is displayed as "99"; instead, during the dive the recommended stop is expressed with the the real time needed (e.g. 120 min)
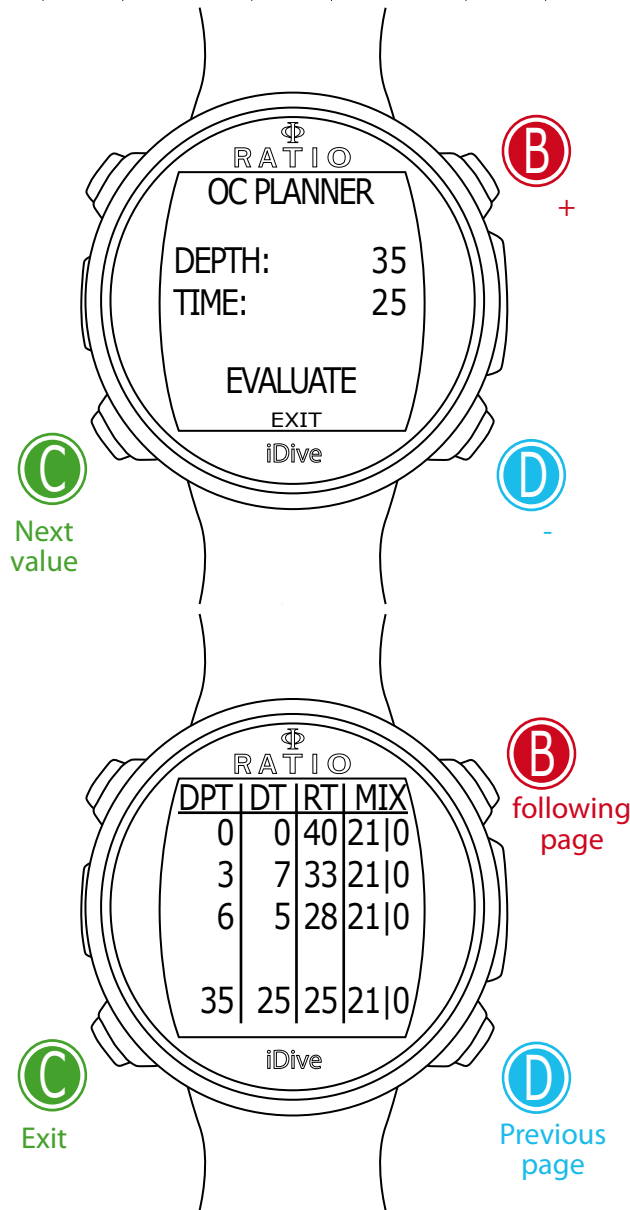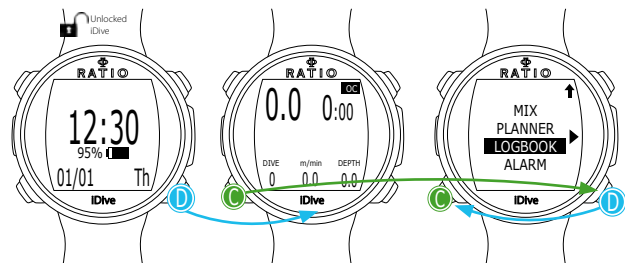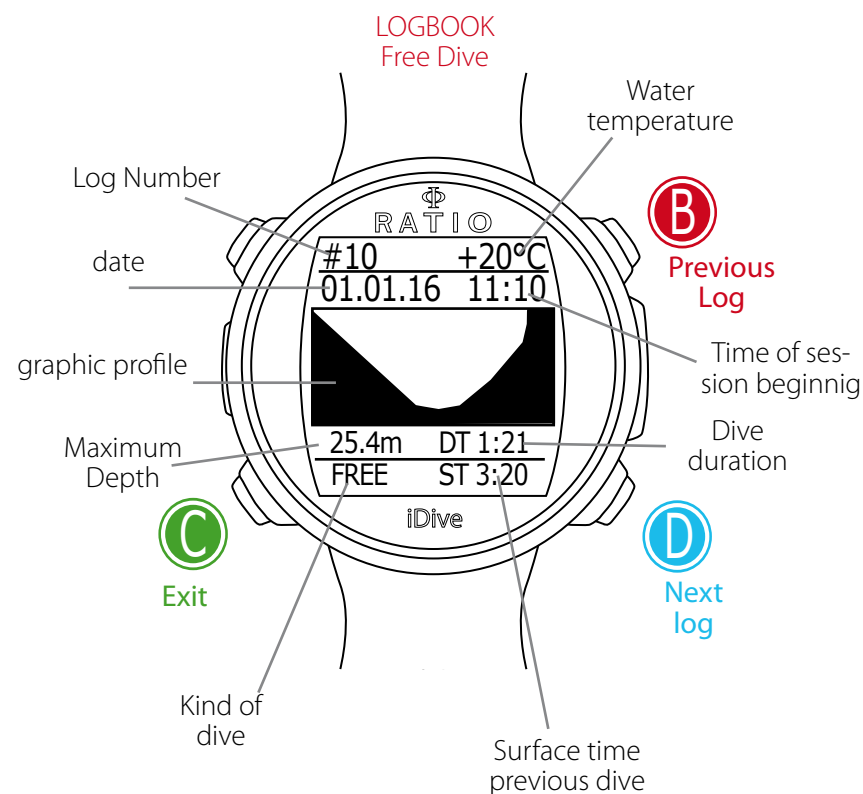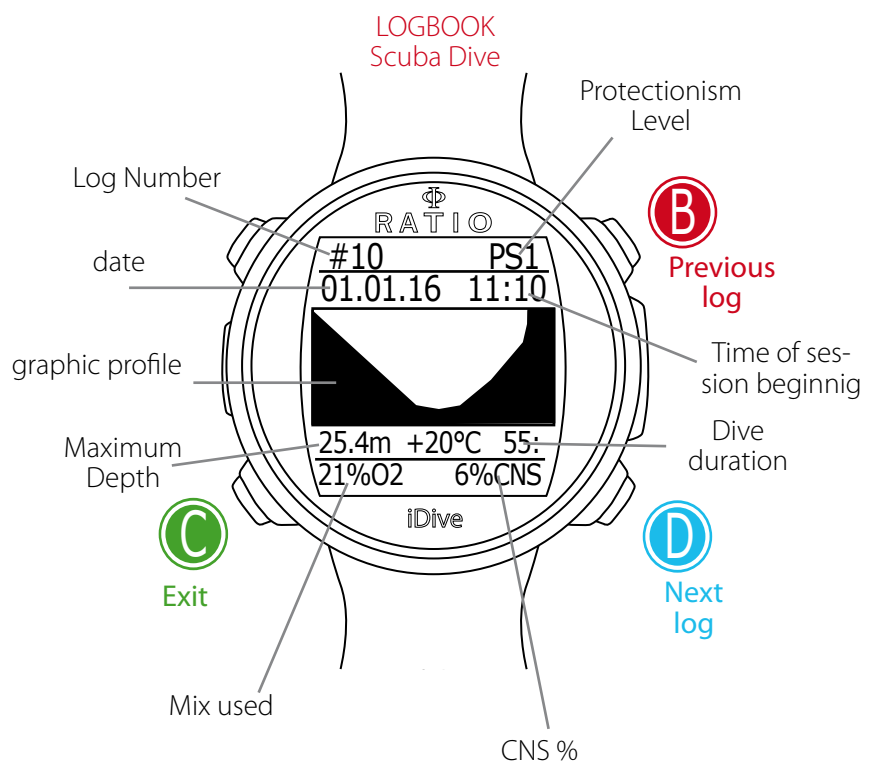
LOGBOOK

In the Logbook the iDive can memorize about 18 hous of dives in free dinving mode (about 600 dives) with a sample rate of 1 second, or about 160 hours of dive in Open Circuit mode (sample rate 10 seconds).

The data memorized in the iDive Logbook can be downloaded on PC or Mac using the USB cable included in the package and the DiveLogger software that can be downloaded from the website ratio-computers.com
(see the dedicated chapter in this manual).

LOGBOOK Scuba Dive

- Log Number
- date
- graphic profile
- Maximum Depth
- Mix used
- Protectionism Level
- **B** Previous log
- Time of session beginnig
- Dive duration
- **C** Exit
- **D** Next log
- CNS %

```
#10        PS1
01.01.16   11:10

25.4m +20°C  55:
21%O2     6%CNS
iDive
```

LOGBOOK Free Dive

- Log Number
- date
- graphic profile
- Maximum Depth
- Water temperature
- **B** Previous Log
- Time of session beginnig
- Dive duration
- **C** Exit
- **D** Next log
- Kind of dive
- Surface time previous dive

```
#10      +20°C
01.01.16   11:10

25.4m    DT 1:21
FREE     ST 3:20
iDive
```

ALARM (Alarms Open Circuit)

The ALARM menu allows to activate (YES) or deactivate (NO) the iDive acoustic alarms in open circuit mode.

ATTENTION: Unless in case of particular needs, it is NOT recommended to deactivate the acoustic alarms. Keeping all values set on YES is highly recommended.

**ASC SPEED:** (YES/NO): Alarm signalling an excessive ascent speed.

MAX DEPTH: (YES/NO): Alarm signalling you have overtaken the MOD (depth beyond which you shouldn't go according to the PpO2 of the Mix breathed)

DECO VIOL: (YES/NO): Alarm signalling a violation of a mandatory deco stop.
(The Safety Stops and the Deep Stops are not considered to be mandatory. The Safety Stop or Deep Stop violation does not activate the alarm)

TIME: Alarm signalling that the set dive time (in minutes) has been overtaken

DEPTH: Alarm signalling that the set depth (in metres or feet, see the DIVE SET 1 menu) has been overtaken

ASC SPEED: YES
MAX DEPTH: YES
DECO VIOL: YES
TIME: 0
DEPTH: 0
EXIT
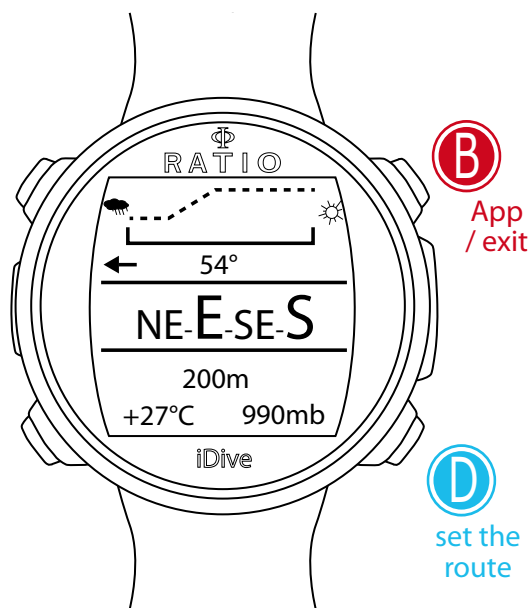
B +

C Next value

D -
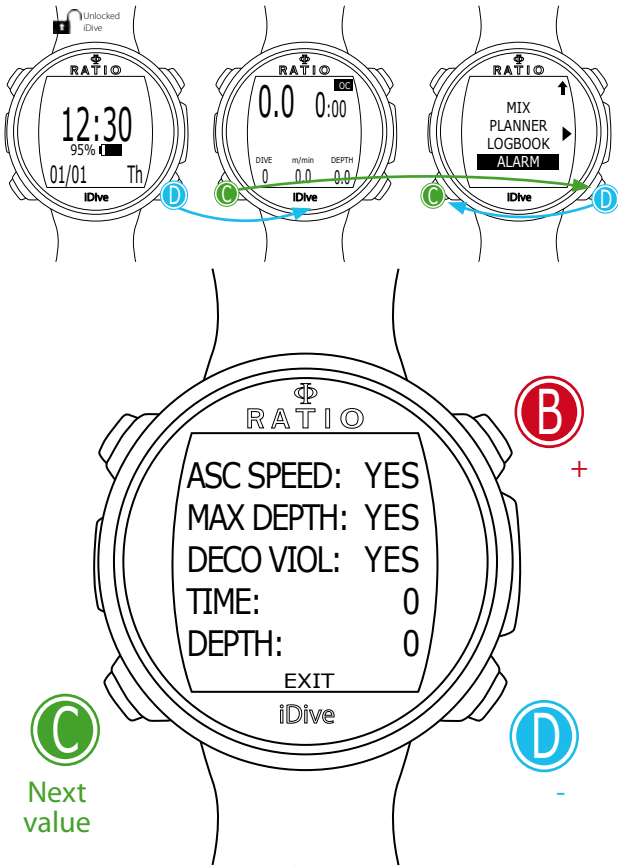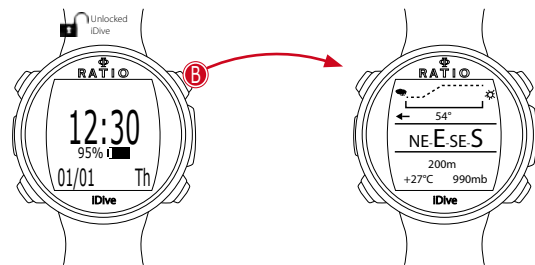
Outdoor Functions
The Compass

To have access to the Compass screen press **B** button, the compass is available also during the dive.

ATTENTION: In case you see the message "CALIBRATE" or if the compass would not be fluid or functioning correctly, it is necessary to calibrate it. To calibrate the compass refer to this manual's COMPASS section.

The iDive compass has 1° resolution and +/- 1° of accuracy.
Your arm's grade is compensated automatically until 85°. It might need some seconds after your arm's rotation, to allow the compass to find the correct alignment.

To set the route press the **D** button
During the navigation, the iDive considers the direction "in route" if the desired route is not more than 5° different from the set direction.

To exit the compass screen press the **B** button twice.

B App / exit

D set the route

0° (Direction in degrees highlighted in black): Direction in route (+/-5° in comparison to the set one)

<= => (Direction in degrees not highlighted): It indicates the direction to be followed to found the set route

180° (Direction in degrees not highlighted, no arrow): Exact reciprocal of the set direction

Graphic compass key:

N: North
S: South
W: West
E: East

NE: North-East
NW: North-West
SE: South-East
SW: South-West
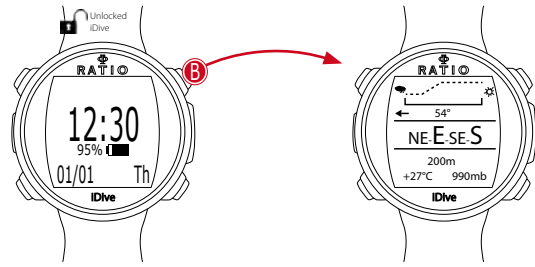
Weather Forecast

Weather forecasting is based on the monitoring of air pressure in the previous 18 hours thanks to the integrated barometer. In order to have a reliable weather forecasting, it is necessary not to change your altitude, otherwise the variation of the air pressure, due to the change in height, could lead to inaccurancies in the weather forecast.

Warning: after the dive the detected pressure could be less than the actual one, because of the humidity in the area of the sensor and this could compromise a correct weather forecast.

After a variation of almost 50 mt, the weather forecasting will be reliable again after 3/5 hours.
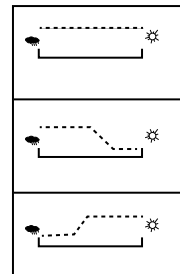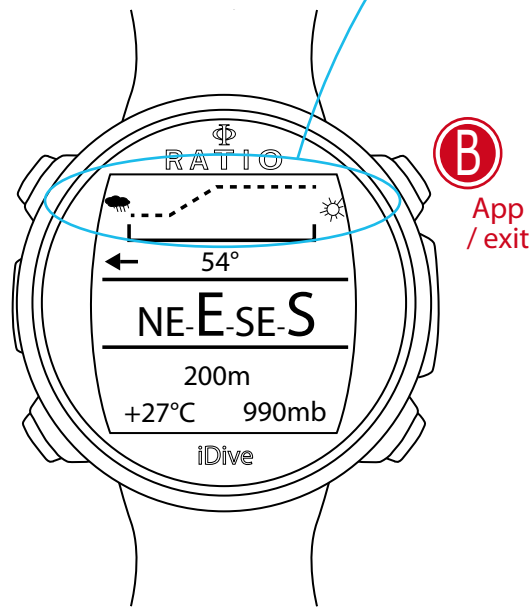
Stable weather conditions

Possible bad turn in the weather

Possible improvement of weather

Altimeter, barometer, termometer
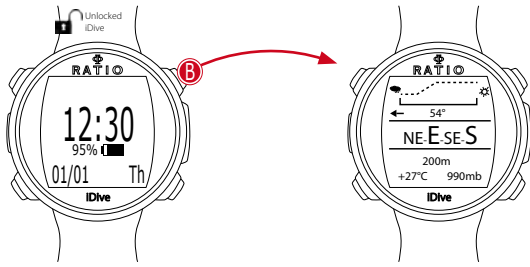
Altimeter: (In the middle, stated in metres or feet) indicates the elevation on the sea level.

The value of the elevation on the sea level is calculated on the basis of the barometric pressure.
Warning: the accuracy in the measurement of the elevation directly depends on the air pressure as well as on the humidity which is present in the seat of the sensor. Therefore, in case of bad weather conditions or after a dive, the approximation could also reach +/-80mt.
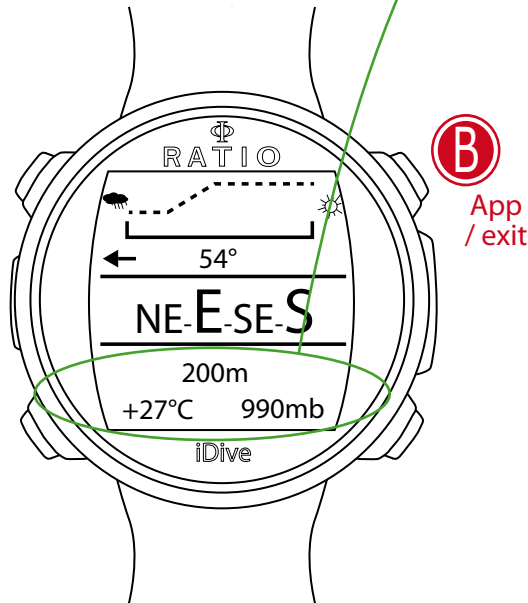
Termometer: (at the bottom left, stated in °C or °F) indicates the temperature of the iDive case.

Therefore, when the clock is wore on the wrist, it will detect a temperature which is higher than the one outside. In order to measure the environment temperature, take the clock off the wrist and wait at least 5-6 minutes. The detection of the temperature in the water will be accurate after 3-4 minutes.

Barometer: (at the bottom right, stated in millibar) indicates the air pressure (the pressure present in any stage of atmosphere of the earth).

Warning: the accuracy in the measurement directly depends on the air pressure as well as on the humidity which is present in the seat of the sensor. Therefore, in case of bad weather conditions or after a dive, the measurement is aproximated.
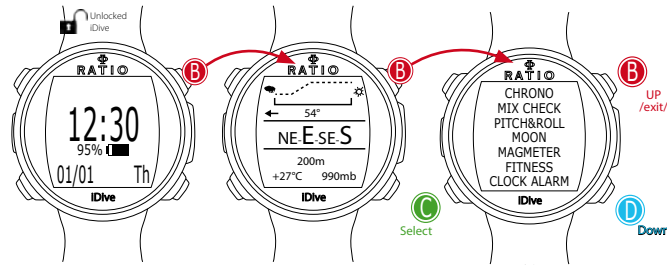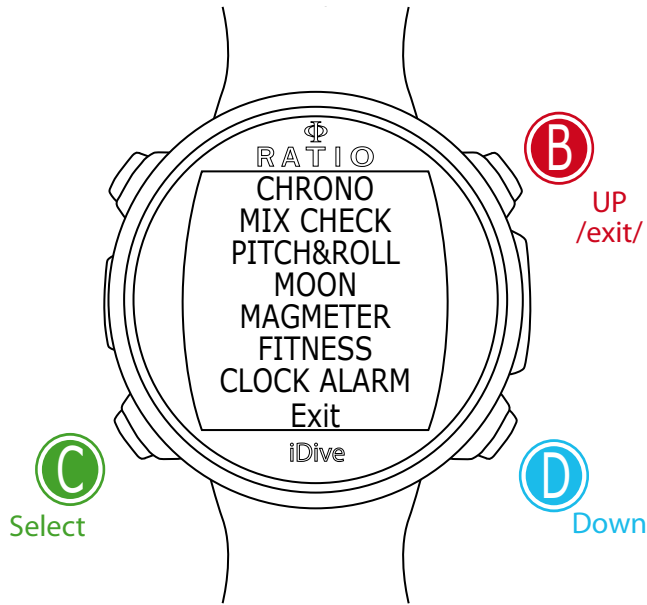
App for iDive

The App menu allows you to use the Applications intalled in your iDive. Open the menu pressing **B** button from the Compass screen.

A dedicated manual for the Apps is available on:

http://www.ratio-computers.com/support

L'iDive during the dive

iDive starts automatically a dive passed 1,5mt of depth. As default setting the iDive starts a dive in OC (SCUBA) mode. You can set the default mode (SCUBA, GAUGE, FREE) from the DIVE SET 1 menu (see dedicated section on this manual).

Or you can select the desidered dive mode pressing **D** button some seconds before to start the dive.
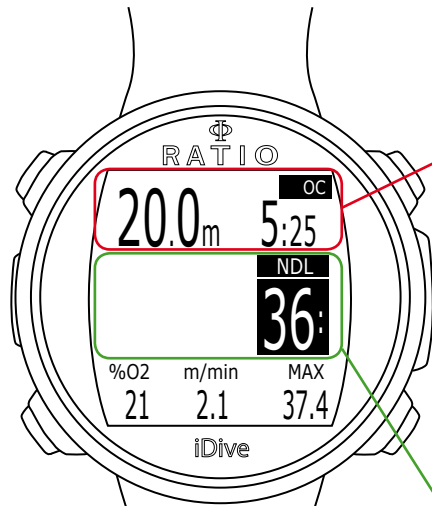

Watch mode

Scuba mode

Gauge mode

Freediving mode
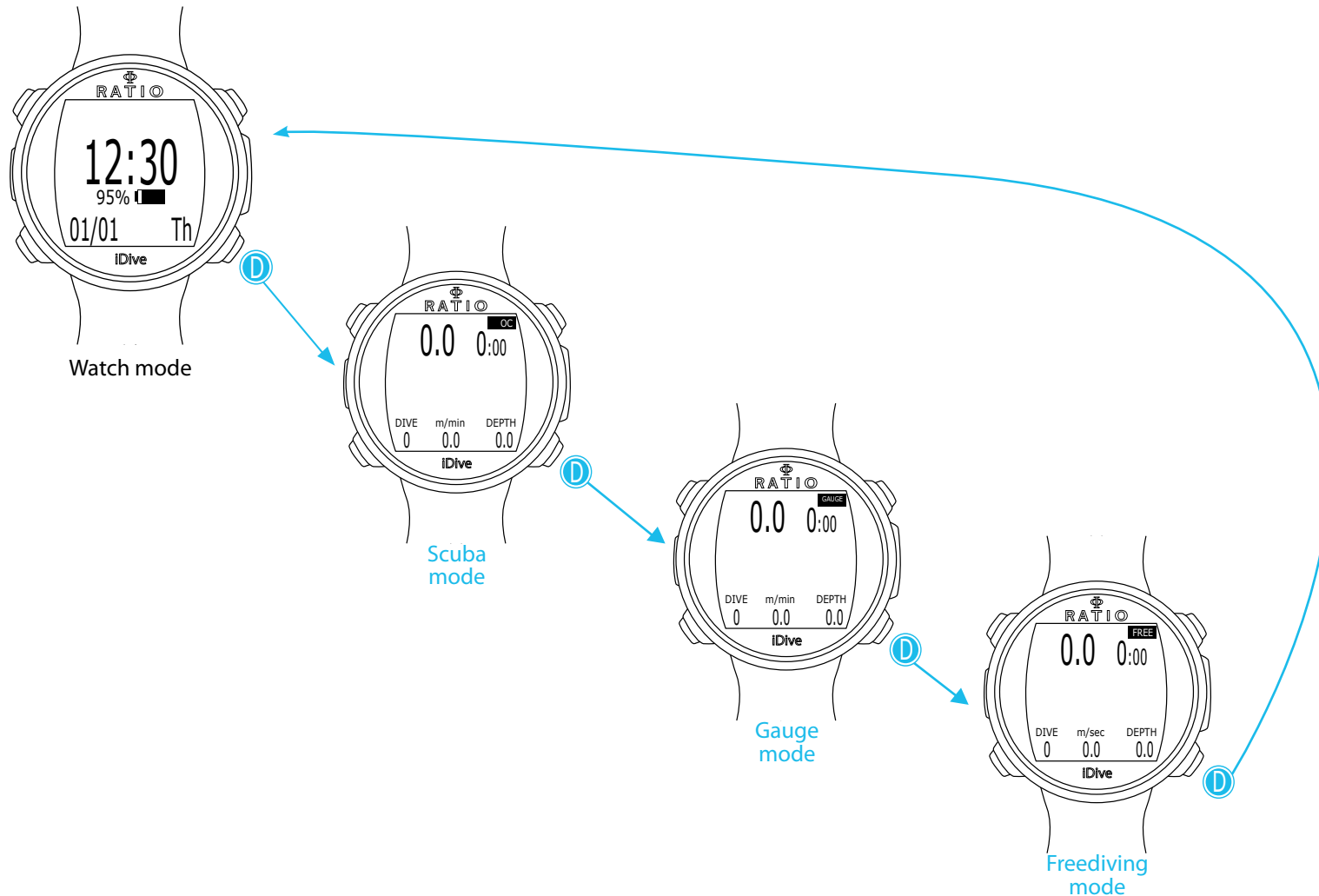
Diving in Scuba mode (OC)

During a dive in OC (Open Circuit) the iDive will show:

Main Data

Current depth (on the left): In meters or feets
Run time (on the right): Elapsed time from the beginning of the dive (minutes:seconds)
**Dive mode** (on the top-right): OC = Open Circuit

If in No Decompression Limit

NDL: Time in minutes in which it is possible to remain at the current depth without passing the safety parametres, without needing mandatory decompressive stops. In general, we always recommend to remain within the safety parametres.
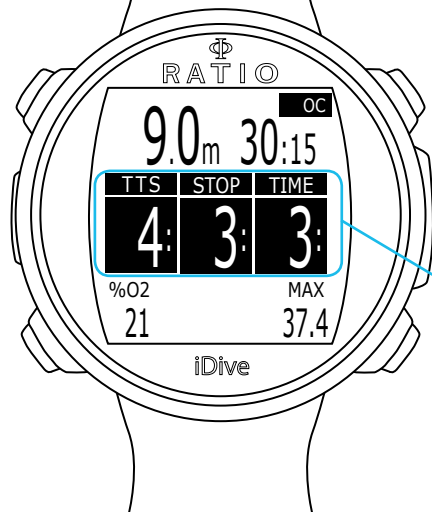
If mandatory deco stops are needed:

TTS: (Left) Time-to-surface. Total ascent time.
STOP: (Centre) Next mandatory stop depth.
TIME: (Right) Minutes relating to the next safety stop.
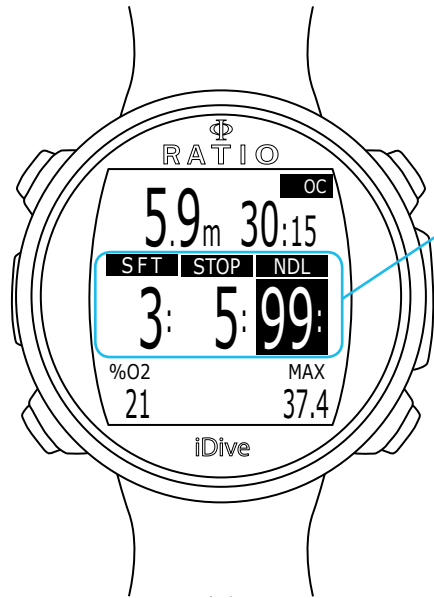
Safety Stop: If the Safety Stop (recommended for any kind of dive) is activated, it will be shown on the computer's central line during the ascent starting from a depth of 9 mt.

(Safety Stop is automatically omitted if the dive required a mandatory deco stop, even if the mandatory deco stop has been elapsed during the ascent the Safety Stop is omitted). You can set depth and time of the Safety Stop in DIVE SET 2 menu.

SFT: (left) Duration of the Safety Stop (minutes)
STOP: (center) Depth of the Safety Stop.
NDL: (right) No Decompression Limit.
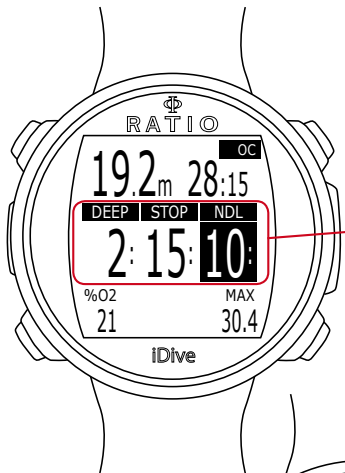
If Deep Stop is enabled: If the function Deep Stop has been activated, this is visualized 5 m before the actual required depth on the screen's central line and will be removed (if not carried out) 5 m after the required depth.

In case the Deep Stop is carried out in NDL dives, the NDL time will remain visible on the screen's right part with black background.

DEEP: Duration of the Deep Stop   **STOP:** Depth of the Safety Stop
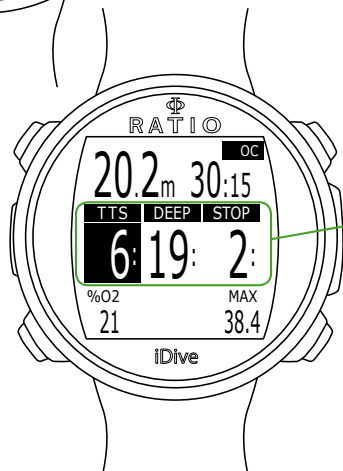
If the Deep Stop is carried out in dives with mandatory decompression stops (not recommended), the Deep Stop information on neutral background are visualized at the place of STOP and TIME data, the TTS will remain visible.

The Deep Stop is not mandatory and in case it is omitted even after having set it, it does not affect on the iDive correct decompressive calculation.

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Other informations about the dive

During the dive in OC is possible to display other informations about the current dive. Press **D** to scroll the available informations (on loop).
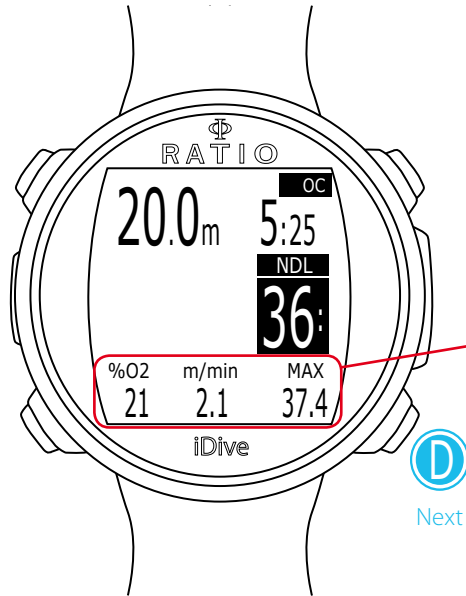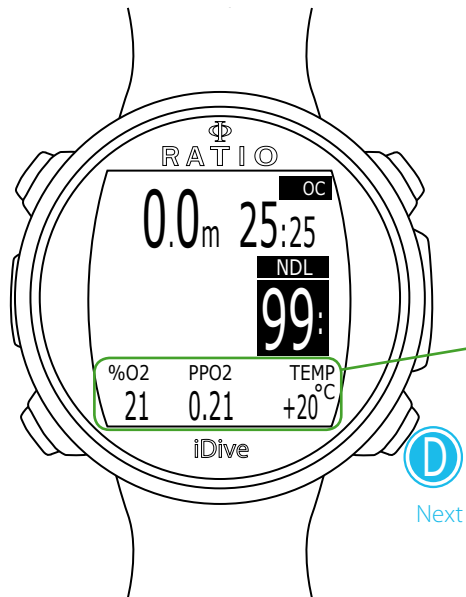

Active Mix (left): Mix currently used.
(it flashes if in the set of the scheduled mixes a better mix is available).
Ascent speed (center): Ascent speed expressed in mt/min (or ft/min)
Max Depth (right): Maximum reached depth during the dive.

Low alarm level: if the ascent speed is >8 mt/min
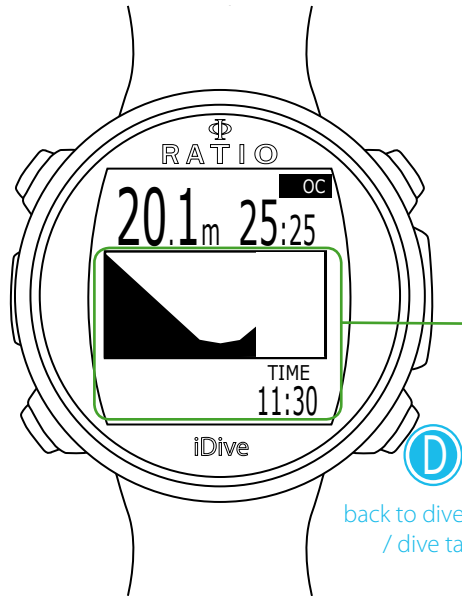**Medium alarm level:** if the ascent speed is >9 mt/min
High alarm level: if the ascent speed is >10 mt/min

Active Mix (left): Mix currently used.
(it flashes if in the set of the scheduled mixes a better mix is available).
PPO2 (center): O2 partial pressure of the currently breathed mix.
Temperature (right): Current temperature in °C or °F.

RATIO

20.0m 5:25 OC

NDL

36:

ALG	CNS	AVG
PS0	2	12.4

iDive

D

Next
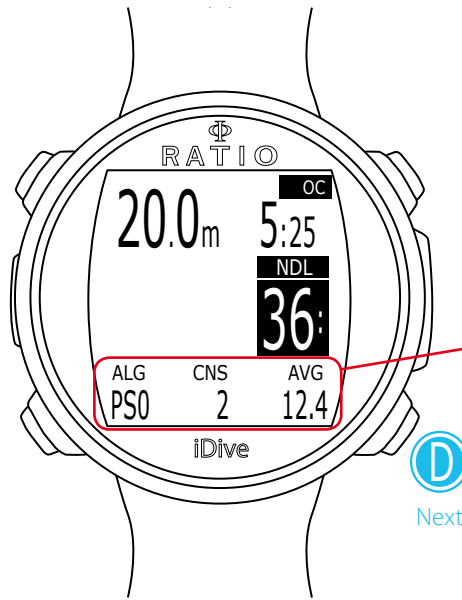
ALG (left): Set conservatism.
CNS (center): Accumulated % of CNS.
AVG (right): Average Depth.

RATIO

20.1m 25:25 OC

TIME
11:30

iDive

D

back to dive screen
/ dive table

Graphic profile (center): Real time graphic profile.
Time (Bottom-right): Time in hh:mm

Deco Table during the dive

This menu is available only if during diving you have accumulated decompression.

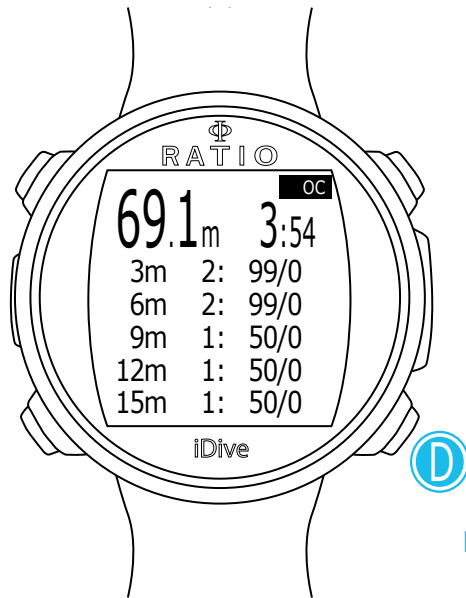In case your dive needs more than 5 deco stops, press **D** to display the next page.

In this menu it is possible to visualize all decompression stops and the Mix that can be used among the ones expected for the **current** dive status.

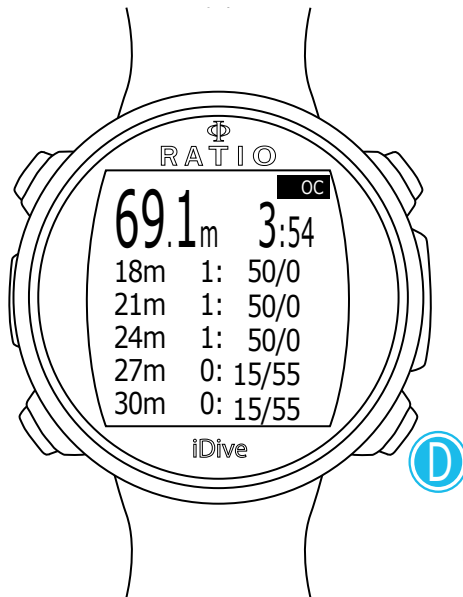The Decompressive Stops are updated in Real Time.

For every mandatory decompressive Stop the iDive shows: :

Depth of the stop	Stop time	suggested mix
12m	1:	50/0

Safety Stop and Deep Stop, since they are not mandatory, are not shown in the decompression table, even if they will be suggested to the diver during the dive.

Watch display 1:
RATIO
69.1m   3:54   OC
3m   2: 99/0
6m   2: 99/0
9m   1: 50/0
12m   1: 50/0
15m   1: 50/0
iDive

D — next page

Watch display 2:
RATIO
69.1m   3:54   OC
18m   1: 50/0
21m   1: 50/0
24m   1: 50/0
27m   0: 15/55
30m   0: 15/55
iDive

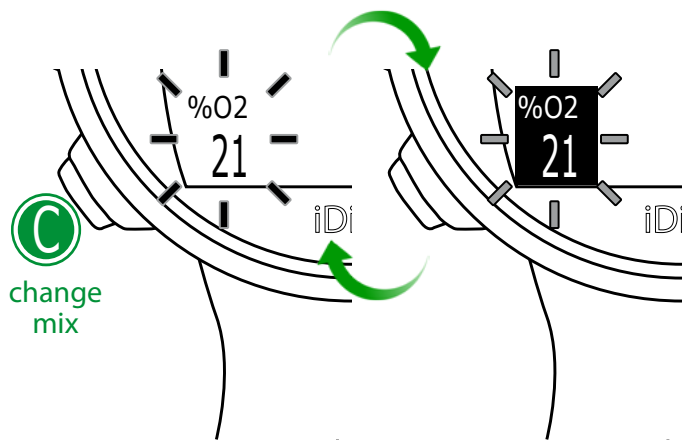D — next page

Mix change during the dive

If besides the bottom mix in the mix chart, decompressive mixes are set as well, the computer will warn the user when it's the right moment to change the mix, making the MIX area (on bottom left of the main screen) blinking (see picture).

%O2 21

iDi

C

change mix

%O2 21

iDi

Pressing the button **C** you have access to the screen CHANGE MIX (only if a better mix is available and the MIX paramtre blinks)

To confirm the mix change select YES (in red) and press **D**
To refuse the mix change select NO (in red) with **C** and press **D**

Once the change is confirmed the new mix will be displayed in the bottom-left corner of the screen.

> To confirm the mix change press
> in sequence from the dive screen when the word MIX blinks
>
> **C**   **D**

RATIO

CHANGE MIX

EAN 50

YES   NO

iDive

C
change mix
YES/NO

D
Confirm
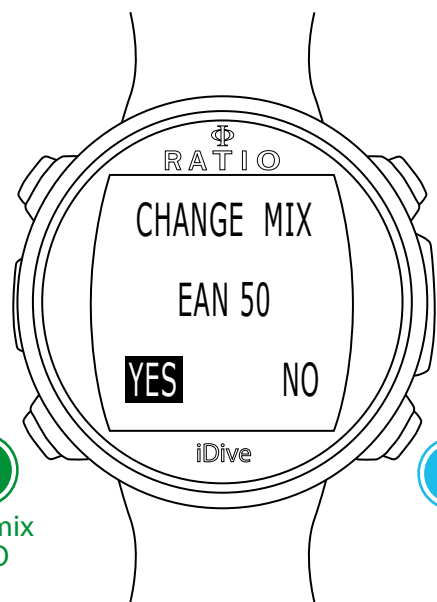
What if I can't change the mix as planned?

If for any reason you are not able to change the mix as sheduled (e.g. your deco-stage tank is not working) do not confirm the mix change in the iDive.

%O2 50

iDi

The deco stop informations (TTS, DEEP, STOP) will start decreasing as soon as the deco-time of the active mix matches up with the deco-time of the "best mix" that you planned to use.
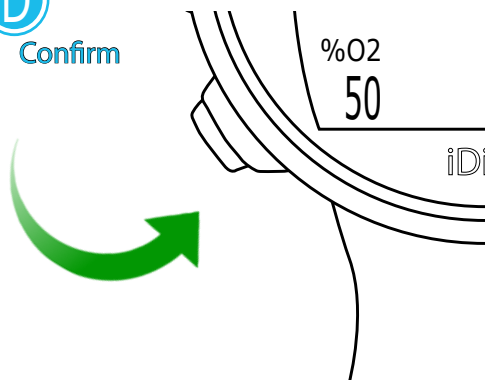
Force a mix change during the dive

During the dive is possibile to change the MIX even if it is not suggested by the iDive ("force the mix change"). All the decompression calculations will be updated automatically by the iDive.

ATTENTION: it is possible to force the mix change also beyond the MOD of the mix itself.

To force a Mix an adequate theorethical base is needed. Do NOT force the mix if not necessary.

During the dive press **C** to display the mix change menu.

Press **D** to select the mix that you want to force (you can choose only an enabled mix). (Mix is enabled if DECO=YES in the Mix menu, see "MIX" chapter in this manual) It is not possible to enable new mixes during the dive. If there are no enabled mixes the active mix values will not be changed pressing **D**

Press **C** to select EXIT and press **D** to confirm.

WARNING: In order to reduce the risk of undesired forced mix changes it is ALWAYS needed to select EXIT and press **D** to confirm the forced mix change.

After 60 seconds <u>without any action</u> the iDive will back to the main dive screen <u>No Mix change</u> will be performed in this case.
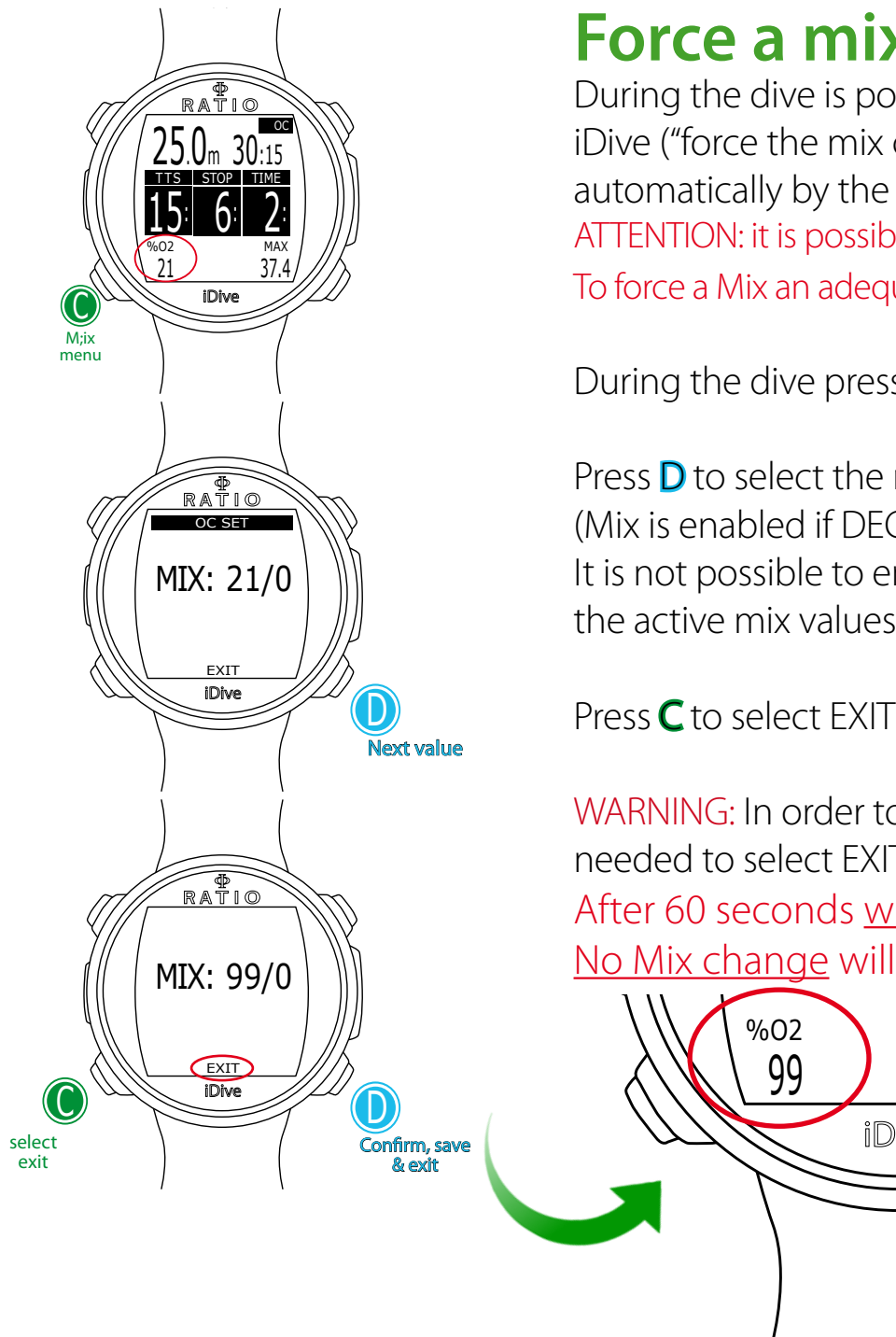
Change the set point during a dive (iDive Tech+ only)

iDive Tech+ in CCR mode allows to manually change the SET POINT during the dive:

ATTENTION: Refer to "CCR Settings" on this manual to know how to Set the SETPOINTS on your iDive Tech+

During the dive you can switch between SETPOINT LOW, MID and HIGH.
You can not set the value of a SETPOINT during the dive.

In order to switch the SETPOINT during a CCR dive:
Press **C** button to access the CCR SET
Press **C** button to select SETPT
Press **D** button to set the desired SET POINT (LOW, MID or HIGH)
(the value of the SETPOINT will be shown)

Press **C** to select Exit and press **D** to save.
(ATTENTION: You have to select Exit and press D in order to confirm the Set point change, otherwise the Set point will not be changed).

If the SETPOINT MODE was set to AUTO, it will be switched to MAN (manual) once you manually switch a SET POINT during the dive.

WARNING: Enable the Rebreather mode (CCR) only for dives with rebreather.
The CCR mode is not suitable for dives in open circuit!

WARNING: Diving with Rebreather requires a specific training !
Diving with Rebreather without a suitable training or without the due caution can cause injuries or death.

Refer to your Rebreather instructor to get instructions on how to set the SET POINT.
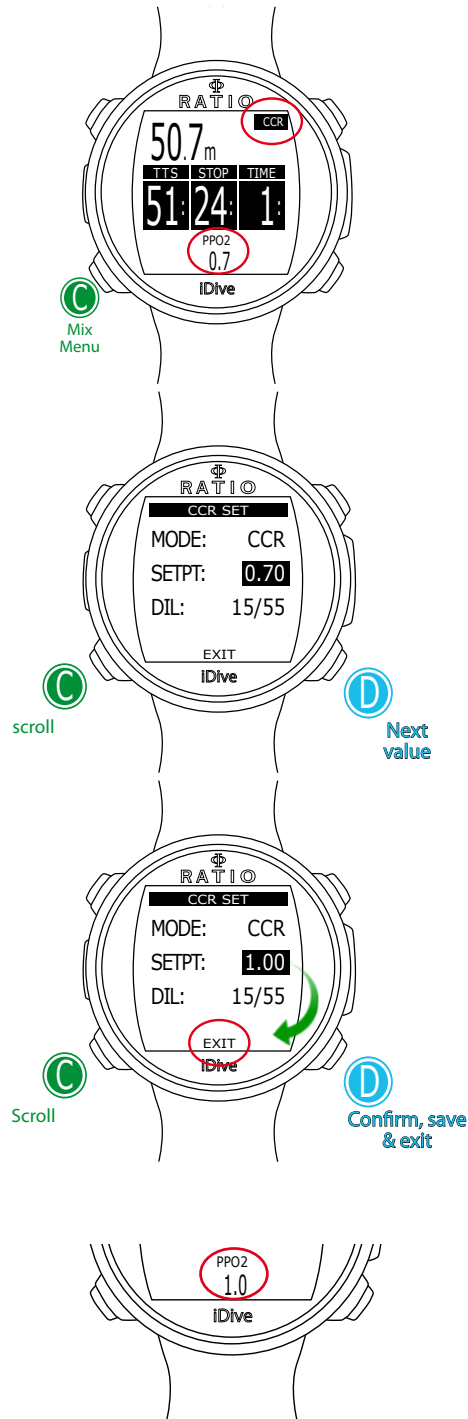
Change the Diluent during the dive (iDive Tech+ only)

iDive Tech+ in CCR mode allows to manually change the Diluents during the dive:

During the dive the iDive Tech+ allows to set one of the 3 diluents
You can not set the value of a diluent during the dive.
ATTENTION: Refer to "DIL" on this manual to know how to Set the diluents on your iDive Tech+

In order to switch the Diluent during a CCR dive:
Press **C** button to access the CCR SET
Press **C** button to select DIL
Press **D** button to set the desired Diluent

Press **C** to select Exit and press **D** to save.
(ATTENTION: You have to select Exit and press D in order to confirm the diluent change, otherwise the diluent will not be changed).

WARNING: Enable the Rebreather mode (CCR) only for dives with rebreather.
The CCR mode is not suitable for dives in open circuit!

WARNING: Diving with Rebreather requires a specific training !
Diving with Rebreather without a suitable training or without the due caution can cause injuries or death.

Refer to your Rebreather instructor to get instructions on how to set the Diluents.

C CCR Set menu

C Next entry   **D** Change value

C Next enty   **D** Confirm, save & exit
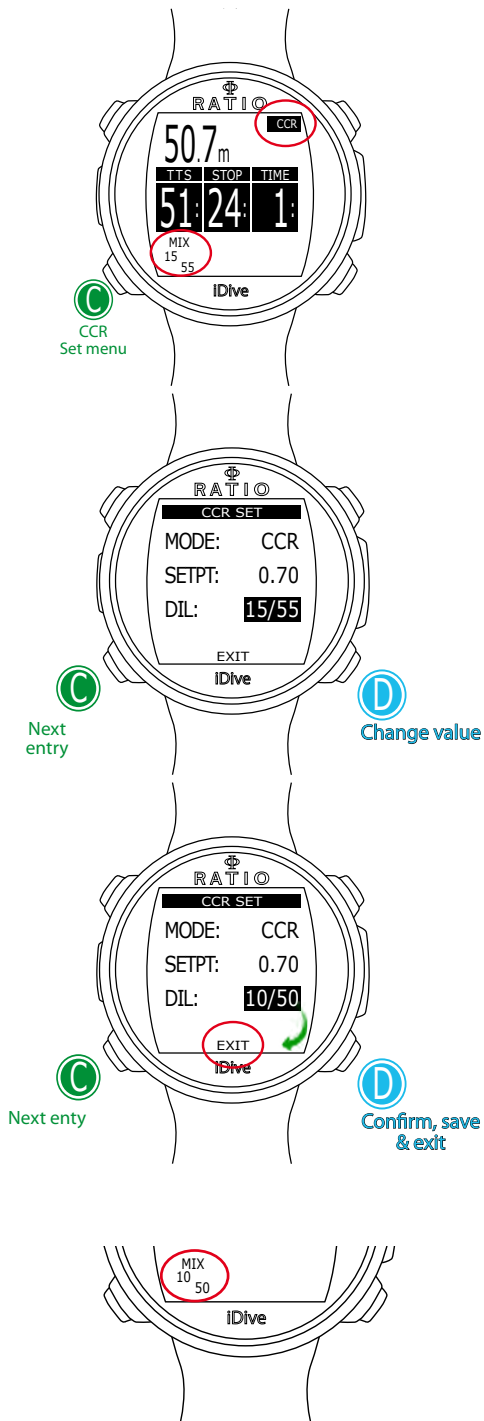
From CCR to OC during the dive (iDive Tech+ only)

iDive Tech+ allows to switch from CCR mode to OC mode and vice versa during the dive.

In order to switch from CCR to OC during the dive:
Press **C** button to access the CCR SET
Press **D** button to set OC

Press **C** to select Exit and press **D** to save.
(ATTENTION: You have to select Exit and press D in order to confirm the diluent change, otherwise the diluent will not be changed).

The iDive will automatically use MIX 1 as active mix for the OC mode.
If a best mix is available for the OC mode the iDive will suggest a mix change.
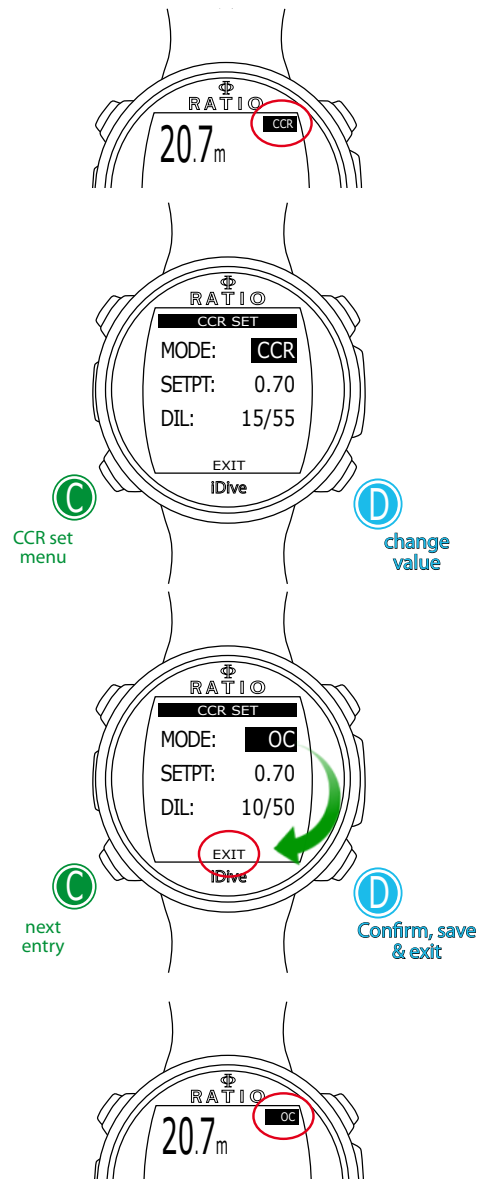(See "MIX" and "Change MIX during the dive" in this manual)

WARNING: Always use the correct dive mode (CCR/OC). Enable the Rebreather mode (CCR) only for dives with rebreather. The CCR mode is not suitable for dives in open circuit!
The OC mode is not suitavle for dives with rebreathers!

WARNING: Diving with Rebreather requires a specific training !
Diving with Rebreather without a suitable training or without the due caution can cause injuries or death.

GAUGE Mode

Use the Gauge mode as described in the example on the left:

Display 1:
RATIO
20.0m 15:25 GAUGE
Timer
2:35
TEMP +20°C   m/min 0.0   MAX 37.4
iDive

B — Compass
C — Timer reset
D — AVG Depth

Display 2:
RATIO
20.0m 15:25 GAUGE
AVG Depth
15.2
TEMP +20°C   m/min 0.0   MAX 37.4
iDive

B — Compass
C — AVG Depth reset
D — Timer

ATTENTION: To use the iDive in GAUGE mode an adequate training is necessary!

During a dive in GAUGE mode the iDive shows:

Current Depth (Top-left): In mt or ft.
Run Time (Top-right): Elapsed time from the beginning of the dive

Resettable Timer (center): mm:ss resettable timer (press **C** to reset)
   Press **D** to display AVG Depth and viceversa.
AVG Depth (center): Resettable Average depth (press **C** to reset)

Temperature (bottom-left): Current temperature.
Ascent speed (bottom-center): Currnet ascent speed in m/min (or ft/min).
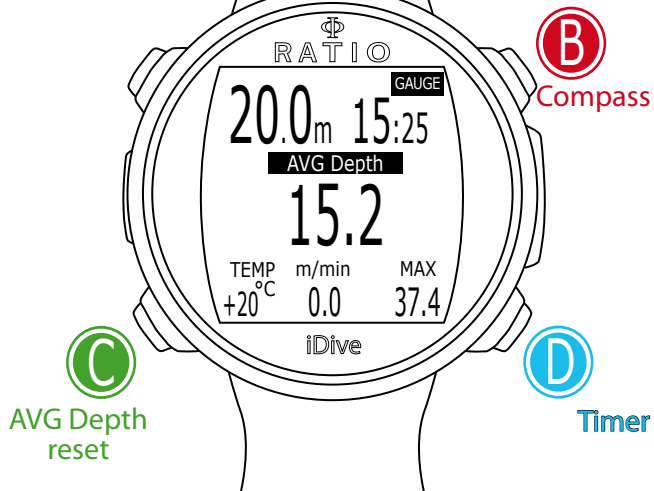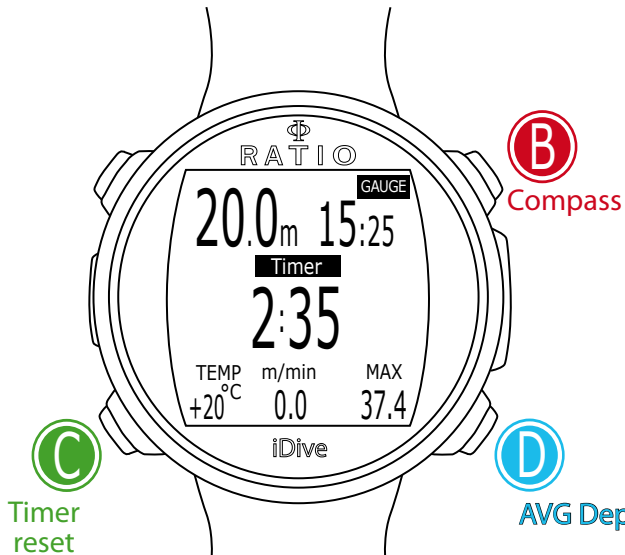**Max depth** (bottom-right): Maximum reached depth during the dive.

The iDive calculates in background the tissue saturation and desaturation also in GAUGE mode using a "fake mix" with a high inert contents (10/60). This value is registered in the logbook.
If after a dive in GAUGE you want to to carry out a dive in OC using the iDive decompressive calculations, the iDive will consider the new dive as the next repetitive of the day.
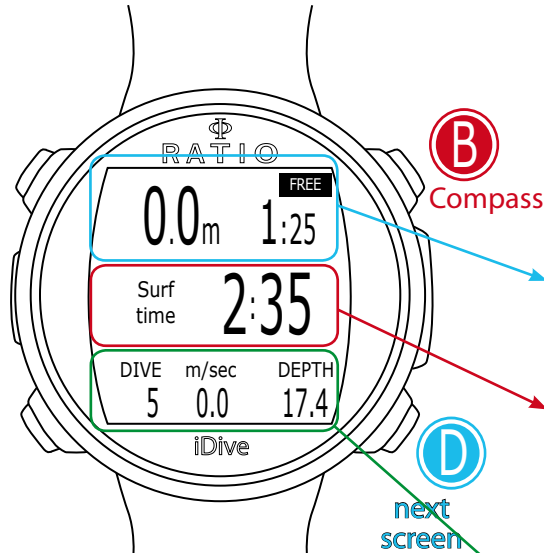
Please note:
Even if the iDive carries out the decompressive calculation in background, they cannot be visualized on the screen and they don't even affect the GAUGE mode.

Free dive mode (Free)
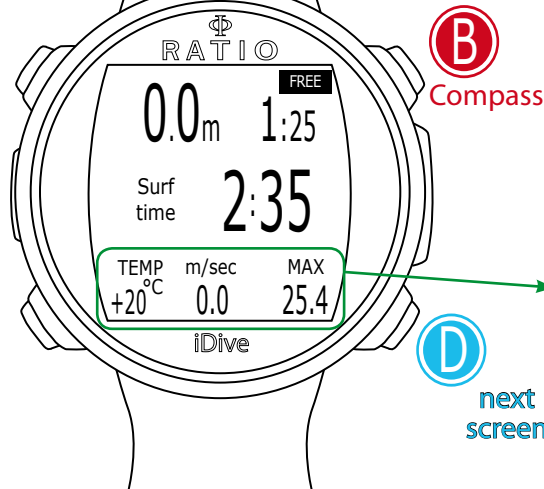
During a Free diving (FREE) session the iDive shows:

Ⓑ Compass

Current depth (top-left): In metres of feet
Run Time (top-right): Duration of the last dive

Surf Time (center): Surface time elapsed since the last dive.

Ⓓ next screen

DIVE: (bottom-left): Numpber of dives performed in the session.
m/sec (bottom-center): Descent and ascent speed (in m/sec or ft/sec)
DEPTH (bottom-right): Max depth of the last dive.

Ⓑ Compass

Press **Ⓓ** to go to the next screen

TEMP: (bottom-left): Temperature (°C or °f).
m/sec (bottom-center): Descent and ascent speed (in m/sec or ft/sec)
MAX (bottom-right): Max depth of the session.

Ⓓ next screen

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Compass when diving

Press **B** to display the Compass. The Compass is available in all dive modes (OC, FREE, GAUGE)

WARNING: If the alert "CALIBRATE" is shown or if the compass is not smooth or if the compass is not working properly you need to calibrate the compass.
In order to calibrate the compass see COMPASS chapter in this manual. Is not possible to calibrate the compass when diving.

The Compass of the iDive has 1° of resolution and +/- 1° of accuracy.
The tilt of the wrist is automatically compensated up to 85°.
It is possible that some seconds are needed in order to let the iDive to compensate the tilt of the wrist.

To set the route press **D**

Current depth is shown in the bottom-right corner, the temperature in the bottom-left corner.

Press **B** two times to exit.

B
App / exit

D
set the route

54°

NE-E-SE-S

TEMP
+20 °C

DEPTH
20.2

iDive
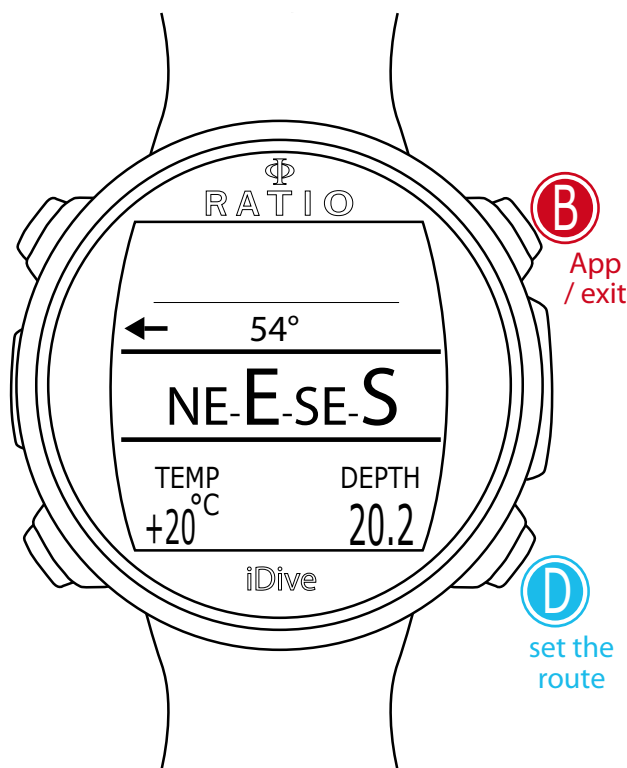
Legenda of the Compass:

N: North
S: South
W: West
E: East

NE: North-East
NW: North-West
SE: South-East
SW: South-West

0° (Direction highlined in black): Direction in route (+/- 5° from the one set with D button)

<= => (Direction to follow to find the route initially set (right or left)

180° (No Highlines, no arrows): Direction in reciprocal (+/- 5° from the reciprocal of the set route)

The iDive after a dive

No-Fly

Flying after scuba diving (OC or GAUGE), increases the risk of DCS because of the decreasing atmospheric pressure as we ascend. You might have only a few tiny bubbles, causing no problems at all, in your body when you reach the surface after a dive. If, however, you go flying, the small bubbles can expand (due to the reduction in pressure with altitude) and could cause DCS symptoms.

In order to reduce this risk the most common suggested guideline are:

- Minimum 12 hours pre-flight surface interval after single no-decompression dives.
- Minimum 18 hours pre-flight surface interval after multiple days of no-decompression dives.
- Minimum 24 hours pre-flight surface interval after decompression dives.

    The above is for sports diving and should not apply to commercial diving. Because of the complex nature of DCS there can never be a fixed flying after diving rule that can guarantee prevention of bends completely.

WARNING: These indications may vary due to new studies and research. Please check the if there are new research guidelines on this matter. Ask your instructor, your diving / medical association.

After each dive in OC or GAUGE the iDive displays the NO FLY icon.
The NO FLY icon is a statistic indication. Make therefore always refer to the most current guidelines about flying after a dive.

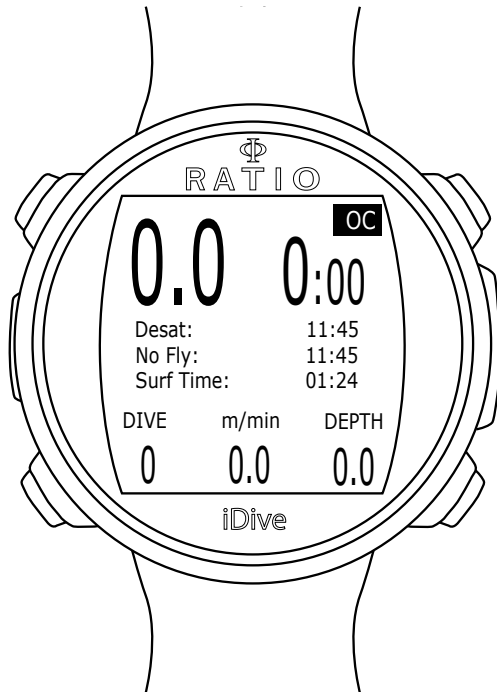After a dive in GAUGE mode the NO FLY icon will show up for 24 hr.
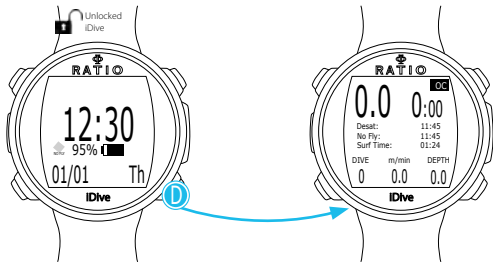
Desaturation info

After 10 minutes from the last dive (OC or GAUGE) the desaturation information will be displayed in DIVE MODE.

Desat: (Desaturation): Time left for (supposed) compleated desaturation.(hh:mm)

No Fly: (No Fly Time): No Fly time left

Surf time: Surface time from your last dive.

Connect your iDive to a PC or a Mac

Connect your iDive to your PC/Mac to download your logbook and to perform the updates

To connect your iDive to your PC or Mac the DiveLogger 4 is required.
(The DiveLogger 3 will not work with the iDive OS 4.x)

You can download the DiveLogger 4 from the website:
http://www.ratio-computers.com/support/

Tutorials, troubleshootings and FAQ are also available on the website ratio-computers.com

For further assistance: support@ratio-computers.com

Update your iDive

Is very important to keep your iDive always up-to-date.
Subscribe the "Update Alerts" service for free following the instruction in the next page.

The iDive can be connected with the USB cable to a Pc or to a Mac in order to update the device.

Attention: During the update a new OS version will replace the old OS version.
        After an update always:

    - Check that your dive settings are the one you need for your next dive (mixes, algorithm settings etc.)
    - Consider that you will need to calibrate the compass. (see page COMPASS of this manual)
    - Consider that after an update the iDive will be "Reset to Default" (both settings and tissue)
      (see page "RESET TO DEFAULT" of this manual)
    - Consider to perform a complete recharge of your iDive (not mandatory but suggested)

More support and tutorials are available here:
http://www.ratio-computers.com/support/troubleshooting.htm

Warning!

To receive all updates of this manual and notice of future updates of the "iDive" by e-mail, please send a message writing "iDive"

to the following address: update@ratio-computers.com
This service is highly recommended
and it is completely free of charge.

For further support, have a look at the tutorial videos
soon available on www.ratio-computers.com

For assistance by mail write to support@ratio-computers.com