RATIO
COMPUTERS

iX3M Dive Computer
Apps Manual

ver. 5.0

ATTENTION!

This document is valid only for **iX3M M.Y. 2021
(with squared buttons)** updated to OS 4.1.26 or above.

Warning!

To receive all updates of this manual and notice of future updates of the "iX3M" by e-mail, please send a message writing "iX3M"

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 is **NOT** the user manual of the
iX3M dive Computer.

You can download the iX3M user manual from:
www.ratio-computers.com
("support" area)

Think Green

If possible do not print this manual.
Use your tablet or your PC to read it.
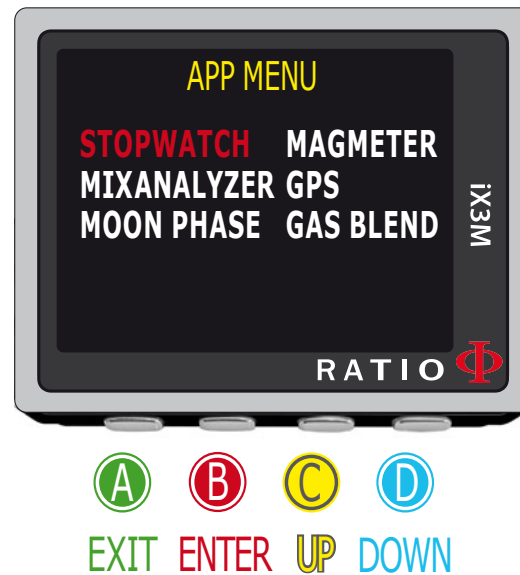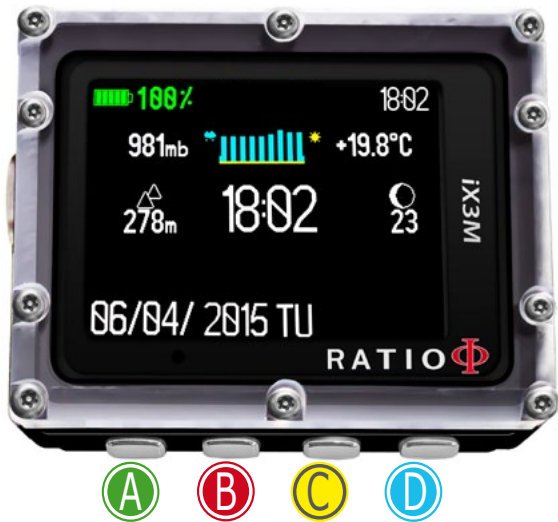
THINK BEFORE YOU PRINT

CONTENTS

Find the Apps list

To find the Apps list press **C** button twice.
(One time to access the compass and one time to access the Apps list)

Press the buttons as shown in the pictures to navigate the menu.
The selected App is displayed in Red color.
(if you press **C** button when CHRONO is selected you will EXIT the App list)

APP MENU

STOPWATCH	MAGMETER
MIXANALYZER	GPS
MOON PHASE	GAS BLEND

A — EXIT B — ENTER C — UP D — DOWN

STOPWATCH

Press the buttons as shown in the picture to use the Chronometer App.

If the Stopwatch is running the C button will mark the LAP TIME and the LAST LAP TIME. If the Stopwatch is stopped the C button will reset all the chronometers.

The Stopwatch stops only if the D button is pressed, it will continue to measure the amount of time elapsed even if you exit the Stopwatch Apps

LAP TIME: The amount of time elapsed from the last pression of C button

LAST LAP: Mark the total amount of time elapsed from the start of the Stopwatch

All the "LAST LAP" times are shown on the right of the screen.

To reset completely the Stopwatch you have to stop the chrono (D) and press C

MIX ANALYSER

To use the Mix Analyser the separated RATIO® Gas Analyser is needed. Ask your local RATIO® distributor for this accessory.

ATTENTION: DO NOT DIVE with the GAS MIX ANALYSER. It must be used only in surface!
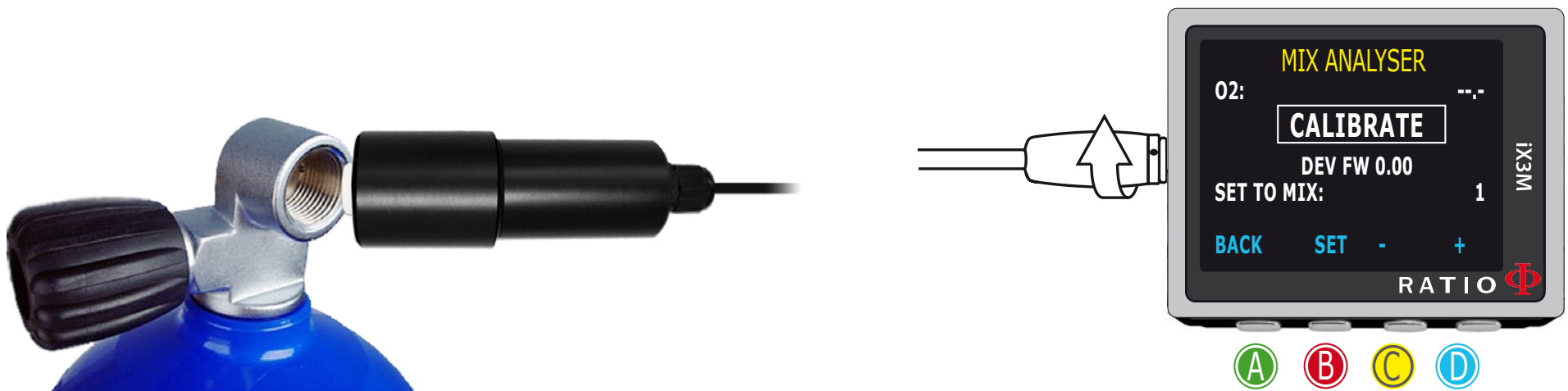Water would seriously damage the GAS MIX ANALYSER and the iX3M computer if plugged!

The Gas Mix analyser is used to check the Oxygen% in the mix inside the tank.
Always remember that 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.

Plug the Gas mix connector to the iX3M port and turn gently counter-clockwise.
ATTENTION: Plug the Gas Mix Analyser to the iX3M BEFORE launching the MIX ANALYSER App or you will get a connection error.

Wait for the battery check and for the sensor calibration (about 30 sec.), than place the sensor near the tank and gently open the cylinder 's valve to let the Analyser check the mix.

ATTENTION: Please refer to GAS MIX ANALYSER Maintenance manual that you found in the Gas Analyser's box for proper maintenance and storage of the accessory.

Set the MIX using the Analyser

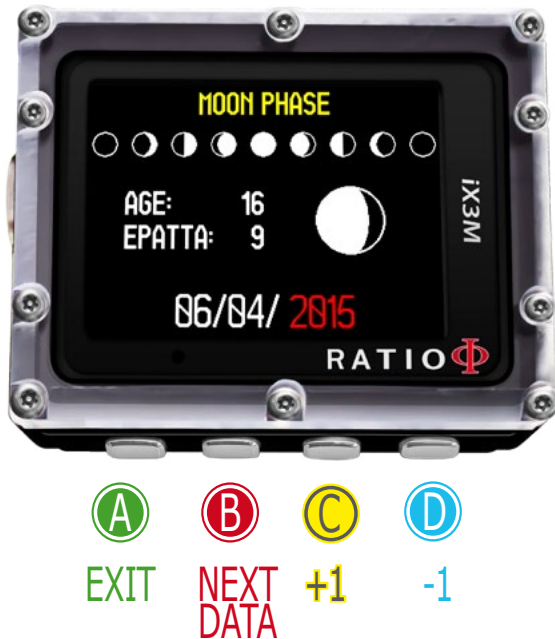iX3M is able to set the MIX that you are analysing directly as a MIX that will be used during the dive.

Once you can read the O2 value (top right angle of the display) select the MIX that you want to set using C or D buttons and press B to confirm

Always check the MIX TABLE before each dive and be sure that all the gases that you are going to use in your dive are set as ON. Refer to the iX3M user manual available on www.ratio-computers.com/support for more information.

Remember that 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.

MIX ANALYSER

O2:   --.-

CALIBRATE

DEV FW 0.00
SET TO MIX: 1

BACK   SET   -   +

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MOON PHASE

The iX3M integrates a full moon calendar. This App is mainly used by military forces for their own purposes. The standard App is available also for the civilians.

The legenda of the moon image is always present on the top of the screen (the new moon is displayed in black color and the full moon is displayed in white color)

AGE: 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)

EPATTA (Epact): The age of the moon in days on January 1 of the current year. (It occurs primarily in connection with tabular methods for determining the date of some holidays).

You can also check the AGE and EPATTA of future and past moon by changing the date (date is displayed as DD/MM/YYYY)

MAGMETER (Magnetometer)

The iX3m has magnetometers built in, they detect changes in the earths magnetic field. Some kind of metal ("ferromagnetic metals") can be spotted by the iX3M magnetometer (Stainless steel and gold are not ferromagnetic, iron is).

The magnetometer shares the compass calibration procedure.

The current density of magnetic field detected is indicated in uT (microTesla)

The iX3M will activate the alarm if the current uT is 5uT higher or 5uT lower the reference value (indicated on the bottom-right corner).
You can set reference value using C and D buttons.

The diagram scale is automatically set.

You can use the Magmeter during your dive.
The magmeter works better underwater than on the surface.

The Magnetometer's main sensor is placed on the top right corner of the iX3M.

GPS (Geolocalization)

Only for GPS version, not for PRO version.
The iX3M that can use GPS, GLONASS, BeiDou and Galileo satellite systems for geolocalization.
The satellite system does not work underwater and inside buildings, works with limitations in urban canyons.

The iX3M will automatically download (free of charge) the constellation almanac of the satellite system once connected to a satellite. The almanac validity is 24hr.
The almanac contains information, position and status concerning all the satellites; each satellite transmits almanac data for several (possibly all) satellites.

To save battey the satellite connection is active only when GPS App is running.

Cold start: (if the almanac is older than 24hr): 1min up to 5 min
Hot start: (if you have used the GPS App since less than 24hr before) 5 seconds

signal strenght and number of satellites connected

Current position (DD as default)

time

The White Arrow indicates the direction that you are moving to. The Green Arrow indicates the direction that you have to follow to go the the selected way point.

(More accurate when you are moving)

Direction
Speed (in km/h)
Altitude

Waypoint coordinates

next page

Graphical representation of your movements. The red dot is the starting point. The green dot is your current position
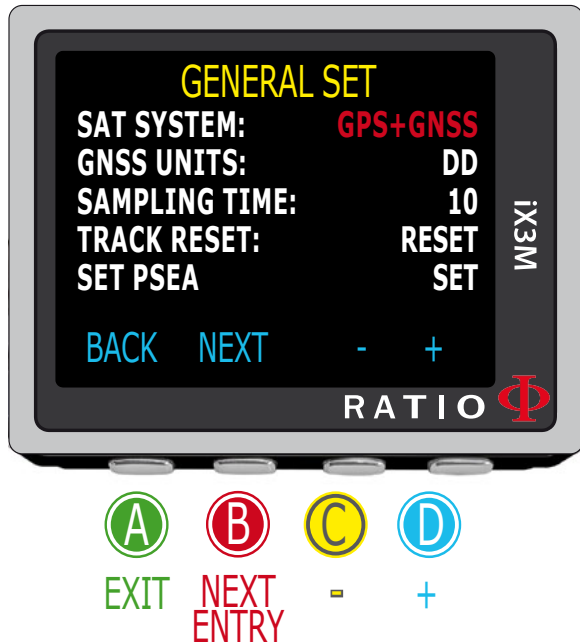
GPS Settings

Press B to accesso the GPS Settings

SAT SYSTEM: Set witch satellite systems you want to use

    GPS + GNSS: GPS system (USA) + GLONASS System (Russia)

    GPS + GNSS + GAL: GPS (USA) + GLONASS (Russia) + Galileo (Europe)

    GPS + BDU: GPS (USA) + Beidu (China)

    GPS + BDU+GAL: + GAL: GPS (USA) + Beidu (China) + Galieleo (Europe)

GNSS UNITS: Set the coordinates format:
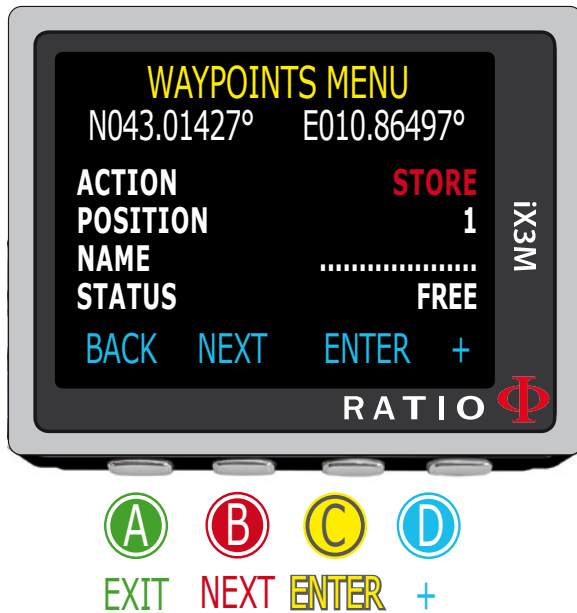
    DD: decimal degrees

    DMS: degrees minutes seconds

SAMPLING TIME: Set the sampling time of your position from 10 to 160 seconds

TRACK RESET: Clear the graphic of your position

SET PSEA: Set the Sea pressure of your current position as reference for the iX3M.

GENERAL SET

SAT SYSTEM:	GPS+GNSS
GNSS UNITS:	DD
SAMPLING TIME:	10
TRACK RESET:	RESET
SET PSEA	SET

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EXIT NEXT ENTRY - +

WayPoints Settings

In this menu you can handle the Waypoints of the iX3M
On the top line the current position is shown

ACTION: Choose the action that you want to perform on the Waypoint

    STORE: Save the current coordinates in the selected POSITION with the set NAME
    RECALL: Open previously save coordinates
    SET: Set new coordinates
    GO: Set the Waypoint as active (the green arrow in the GPS app will indicate
the direction to go in the active waypint)

STATUS: it shows the current status of the memory slot, iX3M has 20 memory slot
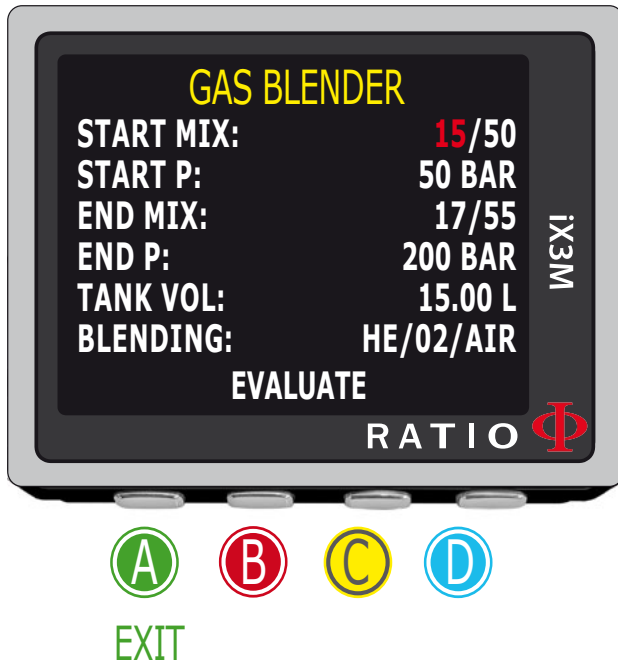
Insert the position in Google Maps

To search for your position on Google® Maps just type the coordinates in the search box. For more information:
https://support.google.com/maps/answer/18539?source=gsearch&hl=en

Gas Blender

The Gas Blender App guides you in filling the tank up, suggesting you the necessary gas quantities to get the desired Mix.

WARNING!
The use of pressurized Gas (pure O_2 in particular) is highly dangerous!
This App can give just indicative information, coming from a mathematic calculation based on the data inserted by the user. **Refer always to specialized centers and to qualified personnel to fill your tanks up!**
Be always sure that your tanks are inspected and respect always the maximum pressure imprinted on each tank!

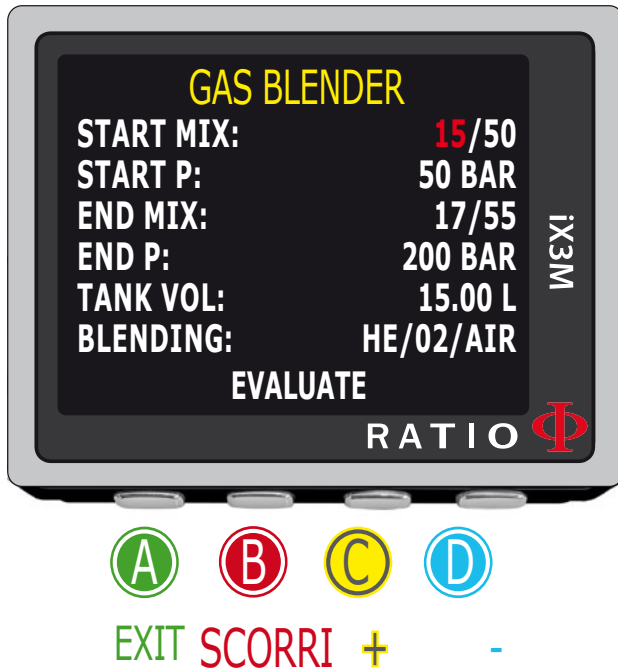The Gas Blander App takes into consideration the ideal Gas law.

The calculation made by the Gas Blender App in the iX3M is valid with the method of partial pressures only.

In case the desired mix cannot be made by using the data inserted by the user, the iX3M indicates the reason.

Do you know what?: You can keep either C or D buttons pressed to modify the iX3M values more quickly.

GAS BLENDER

START MIX:	15/50
START P:	50 BAR
END MIX:	17/55
END P:	200 BAR
TANK VOL:	15.00 L
BLENDING:	HE/02/AIR

EVALUATE

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EXIT

To set the Gas Blender App with the starting Mix and with the one you want to obtain:
Use the **B** button to browse the data, then press **C** e **D** buttons to increase or decrease the values as indicated in the picture.

GAS BLENDER

START MIX:	15/50
START P:	50 BAR
END MIX:	17/55
END P:	200 BAR
TANK VOL:	15.00 L
BLENDING:	HE/02/AIR

EVALUATE

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iX3M

A **B** **C** **D**

EXIT SCORRI + -

Do you know what?: You can keep either C or D buttons pressed to modify the iX3M values more quickly.

START MIX (O_2/He):   The Mix of Oxygen and Helium (in percentage) inside the tank at the moment.

START P (Bar):   The pressure, expressed in Bar, inside the tank at the moment.

END MIX (O_2/He):   The Mix of Oxygen and Helium (in percentage) that you wish to obtain after the blending.
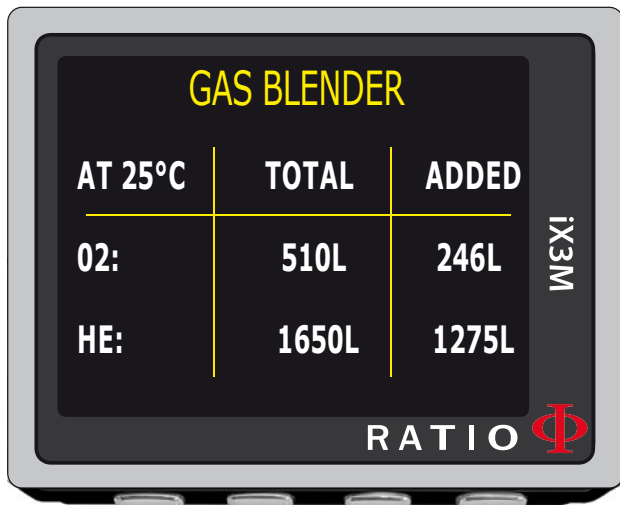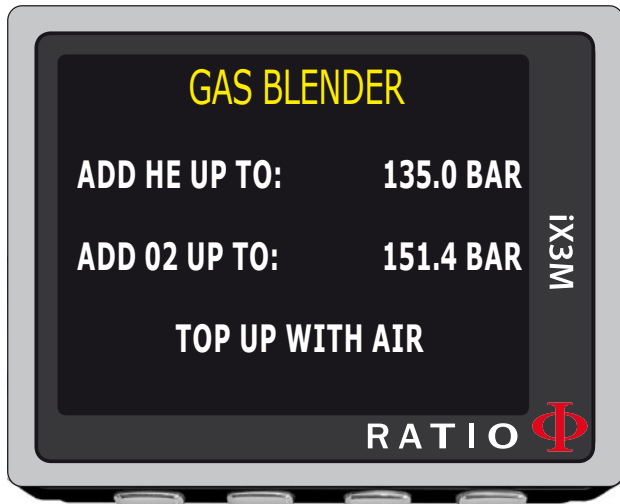
END P (Bar):   The final pressure that you wish to obtain inside the tank after the blending, expressed in Bar.

TANK VOL (L):   The tank volume expressed in litres

BLENDING: The order in which you desire to to add the Gases He/02/Air or 02/He/Air

Select EVALUATE and press **C** to start the Blending calculation.

GAS BLENDER

ADD HE UP TO: 135.0 BAR

ADD 02 UP TO: 151.4 BAR

TOP UP WITH AIR

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(A) (B) (C) (D)

EXIT   NEXT PAGE

After pressing EVALUATE if the mix is possible with the inserted settings, the iX3M will show the procedure to follow to obtain the desired mix.

In the example shown in the picture:

ADD HE UP TO: Add Helium in the tank until you reach 135 Bar of pressure inside the tank.

ADD 02 UP TO: Add Oxygen in the tank until you reach151.4 Bar of pressure inside the tank.

TOP UP WITH AIR: Add Air (21/00) inside the tank until you reach the final desired pressure (200 bar as in the example).

Do you know what?: In case the desired mix is not possible by using the inserted data, the iX3M indicates the reason.

GAS BLENDER

AT 25°C	TOTAL	ADDED
02:	510L	246L
HE:	1650L	1275L

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(A) (B) (C) (D)

EXIT   PREV PAGE

Pressing the **D** button the iX3M will visualize more information on the Helium and Oxygen volumes used (considering a temperature of 25°C)

TOTAL: The total quantity of gas (Oxygen or Helium) inside the tank.

ADDED: The gas quantity (Oxygen or Helium) added inside the tank to obtain the desired blending.

At any time, press the **A** button to exit.

Warning!

To receive all updates of this manual and notice of future updates of the "iX3M" by e-mail, please send a message writing "iX3M"

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

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