

OSTC - The Evolution Continues

Gordon Mackie has had a long-term interest in the OSTC dive computer and with the latest developments he's taken that interest to a new level ...

IN 2008 CHRISTIAN Weikamp and Matthias Heinrichs created the ground breaking OSTC dive computer – Open Source Tauch (dive) Computer. Their vision was to create a hardware platform on which anyone could develop firmware and share it with other divers; thus allowing the firmware to develop without limitation.

In other words, it's the same idea that drives users of the operation system Linux.

And just like a Linux user it needs a computer to run the Operating System, an open source dive computer user needs a unit for the software to run. The unit is what you have to pay for - the software and all updates are free, just like the ability to implement self-written programs and functions.

Unlike other dive computers, where Nitrox, Trimix, Heliox and Rebreather 'modules' need to be purchased or unlocked, everything is free. Regular firmware updates are downloadable from the internet in a click. The 2 series can also be configured from your laptop using Divelog, which also stores all your dives.

The science of diving, decompression and innovations in rebreathers, never mind the move of Nitrox, Trimix and rebreathers into recreational diving is ever changing. What you need is a computer that moves with the times and can be adapted to meet new algorithms and changes to existing algorithms. Safety is at the heart of the HeinrichsWeikamp philosophy.

In 2010, The Mk 2 was created, with more functionality – based on the feedback of real users who had been diving it. The 2 was then upgraded to the 2n with a new shape and screen and the 2C is the latest in the line.

The range has now split into 3 distinct models : the OSTC 2C – the latest development of the 2; the OSTC 3 – with compass; and Optical Link for rebreathers. The DRX – the latest development of the DR5 with Fischer or S8 Rebreather

connector for cell monitoring (This also runs Multideco firmware if you prefer it to the HW firmware, to match your laptop, phone or tablet plans created on V-Planner or Multideco)

They did have the Frog (entry level) dive computer, aimed at divers who want a unit that does not have all the bells and whistles of the 2 or 3, this is currently out of stock and may or may not be a feature in their catalogue in the future.

The DR5 is a very expensive unit (around £1200) but is almost an underwater PC, with massive memory and processing power. I have been diving one of these and it is a stunning piece of kit!

For anyone diving Nitrox, Trimix and recreational Semi Closed or Closed Circuit Rebreathers, the 2C and 3 provide stunningly bright full colour LCD displays, full user configuration of decompression including Gradient Factors (a topic in itself) and the ability to change the graphics.

I have been diving the new 2C and 3 and have been very impressed.

OSTC 2C



As a user of the 2 since I dive tested the development and Beta test models, I love the screen and the easy menu system. The 2C is bigger (80 mm x 68 mm x 34 mm) and has a 2.4" TFT IPS LCD screen for crystal clear viewing. Unlike the OLED display, the black is now a 'turned on' black pixel, not a blank switched off pixel. A small detail, but it creates a perfect optical display.

The main features are:

- Rechargeable battery via USB cable (60 hours on 1 charge)
- 120 metre rated (limited at this due to deco algorithms, not pressure)
- 2 piezo-electric buttons that can be used with thick gloves
- 4 modes – gauge, Apnea, Open Circuit and Closed circuit
- Buhlmann ZH-L16 algorithm (with or without Gradient Factors)
- 5 selectable Open Circuit and 5 selectable Closed Circuit gases including

full bail out and in water gas mix change facility. You can even change to a pre-determined alternative Gradient Factor during the dive.

While all of this can sound daunting. The unit can be dived straight from the box and will take you from air diving to full Trimix rebreather diving without the need to upgrade. The menu system is extremely easy to use and uses one button to scroll and one to enter, no complicated long and short presses or one or two button presses. The menus allow you to change every variable in the firmware, making this very much an open book system.

In the water? I thought the Mk 2 was unbeatable but the small changes are evolutionary and based on user requests via the active user forum. The unit is now bungee mounting and so there is no fiddling with buckles and straps and the unit will not fall off. The display is stunning, my buddies say they can read my computer better than their own, even when I am 2 or 3 metres away. The information displayed is clear and you can customise everything. I prefer to see my deco tick down in seconds rather than minutes, so that is how I set it, I know how I like to run deep stops, so I have adjusted my Gradient Factors accordingly.

At £650, the OSTC 2C is not cheap, but it is a lot of computer for the money and is based on tried and tested technology that has been evolved by divers, for divers and has been used on very extreme dives worldwide.

OSTC 3



At first, I thought that the 3 was a replacement for the 2 series but it is a completely different hardware platform using a different processor and new firmware. The case is milled alloy in a single block, with push buttons. Unlike the VR3 of old, the buttons do not suffer from any contact lag and are solid and easy to use, I tried them with 7mm Poseidon mitts in 4 degrees and they were fine. The reason for the change is that the series 2 and DRX Piezo buttons are larger than the depth of the Series 3 and



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so a change was required to allow the slimmer profile.

The 3 is a lot smaller in size than the 2C 2.5 inches by 2.5 inches and only 0.5 inches thick (64 mm x 62 mm x 22 mm). But the screen is still a full size 2.4" TFT IPS LCD. The unit also packs a whop-

ping 4Mb of RAM and can store 1000 dives in the log book.

Unlike the 2 Series, the 3 uses regular 1.5v AA for power but you are better using SAFT 14500 3.6v batteries to get around 60 hours dive time per battery.

The menu system has changed, as has the PC interface software for downloading firmware and updating the configuration on your laptop. The base data that you can modify remains the same, the menus have simply 'hidden' some of the mechanics from view, a logical progression. Some of the Series 2 menu options are now hidden as most recreational divers would not want to alter hardware specific or safety functions.

The 3 series includes a fully tilt compensated digital compass, it is clear and accurate and always handy for a quick check that you are on track after being distracted. The 3 will be developed alongside the 2 and DR range of computers but this unit packs an astonishing

power into a very compact size without losing the clear display or any functionality. As with the 2 – the 3 has 5 OC and 5 CCR gasses and has full gas switching and bailout as standard.

At £685, the 3 is more expensive than the 2 but has optical input to monitor three rebreather cells, a compass and a completely new processor and memory design, using less power and allowing more calculation and sampling. It also gives developers more memory and a new 'engine' to develop their own firmware on.

As a long time user and almost an ambassador for the OSTC computer over the years, I am always happy for you try a unit out to let you see just how good they are. Like the old Victor Kiam Remington razor adverts, I liked the units so much that I started selling them.

For more details contact Gordon Mackie - mail@gmdiving.com or visit www.gmdiving.com.

Wee Brother Shining Bright

IN THE LAST edition of **SCOTTISH DIVER** magazine, I reviewed the top of the range Ferei W170 Dive Light. This edition, I review the Ferei W150 which is the bottom of the range dive light, from this Chinese manufacturer.

Don't let the 'bottom of the range' tag put you off. This light punches well above its weight as my product trial revealed.

At the end of last year I lost my trusted LED Lenser Frogman torch at Finnart, Loch Long. This was disappointing as I gave that torch glowing reviews a couple of years back. It is certainly a bench mark to compare similar sized torches too. Luckily Red Hat Diving had sent me the Ferei W150 to try out and this now became the spotting light for my camera.

Looks

The Ferei W150 is a stunner, if you get excited about the aesthetics of a torch? It's made from high quality aircraft-grade aluminium and has an anti-roll body. The lens is made of toughened ultra-clear optical glass, which resists high underwater pressures up to 150 metres deep. The light comes from a high-power Cree Q5 LED which has a lifespan of up to 100,000 hours. The light beam is reflected by a purpose-designed aluminium reflector which produces an even mix of flood and throw. This torch also comes fitted with a nice lanyard.

Using it

It's manufactured well, so what is it like to use? Firstly you have to charge it as this is a rechargeable light. The power comes from a 18650 li-ion battery (or two disposable CR123 lithium batteries) which, I have found, takes between 3 and 5 hours to fully charge.

This is the only niggle I can find about the torch and it's really just me. I have set all my camera lights to run off of AA batteries which take 15 mins to charge on a fast charger. Therefore I felt the charging time dragged on a bit.

The rear cap of the torch unscrews revealing a double 'o' ring seal and the battery fits in nicely.

In the water

Turning the torch on is as easy as a quarter turn on a collar. The beam projected is pleasing in shape and intensity at 225 lumens and certainly more impressive than you would expect from the economy product. Compared side by side to the Frogman torch, the W150 is a little less intense but does have a slightly wider beam comprising a bright hotspot and a large evenly illuminated halo. Top marks for this and it certainly made an excellent spotting torch.



Battery life in the water is excellent and I never ran it out of juice. I didn't even trigger the low battery warning where The W150 will blink briefly once every minute for 20-30 minutes before automatically turning off. Hopefully with longer dives in the summer I will test it a bit more. I found this to be a great feature on the larger W170 torch. Runtime on a full charge is said to be 2.5 hours.

Conclusion

It's beautifully made with quality components and it performs very well. As a backup light or helmet mounted, it's brilliant. As a primary dive light it's asking too much of this torch but it would be fine on shallow scenic dives.

This rechargeable torch retails for around £50 from Red Hat Diving which is not a lot more than some plastic, non-rechargeable units from better known manufacturers. I say the extra few quid spent is well worth it and I thoroughly recommend the Ferei W150 as a top buy.

Mike Clark