



RATIO

COMPUTERS

iDive Color

iDive Color Easy, iDive Color Deep

iDive Color Tech+

User Manual
ver. 5.4

Warning!

This manual is valid only for iDive updated to OS 4.1.22 or above.



ATTENTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Contains Transmitter Module FCC ID: QOQWT12



Made in Italy



Warning!

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

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!



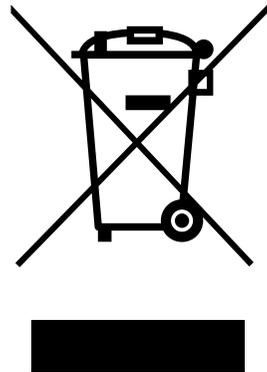
This Manual **DOES NOT** replace an adequate diving training and should be used only by those divers who have been appropriately trained by a certified diver training organization.

The dive computer is an auxiliary instrument to the dive, it is compulsory having always an appropriate diving chart in order to carry out the decompression phase in case the device is malfunctioning for any reason.

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 .



Recycle and Disposal

We are sure that your Ratio Computers product will satisfy you for many years. But when you will decide that you do not need it anymore do not consider it as a normal waste. Write to support@ratio-computers.com, We will actively help you to properly disassemble, dispose and if possible recycle your Ratio Computer.

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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.

The RATIO® computer that you have purchased is extremely innovative, with a software allowing you to carry out both recreational and technical dives.

The RATIO® iDive Color computer includes decompressive algorithms supporting, according to the different models, Air Nitrox (iDive Color Easy), Normoxic Trimix dives (iDive Color DEEP), Trimix and CCR (iDive Color TECH+) and its processor calculates in real time your dive's specific deco profile; all this ensure calculation flexibility and your personal safety.

Check periodically the presence of possible updates of this manual on web site www.ratio-computers.com

The manual version (e.g. 1.0) is shown on its cover.

Important Warnings



General Warnings

It is necessary 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 Color computer.
- Diving has intrinsic risks which cannot be completely eliminated.
No computer or diving chart can remove the risk of Decompression Sickness (DCS) or Oxygen toxicity to the central nervous system, even if the diver meticulously and accurately follows 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 behaviors 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 behavior 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 visualized 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 Mix



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 recognizable. Such risks concerns serious injuries or death.

Limits of diving 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 Color 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 (support@ratio-computers.com).



Computer's technical characteristics

Hardware

The computer is made in composite material - stainless steel and mineral glass (Easy and Deep version) or Sapphire glass (Tech+ version).

The screen is provided with a TFT, IPS, 1.3-Inch, 240x240 pixel, 261 ppi, 100% matrix Color display .

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 (Easy and Deep version) - 220mt / 721 ft (Tech+ version)
- 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.

- Recharge the iDive using a PS1 category (EN 62368) (not included)
- Supply voltage: 5V c.c. +/-0.2V 500mAh

Certification

The computer's hardware comply with CE EN13319, ETSI EN 301 489-3, EN 61000-6-1, EN 61000-6-3 requirements.



Software

(see the table)

Summary of Technical Characteristics

(See the table)

Ratio® Computers	iDive Color Easy	iDive Color Deep	iDive Color Tech+
Dive Modes	Air / Nitrox Gauge / Freedive	Air / Nitrox / Trimix ^(normoxic) Gauge / Freedive	Air / Nitrox / Trimix / CCR Gauge / Freedive
Mix	2 Mixes (O ₂ : 21% - 99%)	3 Mixes (O ₂ : 18% - 99% / He: 0% - 50%)	10 Mixes (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.	12 User Settable protection Levels (6 for Buhlmann and 6 for VPM)	User settable Gradient Factors (GF Low and GF High) and User settable Critical Bubble Radius
Algorithm adjust. during the dive	Yes	Yes	Yes
Repetitive dives management	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
All Deco stop manual adjustment	No	No	Yes
Alarms	Acoustic + visual	Acoustic + visual	Acoustic + visual
Dive Planner	No Deco Limit + Full Deco Planner	No Deco Limit + Full Deco Planner	No Deco Limit + Full Deco Planner
Wireless Air Integration	Yes, up to 2 Transmitters (optional)	Yes, up to 3 Transmitters (optional)	Yes, up to 10 Transmitters (optional)
Multi Transmitter Side Mount	Yes, up to 2 Transmitters (optional)	Yes, up to 3 Transmitters (optional)	Yes, up to 10 Transmitters (optional)
Nitrox Analyser	Yes (optional)	Yes (optional)	Yes (optional)
Compass	3D Compass, 1° resolution	3D Compass, 1° resolution	3D Compass, 1° resolution
Outdoor functions	Stopwatch, Altimeter, Barometer, temperature, Weather forecast, Moon-Phases	Stopwatch, Altimeter, Barometer, temperature, Weather forecast, Moon-Phases	Stopwatch, Altimeter, Barometer, temperature, Weather forecast, Moon-Phases
Color Display	IPS, 1.3-Inch, 240x240 pixel, 261 ppi, 100% matrix	IPS, 1.3-Inch, 240x240 pixel, 261 ppi, 100% matrix	IPS, 1.3-Inch, 240x240 pixel, 261 ppi, 100% matrix
View angle	over 150° (IPS Technology)	over 150° (IPS Technology)	over 150° (IPS Technology)
Top Glass	Mineral	Mineral	Sapphire
Bazel and Buttons	Stainless Steel	Stainless Steel	Stainless Steel
Body	Heavy Duty composite polymer	Heavy Duty composite polymer	Heavy Duty composite polymer
Case back	Stainless Steel	Stainless Steel	Stainless Steel
Max Depth	150 mt / 500 ft	150 mt / 500 ft	220 mt / 721 ft
Dive Strap Extension:	Included	Included	Included
Battery:	USB Rechargeable Li-ion ~ 20 hr (diving) ~ 1-2 months (Watch-mode)	USB Rechargeable Li-ion ~ 20 hr (diving) ~ 1-2 months (Watch-mode)	USB Rechargeable Li-ion ~ 20 hr (diving) ~ 1-2 months (Watch-mode)
Logbook	~160 hr scuba (sampling 10 sec)	~160 hr scuba (sampling 10 sec)	~160 hr scuba (sampling 10 sec)
PC/Mac Connect.	Yes, USB cable included	Yes, USB cable included	Yes, USB cable included
Updates	User updatable	User updatable	User updatable

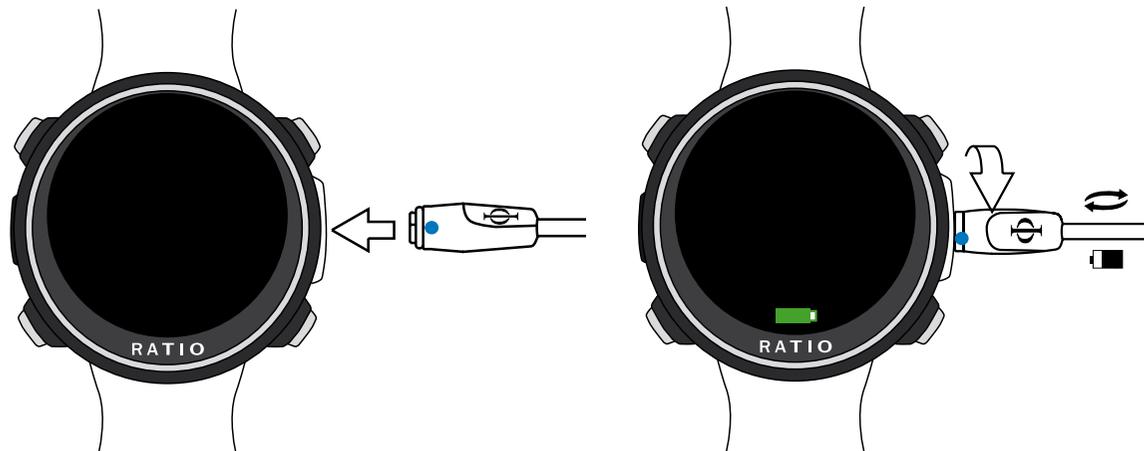


How to recharge the battery

The iDive has a rechargeable Li-Ion battery without memory effect, the given percentage 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 using a USB wall charger (as opposed to the USB port on a laptop, desktop computer, or similar device) to recharge the iDive. If you do have to use a USB port from a laptop or desktop computer (not recommended), make sure that the device doesn't interrupt the charging cycle by going into standby or sleep mode. Again, recharging the iDive with a laptop or desktop computer is NOT recommended because of the risk of 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 of a green battery and "CHG" appears on the main screen.

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

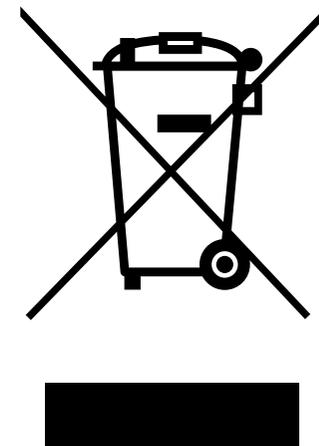
Once the battery is completely charged, even if the device remains connected to electricity, the iDive interrupts the electricity feeding automatically. If you leave your device in charge longer than necessary (for ex. all night long) you could find the iDive in Sleep Mode.

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 (e.g. 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 iDive Color can be used even in case of dives in cold or freezing waters ($<3^{\circ}\text{C}$); 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 ($<3^{\circ}\text{C}$) recharge the device at 100% or make sure that there is at least 50% of battery power.

ATTENTION: Diving in cold or freezing waters ($<3^{\circ}\text{C}$) requires a specific training.



DAN DL7

The RATIO iDive Color 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 exercises, 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 Color nor the DiveLogger will send anything automatically.

The RATIO iDive Color outside the Water:

Wake up the iDive Color by Pressing a Wake Up button

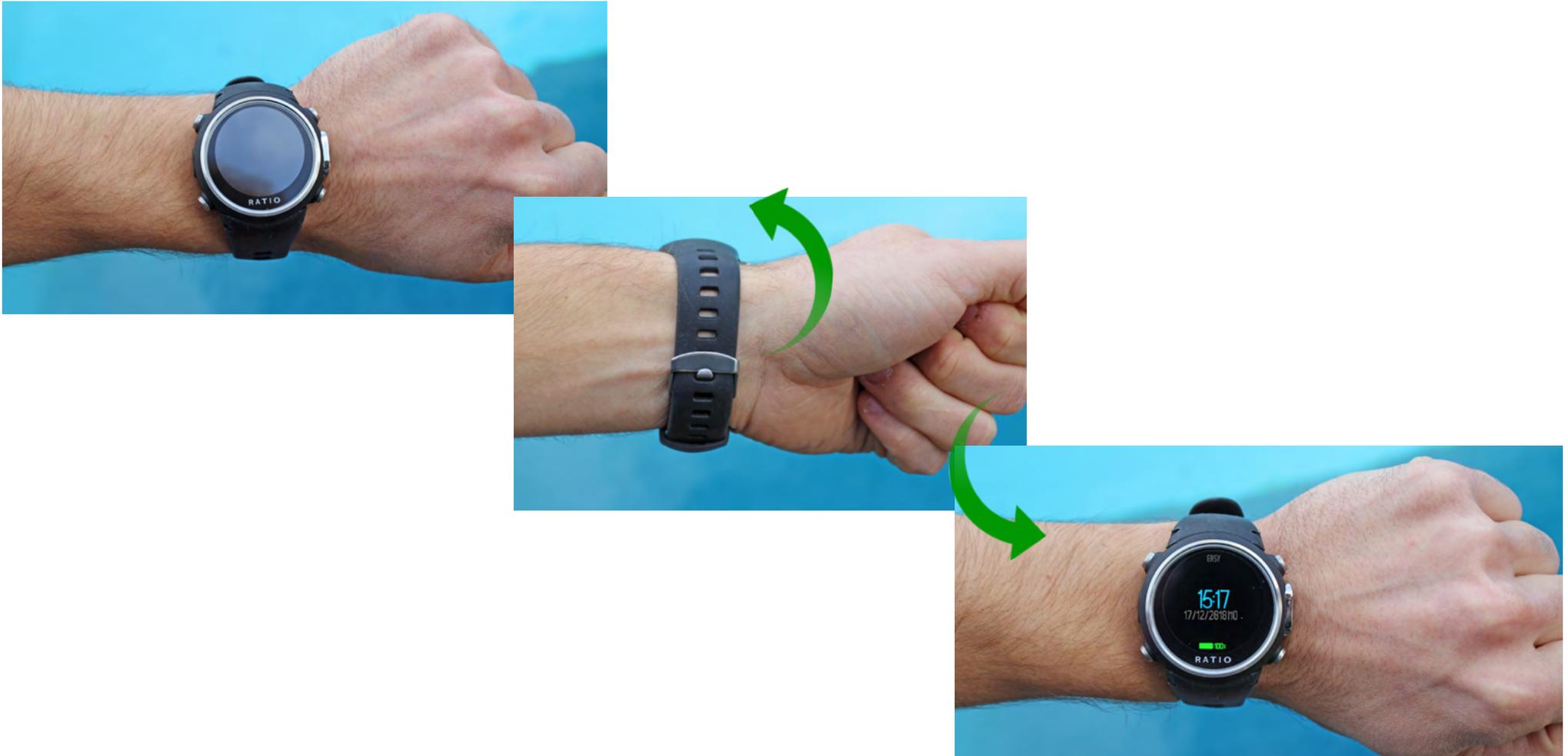
When in Watch mode the iDive turns off the display after about 10 seconds to save battery. To wake up the iDive press **A** or **D** button.



by Rotating the wrist

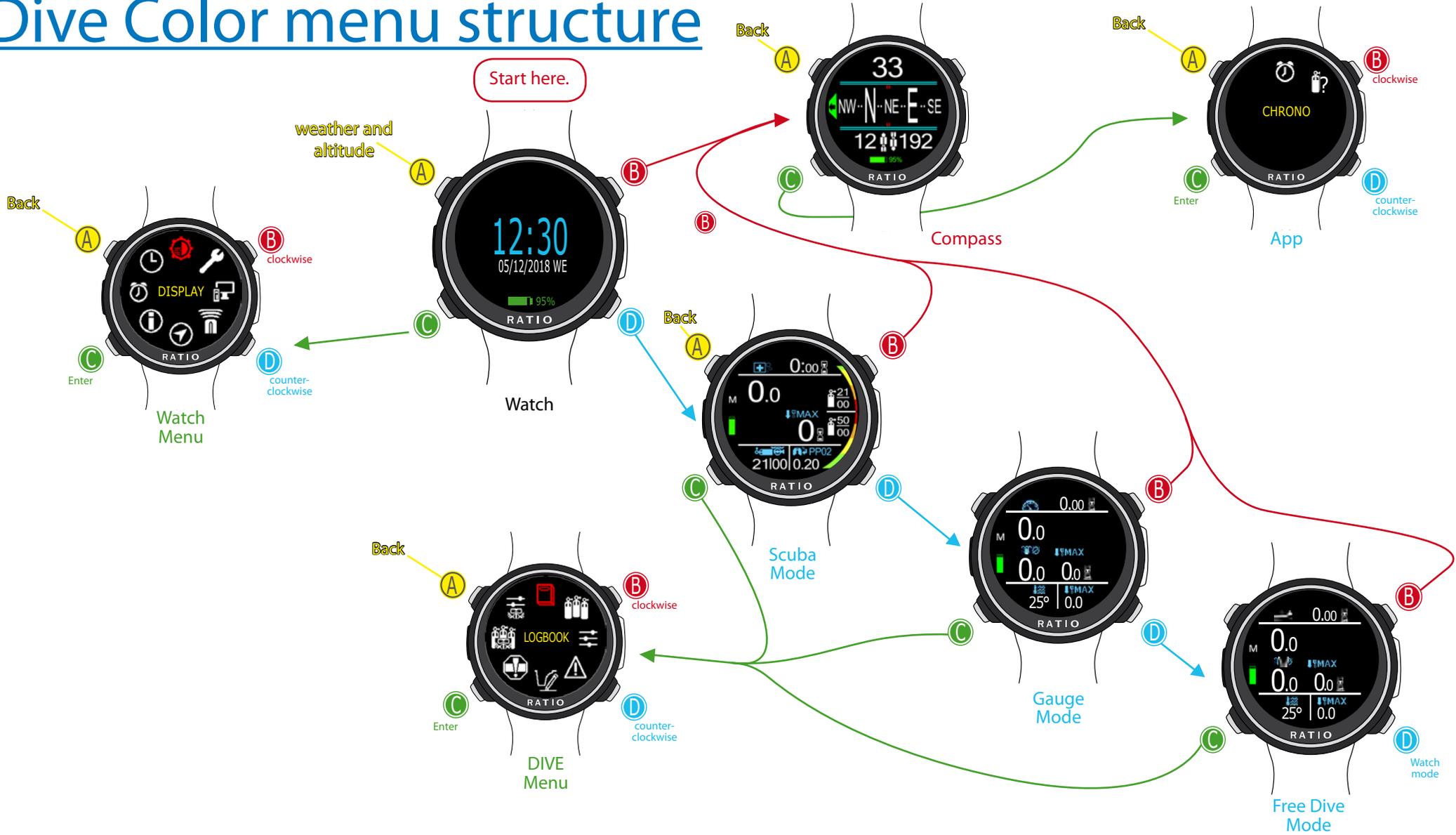
Rotate the wrist as shown in the picture to wake up the iDive Color.

You can disable or set the sensitivity of the "Rotate to Wake up" function in the DISPLAY menu (see dedicated chapter in this manual). Consider that a more sensitive "Rotate to Wake Up" increase the battery consumption of the iDive Color. Set the "Rotate to Wake up" to OFF for best battery performance.



iDive Color menu structure

WARNING: This manual DOES NOT replace an adequate diving training !



Watch Mode

- Battery indicator (bottom)

The iDive Color shows the % of battery left in the bottom part of the display.

Green color (100%->50%): Everything is ok

Yellow color (50%->20%): Alert (do not make extremely demanding dives or in cold or freezing waters)

Red color (<20%): Battery almost dead, recharge as soon as possible.

ATTENTION: It is suggested to not dive if the computer shows <30% of battery.
Do not dive if the computer shows <20% battery.

- Time and date(center)

Is possible to set the format of time and date from the DATE and TIME menu

The RATIO iDive Color can show 2 different time zones..

You can set UTC1 (main) and UTC2 (second time) from the DATE and TIME menu

Weather information

Pressing A button the iDive Color shows in the upper part of the display:

- Moon phase of today (left)
- Atmospheric pressure in mbar (center)
- Altitude

Press again A button to display

- Temperature (upper-center)
- Weather forecast (bottom-center)



- Moon phase

The new moon is displayed in black color and the full moon is displayed in white color.



The number under the picture of the moon of today indicates the AGE of the moon. (The age is the number of days passed since the last new moon, the lunar phase cycle (from new Moon to new Moon) is 29.5 days)

- Atmospheric Pressure expressed in millibar

The Atmospheric pressure is the one present in any point of the terrestrial atmosphere. It is measured in millibar (mbar)

Attention: after diving, owing to the humidity on the sensor's location, the read pressure might be slightly lower than the real one.

- Barometric altimeter

The height above the sea level is calculated on the basis of the barometric pressure.

Attention: The altitude detection through the barometer can be affected by the presence of humidity in the sensor area.

In case of case of bad weather or after diving, the error might also be of +/-80m.

Temperature: The temperature measured by the iDive Color is the device's case temperature itself. For this reason, when wearing it at your wrist, it will measure a higher temperature than the environmental one.

To measure the temperature outside the water, remove the computer from the wrist the computer and wait at least 20 minutes.

When diving, up to 5 minutes might be necessary to measure the correct temperature.

- **Weather forecast:** the blue lines indicate the atmospheric pressure, the higher they are, the higher is the atmospheric pressure shown, so the best weather is supposed to be. The weather forecast is based on the monitoring of the atmospheric pressure during the previous 18 hours. An altitude change involves an atmospheric pressure change. An altitude change (+/- 50 mt) may cause inaccuracies in the weather forecast.

After an altitude change of +/- 50 mt, the weather forecast will be reliable again after 3/5 hours at the new altitude.

Attention: after diving, the humidity in the sensor's area may compromise the weather forecast.

Watch Menu

From the main screen, press button A to have access to the menu.

Use buttons as described in the picture to navigate in the menu.

The selected entry is indicated in red.

Do you know what?:

You can change the RATIO iDive Color's menu color, titles and data from the menu DISPLAY.



DISPLAY

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

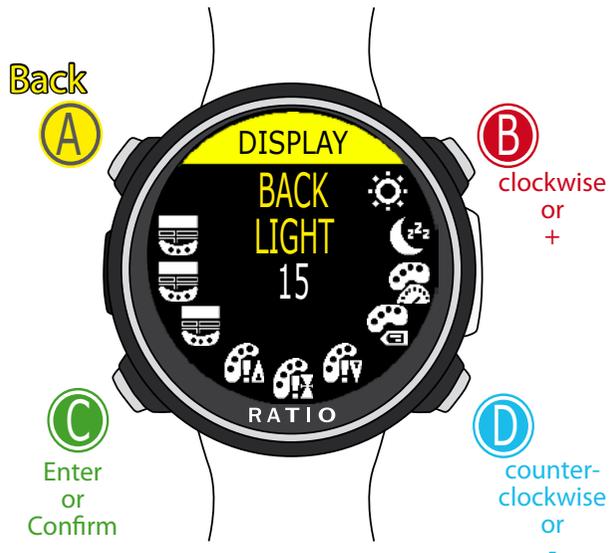


BACKLIGHT (0-15 / HC): Display luminous intensity, from level 01 (low) to 15 (high)

HC (High Contrast): All the data in the watch mode are always displayed with white numbers on black background.



SLEEP L00 - L15 / H00 - H15: Set the sensibility of the "Rotate to Wake Up" and set the timeout of the "Rotate to Wake Up" form 1 to 15 minutes.



L: Low sensibility to rotations, this setting save the battery as the iDive will perform less unwanted wake-up.

H: High sensibility to rotations of the wrist. The iDive Color is easier to wake up with the rotation of the wrists. This setting consume more battery as unwanted wake-up of the display increase.

00-15: Time out of the rotate to wake-up (in minutes) from the last wake-up of the display. Set to L00 or H00 to disable the timeout.

Examples of settings:

L05 = (Best battery saving setting) Low sensibility to wrist rotation + after 5 minutes display-off the "Rotate to Wake-Up" function is disabled (you need to press D button to wake-up the iDive Color).

L00 = (suggested setting) Low sensibility to wrist rotation, the iDive Color will never disable the "Rotate to Wake-Up"

H00 = (Higher battery consumption) High sensibility to wrist rotation, the iDive Color will never disable the "Rotate to Wake-Up".

Use B and D to select the setting, use C to enter the setting you want to change.

(Once you selected the setting with C)

Use B and D to change the value of the setting and press C to confirm the changes.





DATA COLOR: Set the color of the dive-data of the iDive Color



LABEL COLOR: Set the color of the labels shown in dive-mode.



ALARM LOW COLOR: Set the color for the low priority or low risk warnings.



ALARM MED COLOR: Set the color for the medium priority or medium risk warnings.



ALARM HIGH COLOR: Set the color for the high priority or high risk warnings..



MENU TITLE COLOR: Set the Menu headlines color.



MENU ITEMS COLOR: Set the different menu's parameters color.



MENU SEL COLOR: Set the color of the selected entry inside a menu.



Use B and D to select the setting, use C to enter the setting you want to change.

(Once you selected the setting with C)

Use B and D to change the value of the setting and press C to confirm the changes.

Do you know what?:

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



GENERAL



UNITS: Set the metric or imperial unit of measure .



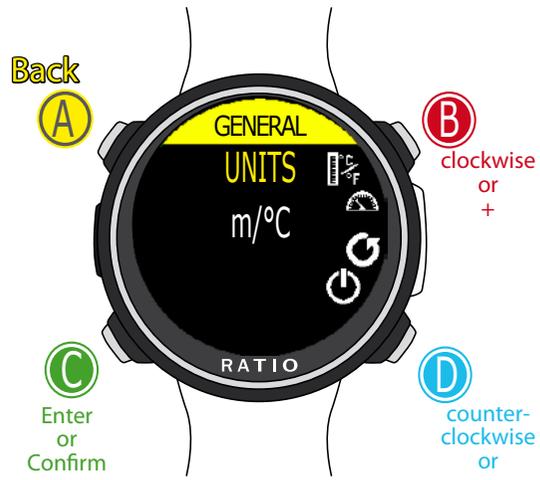
SEA REF PRESSURE: Set the reference mbar value above the sea level according to the current position. The best way to get the reference mbar is to the national air force and set the measured value of the weather station closest to your location



DEFAULT SETTINGS: See following page (important)



SWITCH OFF: Turn off the iDive Color



Use B and D to select the setting, use C to enter the setting you want to change.

(Once you selected the setting with C)

Use B and D to change the value of the setting and press C to confirm the changes.

DEFAULT SETTINGS (reset the factory data)

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

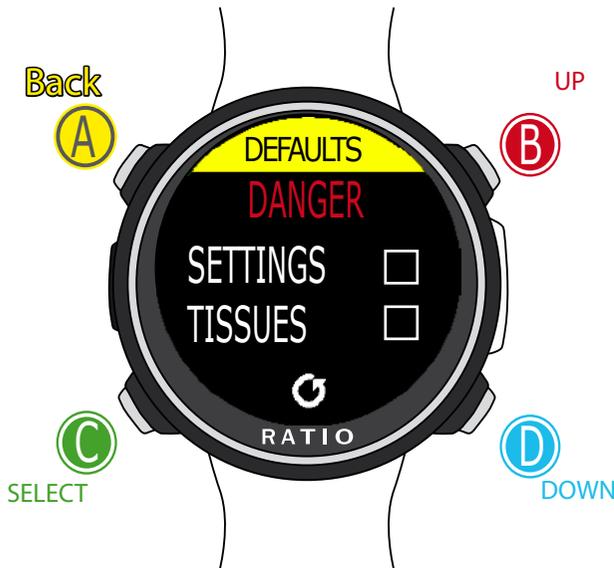


SETTINGS: Yes/No. It resets all menu entries to the factory settings. The command SETTING resets all menu and settings (MIX, Alarms, Colors etc.) It doesn't reset the diver's tissues saturation.

TISSUES: Yes/No. It resets the diver's tissues saturation. .

Attention: NEVER EVER reset the tissue saturation if the device is always used by the same person! This doesn't allow the computer to carry out a correct decompressive calculation. !

EXECUTE: It carries out the reset of the entries set as YES.



WARNING - DANGER

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

It is possible to reset the tissue saturation only if the iDive device will be used by a person who does not have carried out dives during the previous 48 hours .

ATTENTION!

A possible tissue saturation reset is recorded permanently in the RATIO iDive Logbook (see "Logbook" on this manual). The user will be fully responsible of the tissue saturation reset !



iDive Color after a TISSUE RESET

After performing a tissue saturation reset the alarm "TISSUE RESET" is shown on the iDive Color main screen.

It warns the user that a Tissue Reset has been performed on the device.
The device have to be used only by a person who does not have carried out dives during the previous 48 hours.

You can ignore the message if you have NOT carried out any dive during the previous 48 hours.

The alarm will be displayed until the next dive.



Watch

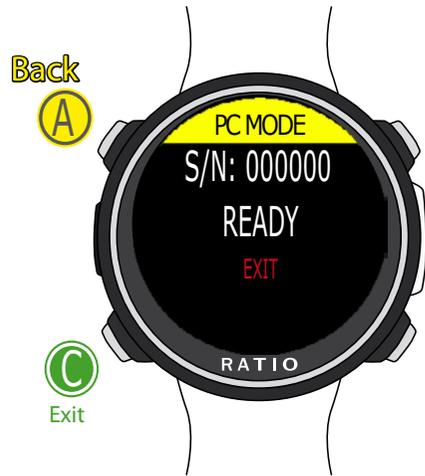
WARNING: This manual DOES NOT replace an adequate diving training !

PC MODE (Connect the iDive to PC/Mac)



To connect the iDive to the PC/Mac install the Ratio ToolBox (available for free in the web site www.ratio-computers.com/support)

Refer to the step-by-step tutorial available at ratio-computers.com/support to install the Ratio ToolBox and to connect the iDive Color.



Use B and D to select the setting, use C to enter the setting you want to change.

(Once you selected the setting with C)

Use B and D to change the value of the setting and press C to confirm the changes.

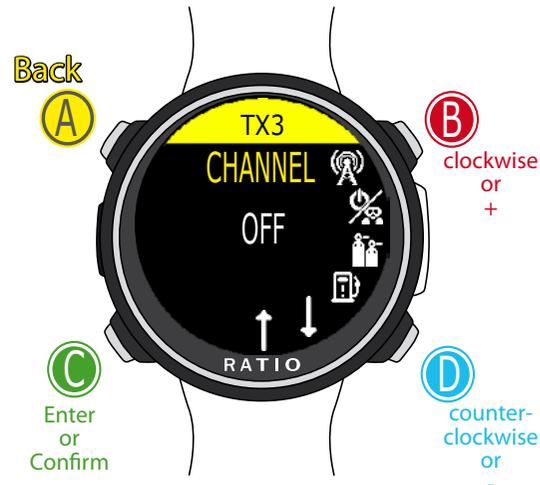
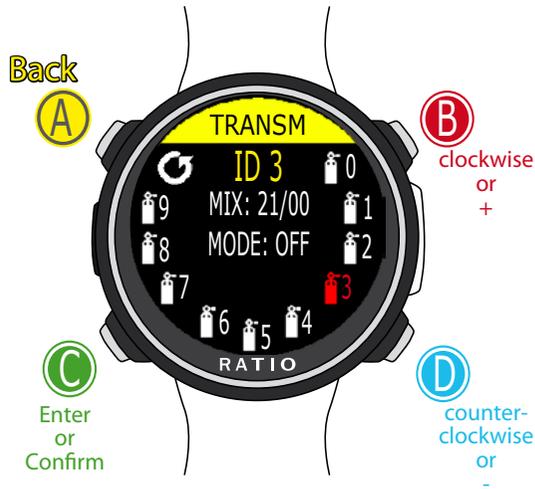
TRANSMITTERS

iDive Color is able to handle more than one transmitter at the time (multi transmitter).

The iDive Color Tech+ can handle up to 10 transmitters,
The iDive Color Deep can handle up to 3 transmitters,
The iDive Color Easy can handle up to 2 transmitters,

The RATIO® CC Transmitter dedicated manual (how to pair, how to use, etc.) is available at:

<http://www.ratio-computers.com/support/>
(manuals section)



Use B and D to select the setting, use C to enter the setting you want to change.
(Once you selected the setting with C)
Use B and D to change the value of the setting and press C to confirm the changes.

Compass settings (COMPASS)

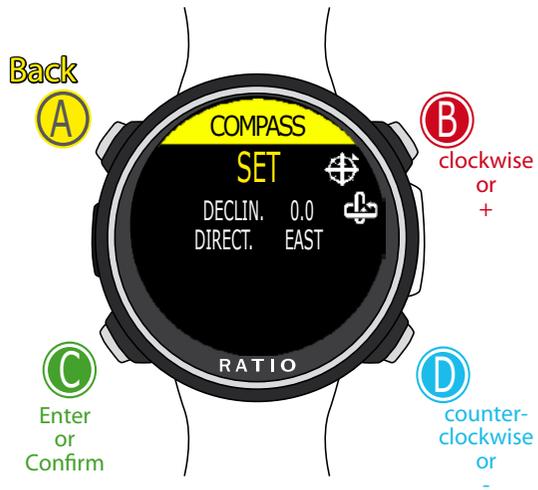


DECLINATION: The declination is meant to compensate the difference between the geographic and the magnetic north; this factor can be found visiting dedicated web sites.

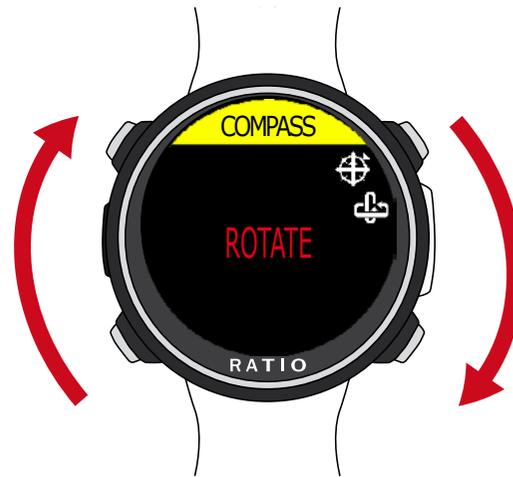
DIRECTION: EAST/WEST. The direction is meant to indicate the direction of the magnetic field's declination.

Do you know what?:

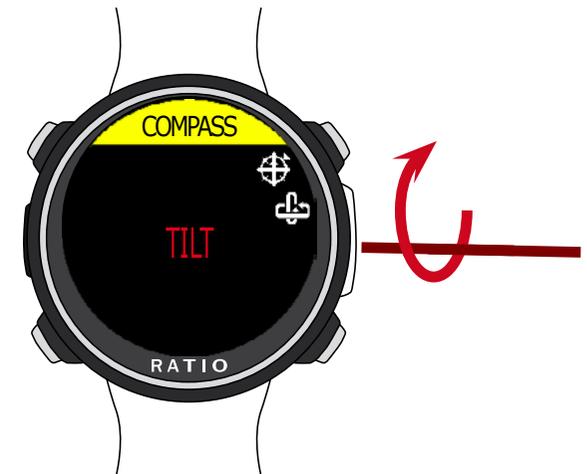
You can deepen your knowledge about the compass' Direction and Declination on: https://en.wikipedia.org/wiki/Magnetic_declination



CALIBRATE: Calibrate the compass. (see pictures below)



Rotate slowly and constantly on a flat surface.



Rotate slowly and constantly on the horizontal axis.

Use B and D to select the setting, use C to enter the setting you want to change.
(Once you selected the setting with C)
Use B and D to change the value of the setting and press C to confirm the changes.



INFO



MODEL: Shows the model of your iDive Color.



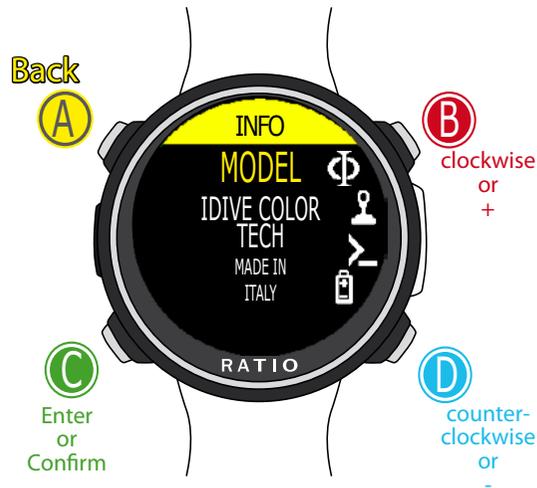
SERIAL: Shows the serial number of your iDive Color and the date of the production of the unit.



FW VERS. (Firmware Version): Shows the OS version installed in the iDive Color.



BATTERY: Shows the current % of battery of the iDive Color, the current voltage of the battery and the date when the battery has been installed in the unit.



Use B and D to select the setting, use C to enter the setting you want to change.

(Once you selected the setting with C)

Use B and D to change the value of the setting and press C to confirm the changes.

ALARM CLOCK



SET: Set the time of the alarm clock.



ENABLE: (ON/OFF) Enable the alarm clock. If the alarm clock is enabled the alarm clock's icon will be displayed on the watch screen.

When the alarm clock rings press any button to stop it. If the alarm clock is not manually disabled it will ring again the next day at the same time.



Use B and D to select the setting, use C to enter the setting you want to change.

(Once you selected the setting with C)

Use B and D to change the value of the setting and press C to confirm the changes.

DATE & TIME



TIME: Set the GMT in hours, minutes, seconds



DATE: Set the date.



UTC1: Set the main UTC (usually your home UTC).



UTC2: Set the second UTC, if UTC2 is different from UTC1 a second time will be displayed on the watch screen.



FORMAT: (24/12/12+YMD/24+YMD) Set the time/date format.

24: 24 hrs time format and Day/Month/Year date format

12: 12 hrs time format and Month/Day/Year date format

24+YMD: 24 hrs time format and Year/Month/Day date format

12+YMD: 12 hrs time format and Year/Month/Day date format



RING COLOR: Set the color of the ring shown in the watch mode. Set it on BLACK to disable the color ring.



Use B and D to select the setting, use C to enter the setting you want to change.

(Once you selected the setting with C)

Use B and D to change the value of the setting and press C to confirm the changes.

Dive Menu

From the Watch mode, press D button to access the Dive Mode than press C to access the Dive Menu

Use buttons as described in the picture to navigate in the menu.

The selected entry is indicated in red.

Do you know what?:

You can change the RATIO iDive Color's menu color, titles and data from the menu DISPLAY.



Watch



DIVE Menu



Logbook

-  Previous Logged dive
-  Next Logged dive
-  More info about this Logged dive

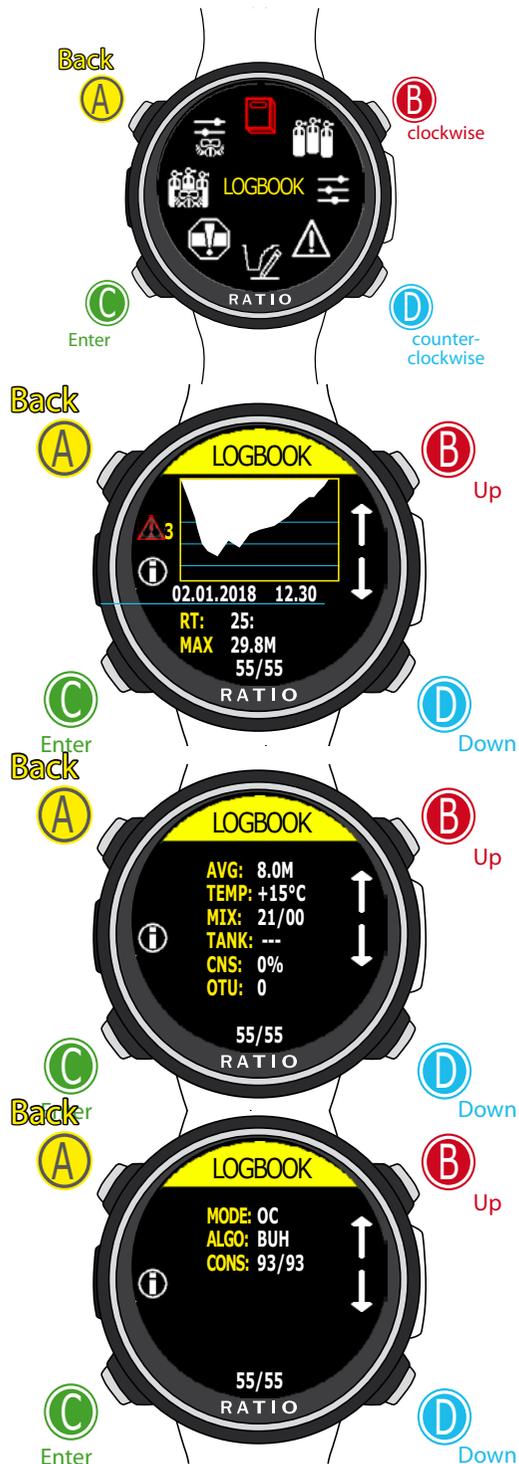
N: (Bottom center) Dive's number,
RT: RunTime (dive's duration)
MAX: Maximum reached depth
CNS: Accumulated CNS %
OTU: Accumulated OTU
ALGO & CONS: Selected algorithm and Conservatism factor
MIX: Main used mix (bottom mix)
MODE: Dive mode (OC= Open Circuit, CC=Rebreather)
TEMP: Minimum recorded temperature
AVG: Average depth of the dive
TANK: Pressure of the dive tank at the end of the dive
Special Records: In some cases the iDive will record special events

happened before the dive in the logbook.

The special records are identified by a number following this legenda:

- ! 1 = Tissue reset has been performed before dive
- ! 2 = User settings reset has been performed before dive
- ! 3 = Tissue reset and user settings reset has been performed before dive
- ! 0 = Deco violation control is disabled
- ! 1 = Deco violation control is disabled & tissue reset has been performed before dive
- ! 2 = deco violation control is disabled & tissue reset and user settings reset has been performed before dive
- ! 3 = deco violation control is disabled & user settings reset has been performed before dive.

(Colors can be different if changed in the DISPLAY menu)



MIX Table

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

According to your iDive Color model you can set:

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

iDive Color Deep: up to 3 mixes

Mix 1: %O₂ from 18% to 99% %He from 0% to 50%

Mix 2-3: %O₂ from 18% to 99%

iDive Color Tech+: up to 10 mixes (%O₂ 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!

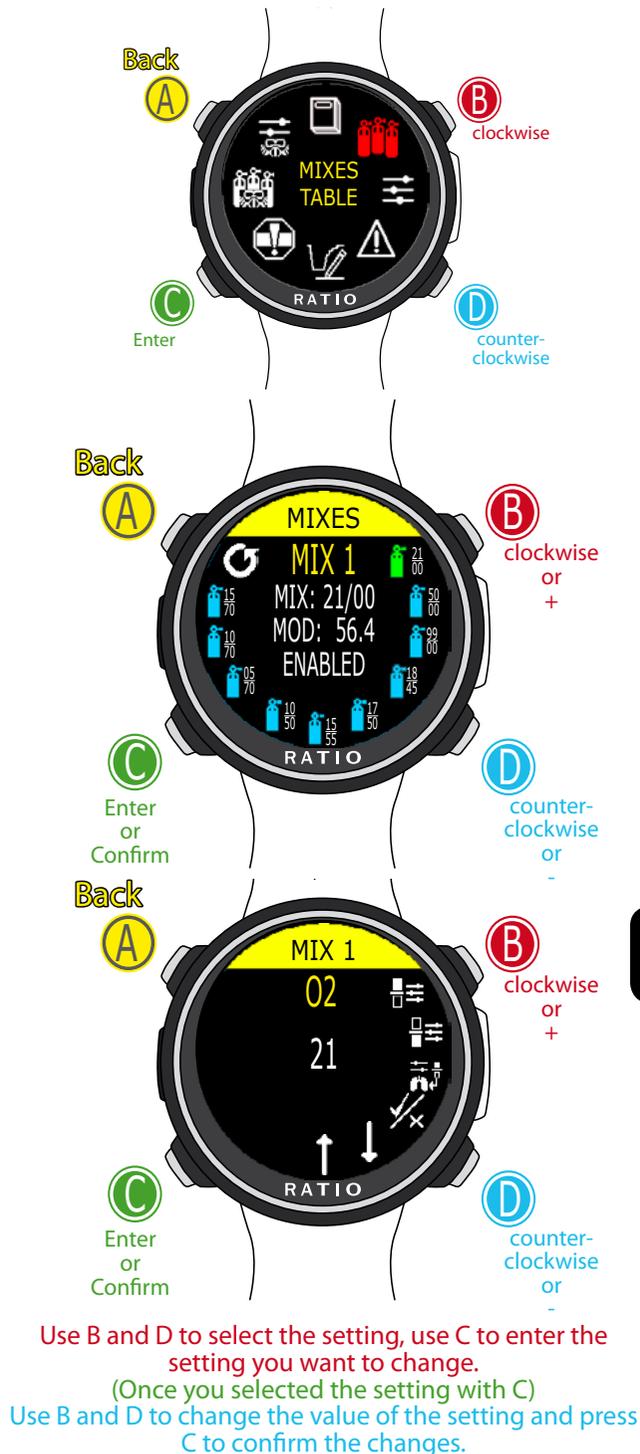
O2%: It Indicates the Oxygen % contained inside the mix.

HE%: It Indicates the Helium % contained inside the mix.

ATTENTION: The mix cannot be higher than 100%

(e.g. if He% is 0 press D if you set He% at 95% the O2% will be automatically set at 5%)

PpO2: (Partial O2 pressure): It indicates the maximum PPO2 with which you intend to use the mix.



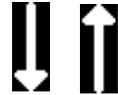
WARNING: This manual DOES NOT replace an adequate diving training!



ENABLE / DISABLE: It indicates if the mix has to be used as decompressive or not.

If set on **YES** the device considers the mix change in the calculation of decompression at the depth indicated by the MOD (Enabled tanks are shown in **GREEN**)

If set on **NO** the Mix table is deactivated (shown in **LIGHT BLUE**)



GO TO PREVIOUS MIX and GO TO NEXT MIX

Do you know what?: With the iDive Color you can enable/deactivate the MIX while diving. This is particularly useful in case of loss of one decompressive gas or if you forgot to set the device correctly before diving!

Diving with more than 1 mix

ATTENTION: Mix 1 is always the starting one.

The iDive Color 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.)

The iDive Color 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 Color will adjust the deco calculations automatically.

WARNING: The iDive Color will calculate the TTS considering all the active mixes (ENABLED), double check the MIX TABLE before each dive!

Back (A) clockwise (B) Enter (C) counter-clockwise (D)

Back (A) clockwise or + (B) Enter or Confirm (C) counter-clockwise or - (D)

Back (A) clockwise or + (B) Enter or Confirm (C) counter-clockwise or - (D)

Use B and D to select the setting, use C to enter the setting you want to change.
 (Once you selected the setting with C)
 Use B and D to change the value of the setting and press C to confirm the changes.



DIVE SET (I part)



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 Color 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.)



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

SCUBA: the iDive Color begins a dive with tanks

GAUGE: the iDive Color begins a dive in Gauge mode

FREE: the iDive Color begins a free dive.

it is NOT possible to set the FREE mode as main mode if at least 12 hours have passed from your last SCUBA or GAUGE dive. The RATIO iDive Color sets automatically the SCUBA mode if trying to force the dive with the main mode set on FREE.



ALGO, CONSERV: See following pages



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.



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.



Use B and D to select the setting, use C to enter the setting you want to change.
(Once you selected the setting with C)
Use B and D to change the value of the setting and press C to confirm the changes.



For iDive Easy and iDive Deep

DIVE SET for iDive Color Easy and Deep

To navigate the menu, follow the clues in the picture.



ALGO (Algorithm:) Select the decompressive algorithm you want to use for your dive:

- BUH: Bühlmann ZHL-16 B (for iDive Color Easy and iDive Color Deep)
- VPM: VPM-B (not for iDive Color Easy)

Attention: if you have a RATIO iDive Color Tech+

CONSERV (Conservatism Level): The RATIO iDive Color Easy and iDive Color Deep conservatism can be changed on pre-set levels from 0 to 5. The levels matches with the following tables:

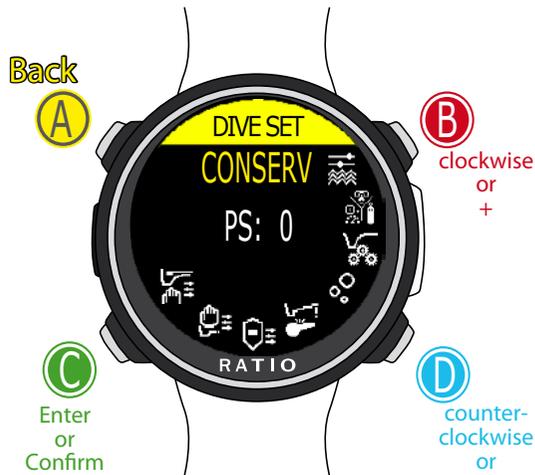
Bühlmann ZHL-16 B (gradients)

GFL/GFH

- 0 = 93/93 minimum conservatism
- 1 = 90/90
- 2 = 80/80
- 3 = 75/75 max linear conservatism
- 4 = 50/85
- 5 = 45/80

VPM -B (Critical bubble radius)

- 0 = 50 minimum conservatism
- 1 = 55
- 2 = 60
- 3 = 70
- 4 = 80
- 5 = 90 max linear conservatism



Use B and D to select the setting, use C to enter the setting you want to change.
 (Once you selected the setting with C)
 Use B and D to change the value of the setting and press C to confirm the changes.

Do you know what?:

A higher conservatism will make the device makes its calculation in a more precautionary way . Generally speaking, it is recommended to increase the conservatism if you feel an excessive tiredness after your last dive.

A hyperbaric doctor can advice you on how to set the conservatism according to your clinic status. Bühlmann Lv4 and Lv5 are usually suggested for tech dives, a proper training is required.



For iDive Color Tech+ only

DIVE SET for iDive Color Tech+

To navigate this menu follow the clues in the picture on the left.



ALGO (Algorithm): Select the decompressive algorithm you want to use for your dive.

BUH/OC: Bühlmann ZHL-16 B and Open Circuit dive

BUH/CCR: Bühlmann ZHL-16 B and Closed Circuit dive

VPM/OC: VPM-B and Open Circuit dive(next page of this manual)

VPM/CCR: VPM-B and Closed Circuit dive(next page of this manual)

If the chosen Algorithm is BUL:

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

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

It 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)

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 Color is not responsible for damages to people or objects due to a wrong setting of such parameters.

For suggested protection levels refer to the previous page of this manual.

Do you know what?:

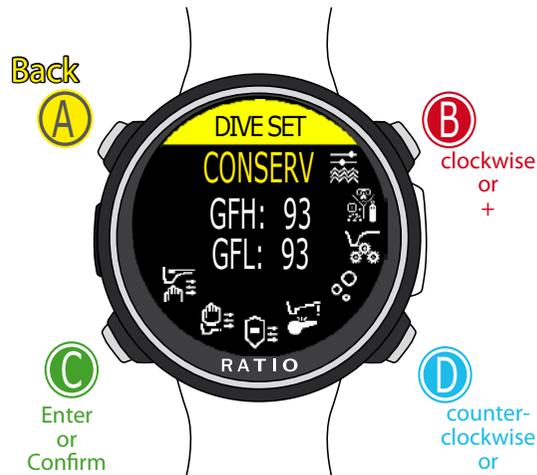
If you have any doubts on your device's setting, you can set the company's parameters from the menu DEFAULT

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.

Do you know what?:

With the RATIO iDive Color it is possible to change the value GFL/GFH while diving, to manage possible emergencies.



Use B and D to select the setting, use C to enter the setting you want to change.

(Once you selected the setting with C)

Use B and D to change the value of the setting and press C to confirm the changes.



For iDive Color Tech+ only

If the chosen Algorithm is VPM:

R0: sets the Critical Bubble Radius' value.
It is possible to set **R0** from 40 to 100.

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.

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

For suggested protection levels refer to the previous pages of this manual.

Do you know what?:

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

Do you know what?:

Generally speaking, the increasing of the R0 involves your computer's conservatism increase.

Do you know what?:

With the RATIO iDive Color it is possible to change the value R0 while diving, to manage possible emergencies.



Use B and D to select the setting, use C to enter the setting you want to change.
(Once you selected the setting with C)
Use B and D to change the value of the setting and press C to confirm the changes.



DIVE SET (II part)



S. STOP TIME: It sets the Safety Stop's time in minutes.
You can set the time from 0 to 9 minutes (if 0 the Safety Stop is omitted)

Do you know what?:

The different diving agencies can recommend different times for the Safety Stop.
Ask your Instructor or your diving certification agency for the value they suggest.

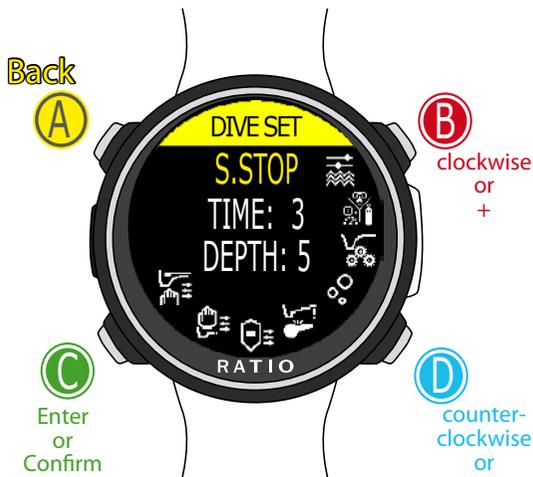
S. STOP DEPTH: It sets the Safety Stop's depth.
You can set the Safety Stop's depth between 3 and 9 metres.

The Safety Stop is carried out one meter deeper, than the depth you have set .
(eg. if S.STOP DEPTH= 5 the stop is carried out from 5.9 metres)

The Safety Stop is recommended only for dives deeper than 9 metres.
The timer is re-set if the depth of 9 meters is passed again.

Do you know what?:

If in the dives with deco, a deco stop is set between 10 and 1 mt, the Safety Stop is automatically omitted.



DEEP STOP: It selects if use the Deep Stops and which algorithm is to be used to calculate the DEEP STOPS:

OFF: No Deep Stop

STD: Standard Method (half of the max. depth for 2,5 minutes)



LAST STOP AT: (1-10): The depth at which you want to carry out the last decompression stop (if the dive is outside NDLS and requires decompression stops)

Use B and D to select the setting, use C to enter the setting you want to change.
(Once you selected the setting with C)
Use B and D to change the value of the setting and press C to confirm the changes.

ALARM (Dive Alarms)

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



BUZZER (ON/OFF): Activates/deactivates the acoustic alarm. ("beep")



ASCENT SPEED (ON/OFF): Activates/deactivates the alarm in case of fast ascent.



MOD (ON/OFF): Activates/deactivates the alarm in case of passing the MOD of the mix you are currently breathing



DECO (ENT/VIOL/BOTH/OFF):

Activates/deactivates the alarms related to decompression:

ENT.= The iDive activates the alarm 1 minute before the NDL expires (1 minute alarm).

VIOL= The iDive activate the alarm in case of violation of a compulsory decompression stop. (DEEP STOP or SAFETY STOP are not considered compulsory stops).

BOTH = The iDive activates the alarm according to the conditions of both ENT. and VIOL.

OFF = The decompression alarm are turned off (not suggested)



DIVE TIME: Indicates the time in minutes (max. 360 minutes) that once it is passed the acoustic alarm is activated. (Attention: for this kind of alarm it is not possible to activate the visual alert). If it is set at 0 the alarm is deactivated.



DIVE DEPTH: Indicates the depth in meters that once it is passed the acoustic alarm is activated. (Attention: for this kind of alarm it is not possible to activate the visual one). If it is set at 0 the alarm is deactivated.



TANK RES (ON/OFF): The iDive activates the alarm when the pressure of the main tank is below the RES value (settable in the TRANSMITTER menu).
Attention! the alarm will not stop until the end of the dive.



Use B and D to select the setting, use C to enter the setting you want to change.

(Once you selected the setting with C)

Use B and D to change the value of the setting and press C to confirm the changes.

WARNING: This manual DOES NOT replace an adequate diving training!

PLANNER (NDL Non Decompression Limit)

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

The RATIO iDive Color integrates a complete planner for square dives for both BUL & VPM

Attention: To modify the dive parameters set the device as desired entering the menu DIVE SET and the menu MIX



DEPTH: Set the dive's maximum depth.

TIME: Set the desired bottom time.

EVALUATE: Select Evaluate and press **D** to process

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

Evaluate: it starts the simulation (wait until the word "processing" disappears)

If the dive is within the safety parameters:

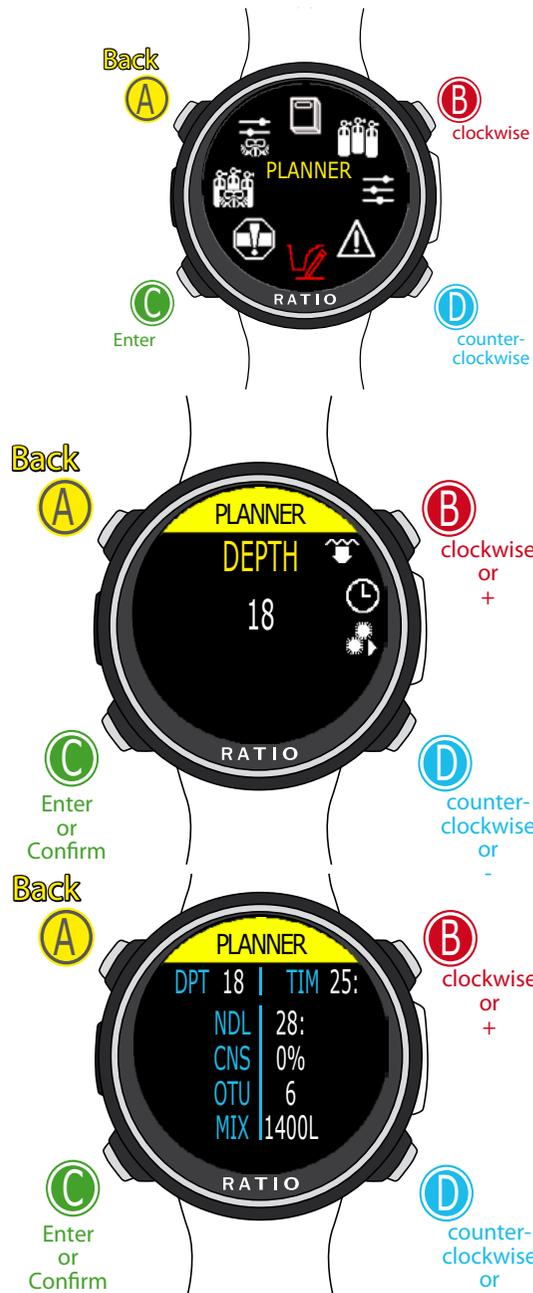
NDL: Remaining non decompression time (after the time you have set).

CNS: % of accumulated CNS.

OTU: % of accumulated OTU.

MIX QTY: Mix value expressed in litres which is presumably needed for the dive.

ATTENTION: The gas used quantity is purely approximate and referred to a standard use. Take into consideration the information given by your diver certification agency to about the quantity of gas to be used.



Use B and D to select the setting, use C to enter the setting you want to change.

(Once you selected the setting with C)

Use B and D to change the value of the setting and press C to confirm the changes.



PLANNER (Deco Planner)

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

The RATIO iDive Color integrates a complete planner for square dives for both BUL & VPM

Attention: To modify the dive parameters set the device as desired entering the menu DIVE SET and the menu MIX

For DEPTH, TIME and EVALUATE make reference to "NDL Planner" (previous page)

If the dive is outside safety parameters:

DEPTH: It indicates the decompression stop depth (in meters if not modified)

TIME: It indicates the decompression stop duration (in minutes)

RTIME: It indicates the run time (time from the dive's beginning) to the decompression stop

MIX: It indicates the mix used to calculate the decompression (to be set in menu MIX)

Press **D** to pass to the next screen to visualize CNS e OTU.

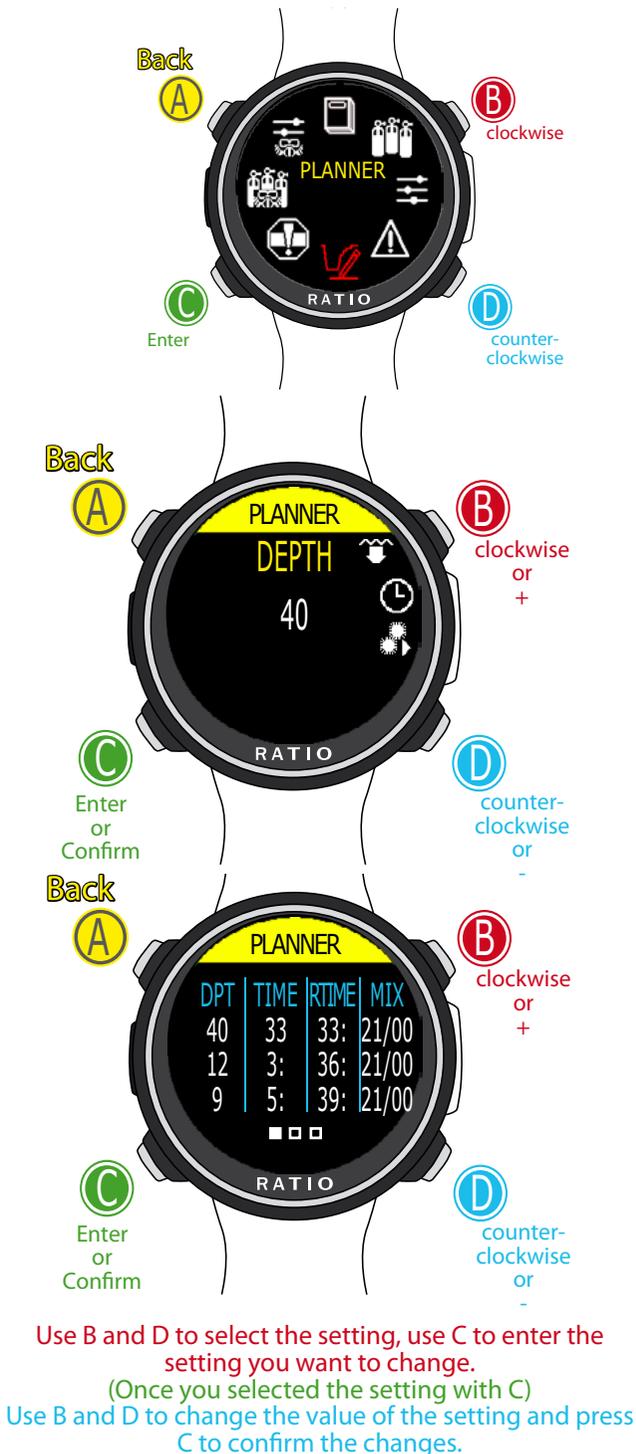
ATTENTION: the planner uses 18 mt/min as descent speed and 9 mt/min as ascent speed for the decompression calculations .

The iDive Color will highlight in red a deco stop if the planned PpO2 is above maximum threshold.

ATTENTION: The function Planner doesn't carry out the profile "validation", i.e. it doesn't consider a possible excess of CNS, limits on mixes' volumetric availability, a possible isobaric counter diffusion due to a mix change.

To plan a technical dive properly, a suitable training is necessary.

Make reference to your instructor or to your diving certification agency you belong to in case of doubts about planning a dive.



For iDive Tech+ only

DECO STOPS (for iDive Color Tech+ only)

The whole dive profile is divided in 3 depth zones.



LEG1: First Zone: from the surface to depth DEPTH1.

LEG2: Second Zone: from DEPTH1 to DEPTH 2.

LEG3: Third Zone: from DEPTH2 to the maximum depth reached during the dive

For every depth zone it is possible to specify which decompression step to use to calculate the different stops in that zone by the parameters STEP1, STEP2, STEP3.

example: **LEG1= STEP:3 / DEPTH:15 - LEG2= STEP:3 / DEPTH:48 - LEG3=STEP:5**

With this settings, for depths below 48mt the stops will be spaced out of 5 mt between them; the stops included between 48 mt and 15 mt will be spaced out of 3 mt while the stops between 15 mt and the surface will be spaced out of 3 mt.

Do you know what?: To force the last stop to a certain depth (eg. 6mt) you can set STEP1=6mt and DEPTH1=6mt

Do you know what?: You can keep pressed the buttons of the iDive Color to change the data more rapidly.

STEP parameters can be modified with step of 1.0mt.

DEPTH parameters can be modified with step of 1.0mt.

Do you know what?:

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



Use B and D to select the setting, use C to enter the setting you want to change.
 (Once you selected the setting with C)
 Use B and D to change the value of the setting and press C to confirm the changes.



For iDive Tech+ only

DILS TABLE (Diluents Table)(for iDive Color Tech+ only)

ATTENTION: The diluents are active **ONLY** if the DIVE SET -> ALGO is BUL/CC or VPM/CC

ATTENTION: The diluent 1 is always the starting one.



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



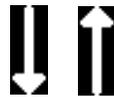
HE%: Indicates the Helium % contained inside the mix.
Min. 0% Max. 95%



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



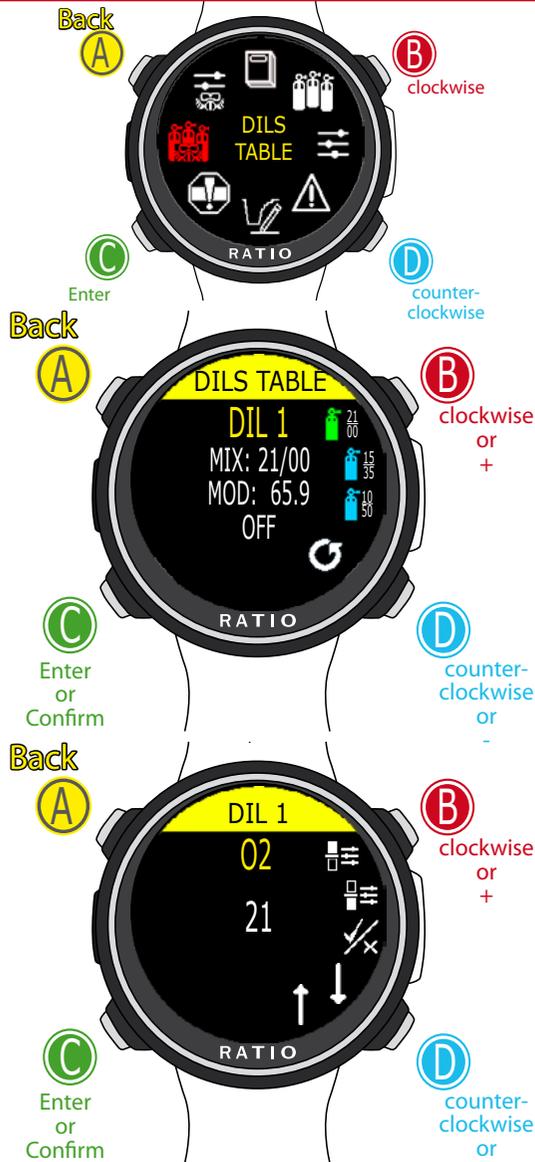
ENABLE / DISABLE: It indicates if the mix has to be used as decompressive or not. If set on **YES** the device considers the mix change in the calculation of decompression at the depth indicated by the MOD (Enabled tanks are shown in **GREEN**)
If set on **NO** the Mix table is deactivated (shown in **LIGHT BLUE**)



GO TO PREVIOUS MIX and GO TO NEXT MIX

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.



Use B and D to select the setting, use C to enter the setting you want to change.

(Once you selected the setting with C)

Use B and D to change the value of the setting and press C to confirm the changes.



for iDive Color Tech+ only

CCR SET (for iDive Color Tech+ only)

ATTENTION: The CCR SET is active ONLY if the DIVE SET -> ALGO is BUL/CC or VPM/CC

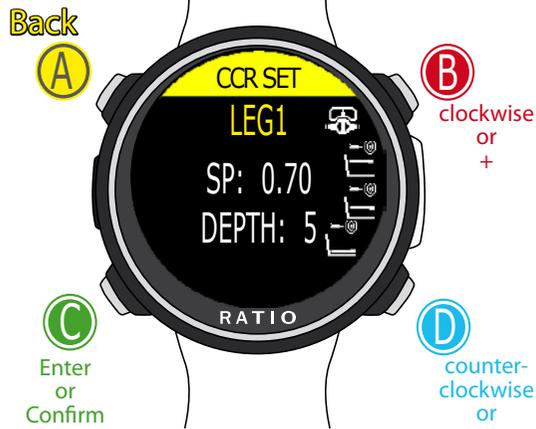


CCR SP MODE (SETPOINT MODE):

AUTO = During the dive the iDive Color Tech+ will automatically switch from **LEG1-SP** to **LEG2-SP** at **LEG1-DEPTH**, from **LEG2-SP** to **LEG3-SP** at **LEG2-DEPTH 2** and (during the ascending) from **LEG3-SP** to **LEG2-SP** at **LEG2-DEPTH** and **LEG2-SP** to **LEG1-SP** at **LEG1-DEPTH**.

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)



LEG1: First Zone: Set Point (SP) to be used from the surface to depth DEPTH1.

LEG2: Second Zone: Set Point (SP) to be used from DEPTH1 to DEPTH 2.

LEG3: Third Zone: Set Point (SP) to be used from DEPTH2 to the maximum depth reached during the dive

Use B and D to select the setting, use C to enter the setting you want to change.

(Once you selected the setting with C)

Use B and D to change the value of the setting and press C to confirm the changes.

SP (SETPOINT): Range 0.40 a 1.60 (step 0.05)

DEPTH: Depth in mt or ft (step 1 mt)

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 SET POINT.



Compass (outside water)

To navigate the menu follow the instructions in the picture on the left



Watch

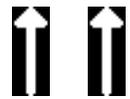
Compass resolution: 1°
Compass accuracy: +/-1°

Press **D** Button to set the current Route

When in "Compass" mode the iDive shows:

DIRECTION (on the top centre): the current direction expressed in degrees (°)

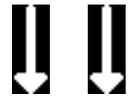
GRAPHIC COMPASS (on the centre): graphic compass with route indications.



Direction in route (+/- 5° in comparison with the one set with **D**)



It indicates the direction to follow to find the route you have set



Reciprocal direction (+/- 5° in comparison with the set reciprocal route)

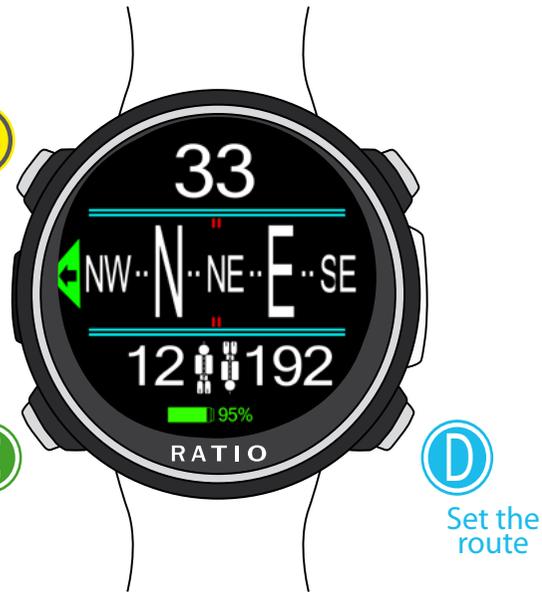


Current set route



Reciprocal of the set route

Back **A**



Apps

Set the route

Do you know what?:

The RATIO iDive compass is compensated by accelerometers. The iDive can compensate your arm's grade automatically up to an angle of 85° from the horizontal position.

ATTENTION:

The Compass works correctly only if its calibration has been done correctly. See COMPASS menu



The iDive Color during the dive

When the iDive Color is in watch mode it activates the dive mode automatically, once a certain depth is passed. To dive in GAUGE or FREE mode, select the desired mode in DIVE SET menu



Dive Screen

Main Data and NDL

ALGORITHM and DIVE MODE

- Bühlmann / Open Circuit
- VPM / Open Circuit
- Bühlmann / Closed Circuit
- VPM / Closed Circuit

VPM is available for iDive Deep and Tech+, Closed Circuit is available for iDive Tech+ only.

CURRENT DEPTH

With color alarm code when passing the gas MOD, mandatory stop and depth alarm.

DESCENT (or Ascent Speed)

Graphical descent or ascent speed

WHITE if the ascent speed is >8 mt/min

YELLOW (Attention) if the ascent speed is >9 mt/min

RED (Alarm) if the ascent speed is >10 mt/min

BATTERY

Residual battery

MIX

Mix currently used (it flashes in red if a better mix is available.)



DIVE TIME

Runtime in minutes:seconds

MAX DEPTH

Maximum reached depth

GASES

How many mixes has been set to be used in the next dive (as "GASES" is intended to be used to check how many mixes are active before the dive, "GASES" is hid during the dive)

TANKS TRANSMITTERS

See "Wireless Transmitter" manual available at: www.ratio-computers.com/support

NDL

No Deco Limits: Time in minutes in which it is possible to remain at the current depth without passing the safety parameters, without needing mandatory decompressive stops. In general, we always recommend to remain within the safety parameters.

PPO2

O2 partial pressure of the currently breathed mix

Mandatory deco stop



If mandatory deco stops are needed:



TTS: Time-to-surface. Total ascent time.



STOP: Next mandatory stop depth.



TIME: Minutes relating to the next safety stop (flashing in red)

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 3,5 mt below the safety stop set depth. (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 menu.

Safety Duration: Duration of the Safety Stop (minutes)



STOP: Depth of the Safety Stop.



NDL: No Decompression Limit.

Deep Stop



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 Stop Duration:** Duration of the Deep Stop (minutes)

 **STOP:** Depth of the Safety Stop.

 **NDL:** No Decompression Limit.

or

 **TTS:** Time to Surface (in case Deep Stop is carried out in dives with mandatory decompression stops (not recommended))

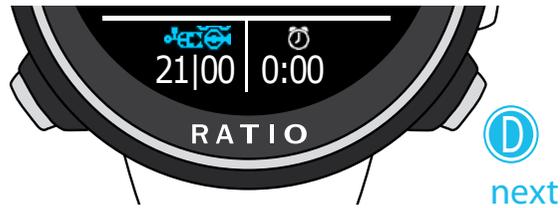
The Deep Stop is not mandatory and in case it is omitted even after having set it, it does not affect on the iDive correct decompressive calculation.

Other information about the dive

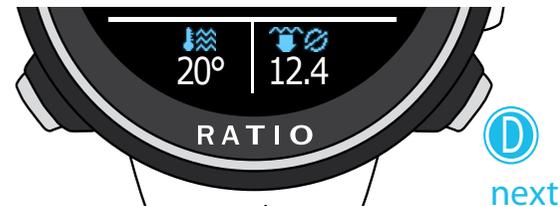
During the dive in OC is possible to display other information about the current dive. Press **D** to scroll the available information (on loop). Press **A** button (top-left) to back to the main Dive Screen at any time.



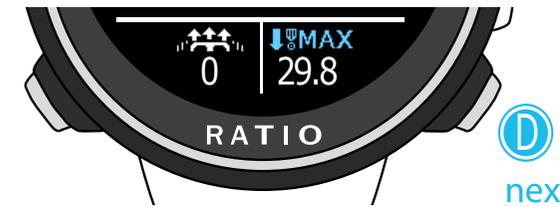
D
next



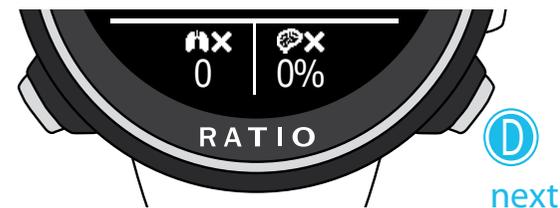
D
next



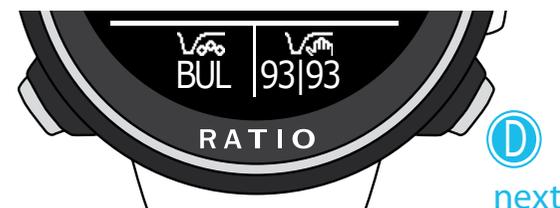
D
next



D
next



D
next



D
next



MIX

Mix currently used (it flashes in red if in the set of the scheduled mixes a better mix is available).



PpO2

O2 partial pressure of the currently breathed mix (it flashes in red if the maximum PPO2 of the Mix is overstepped)



Stopwatch: A resettable stopwatch (MINUTES + SECONDS) that you can operate using B (top right button) (press B one time to start the stopwatch, press B again to reset the stopwatch, the stopwatch will automatically stop at the end of the dive)



Temperature: Current water temperature



Average Depth



Speed

Ascent or descent speed expressed in mt/min (or ft/min)



MAX Depth

Maximum reached depth



OTU

Accumulated OTU



CNS

Accumulated % of CNS



Algorithm

Algorithm currently in use (Buhlmann or VPM)



Algorithm setting

(Levels for iDive Easy and iDive Deep, Gradients or Critical Bubble Radius for iDive Tech+)

Current dive's profile:



Graphic Profile: Real time graphic profile



Average Depth



MAX Depth



Current Depth



NDL (or deco information if in deco)



next

Tissues saturation when diving:

The diagram represents the 16 tissues which are taken into consideration by the two decompressive algorithms (BUL or VPM).

The yellow lines represent the nitrogen levels. (Higher value is shown in yellow)
The green lines represent the helium levels (if present) (Higher value is shown in green)
The white line represents the environment pressure in the surface at the dive's beginning.

The different tissues' saturation, represented by the yellow/green lines, represents the inertial partial pressure in comparison to the environment pressure on the surface .

In case of deco, the "pilot" tissue of that precise moment is highlighted by a red rectangle .



next

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: :

DPT	TIME	MIX
Depth of the stop	Stop time	Suggested Mix
12m	1:	50/0

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



Compass (during the dive)

To navigate the menu follow the instructions in the picture on the left



Compass resolution: 1°

Compass accuracy: +/-1°

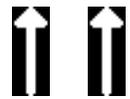
Press **D** Button to set the current Route

DIRECTION (top-centre): the current direction expressed in degrees (°)

Current Depth (top-left): the current depth in mt or ft

Dive Time (to-right): the current dive time in minutes : seconds

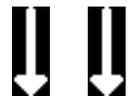
GRAPHIC COMPASS (on the centre): graphic compass with route indications.



Direction in route (+/- 5° in comparison with the one set with **D**)



It indicates the direction to follow to find the route you have set



Reciprocal direction (+/- 5° in comparison with the set reciprocal route)



Current set route



Reciprocal of the set route

ATTENTION:

The Compass works correctly only if its calibration has been done correctly. See COMPASS menu



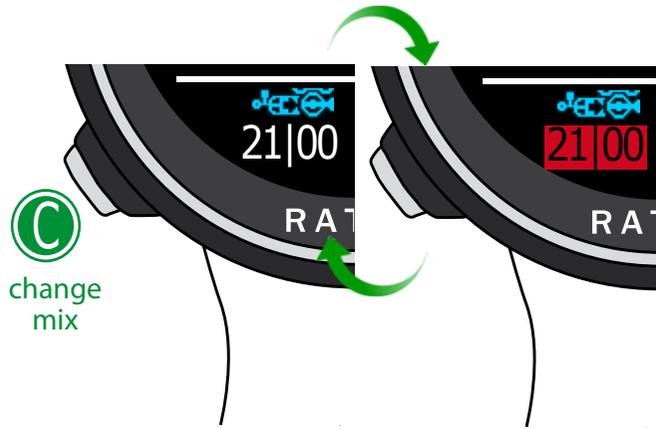
Mix change during the dive

If decompressive mixes are set, 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).

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

To change the mix press **C** (CHANGE), press **D** to select the MIX and press **C** to confirm
To refuse the mix change (when you are in the menu) press **A**

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** **C**



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

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

The deco stop information (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.



Settings change during the dive

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

All the changes have to be confirmed pressing **C** button.



MIX: Manually change the current mix choosing from the previously set mixes.



Conservatism:

GFL/GFH (R0 if VPM): (for iDive Tech+) It modifies the gradients Low and High if BUL or the Critical Bubble radius if VPM.

Lv: (for iDive Easy and iDive Deep) It modifies the Protection Level (0-5)



Manual Mix Modification

Allows you to manually modify the composition of the active mix



To know how to modify the parameters MIX and GFL/GFH (R0)(PS) make reference to the section DIVE SET of this manual.

Attention: in the following pages we will explain how to modify the MIX and the algorithm settings during the dive. **However remember always that:** To modify the Gradients and the Critical Bubble Radius a suitable training is necessary! To use more than one Mix when diving a suitable training is necessary! DO NOT modify these parameters if you have not received such training!

GAUGE Mode

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

Ascent speed (Top-right): Current ascent speed in m/min (or ft/min).

Resettable Timer (center-right): mm:ss resettable timer (press **D** to select (highlighted in red) and **A** to reset.)

AVG Depth (center-left): Resettable Average depth (press **C** to select (highlighted in red) and **A** to reset.)

Temperature (bottom-left): Current temperature.

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 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)

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.



Run Time (Total) (top-right): Duration of free dive session

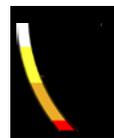
Current depth (top-left): In meters or feet

 **Max depth** (top-left): Max depth of the session

 **Surf Time:** Surface time elapsed since the last dive.

 **DIVE:** Number of dives performed in the session.

 **Temperature:** Water temperature.



Speed: Ascent or descent speed.

WHITE if the ascent speed is >8 mt/min

YELLOW (Attention) if the ascent speed is >9 mt/min

RED (Alarm) if the ascent speed is >10 mt/min

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. 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 Watch MODE.



Desat: (Desaturation): Time left for (supposed) completed 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 RATIO ToolBox is required.

(The DiveLogger 3 and DiveLogger 4 will not work with the iDive COLOR)

You can download the RATIO ToolBox from the website:

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

Tutorials, troubleshootings and FAQ are also available on the website [ratio-computers.com](http://www.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 Color by e-mail, please send a message writing "COLOR"

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

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