

WELL AND TRULY TESTED



Any new product from top-end US manufacturer Atomic is an event, and its striking new OLED dive computer is no exception. JOHN BANTIN puts the Cobalt to the test

COMPUTER ATOMIC COBALT

INTERNATIONAL MANUFACTURERS seem to hold **DIVER** in high esteem nowadays. We often get new products to test long before they are generally available in the UK. Our pioneering side-by-side comparison tests have afforded us a special relationship.

This is a privilege that has been hard-won over a very long period. Among new products, the Atomic Cobalt computer that we received long before it was available for sale in Europe is a case in point.

The guys who run Atomic Aquatics don't rush into making lots of products. In fact they have an extremely limited product line. They are not "manu-packers", selling other company's products under the Atomic brand.

However, their slow and considered approach to manufacturing has resulted in everything bearing the brand performing to the highest level. Naturally, that performance comes with a price premium.

A little less than a year ago, Atomic gave me a new product to try on the strict understanding that my experiences with it were to be kept confidential. It was its new OLED computer, the Cobalt.

Software is notoriously difficult to produce without bugs, and I discovered a few in the pre-production example of the Cobalt supplied.

It journeyed back and forth to the USA getting sorted. Presumably other selected test-divers elsewhere were doing the same.

It has taken until now for Atomic to launch it onto the market as a finished product, and pretty impressive it is too.

Construction

The Cobalt is a nitrox computer that can be preset for up to three mixes per dive, with an RGBM algorithm unique to Atomic and supplied by Bruce Wienke.

It's integrated with the breathing supply by a high-pressure hose (the hose-free radio-link patent is jealously guarded by Scubapro) and has a built-in tilt-free compass. It is set up by means of four magnetic buttons hidden under the rubber shroud.

The Cobalt is not loaded down with peripheral functions barely relevant in a diving context. What distinguishes it from so many other computers on the market is its highly colourful OLED screen.

Organic light-emitting diodes consume little current, but offer the opportunity to provide a brightly lit colourful screen that needs no backlight. Until now, to my knowledge, only the

Swiss-made Uemis computer uses this technology other than Atomic, but I'm sure other mainstream computer manufacturers will be close on their heels.

The USA may have put men on the Moon and patented the human genome, but most Americans have little patience for anything that fails to give immediate satisfaction. Access must be easy and simple.

The Cobalt is completely intuitive to use, and I picked it up and used it straight away, at a time when no instruction book was available.

Of course, production models come with a comprehensive full-colour manual, but not one that is at all daunting to read.

Also in the box is the high-pressure hose. Its quick-release connection comes with a locking collar, so there's no quick release when the hose is not pressurised and you're not expecting it.

A charging connection for either a regular mains supply or a computer's USB socket takes care of topping up the lithium-ion battery. Full charging takes around two hours on a domestic supply, and gives you more than 40 or 50 hours of dive time, depending on the brightness setting of the OLED.

You can extend the duration of the charge by manually putting the Cobalt into sleep mode as soon as you're done with it.

Setting Up

The four leak-proof magnetic buttons facilitate setting up, and the menus are straightforward. Putting in your personal details, including your age and an emergency contact, is important, because the algorithm automatically adjusts to accommodate advancing years.

Additional settings can add more caution. You should also enter the current time and date. There are loads of other preferences you can opt for, including turning off the audible alarms if required. As expected, you can opt for the metric system.

Naturally, the computer can integrate only with the tank to which it is connected. That's the primary supply. Entering the actual size of that tank allows the Cobalt to predict gas usage accurately.

Those of us used to the metric system might



find this surplus to requirements. It makes you realise just how cumbersome the American Imperial system is.

Nitrox percentages are set between 21 and 99% in 1% increments. You can also enter up to two other mixes for a single dive, and set Gas Switch Alerts for specific planned depths during both descent and ascent.

Setting the screen brightness is not essential,

SPECS

PRICE ▶▶ US \$1200 plus import taxes and VAT.

ALGORITHM ▶▶ Recreational Atomic RGBM (Wienke) with 15 tissue compartments.

GAS SWITCHING ▶▶ Up to three pre-set nitrox mixes.

SETTINGS ▶▶ Age, Workload, Conservatism.

DECOMPRESSION ▶▶ Deep-stops, safety stops, deco-stops

MAX DEPTH ▶▶ 100m

MAX TANK PRESSURE ▶▶ 344bar

MAX PERMISSIBLE ASCENT-RATE ▶▶ 10m/min

BATTERY ▶▶ Lithium-ion rechargeable

BATTERY DURATION ▶▶ 40-50hr per charge

CONTACT ▶▶ www.atomicaquatics.com

DIVER GUIDE ★★★★★★☆☆



Clockwise from top left: Diver planner displays for a simulated dive.

as this can easily be adjusted under water to suit the prevailing conditions. I did find it a little hard to read when at full brightness and competing with Egyptian sunshine in very shallow water, but that was mainly due to the pressure-resisting curved screen.

During Diving

The dive screen shows all the relevant information in colours to suit. Air pressure is shown in blue, while actual depth is in white and no-deco information in yellow.

The ascent rate and tissue saturation indication are in green bars until these become critical, when they change through yellow to red. Remaining gas duration is shown in yellow.

Safety-stops and deep-stops are shown in a blue window. Decompression-stops are indicated within an orange window. The total safe ascent-time is in white and yellow. It's all very pretty.

When using more than one nitrox mix during a dive, preset gas-change alerts come up in a blue window. You switch manually as and when you switch gas supplies, and at this time the remaining gas pressure in your primary tank is greyed out.

The Cobalt recalculates required decompression to match the gas you are breathing. Miss a deco-stop, and the information is described within a red window.

Other alerts include too fast an ascent-rate rewarded with the word "Slow" in yellow on a red background, flashing gas information if gas time or gas pressure is getting low, a PO₂ alert if you exceed the maximum operating depth (MOD) of a mix, and a preset depth alarm.

Deco-stop Diving

Decompression stops are slightly different from those on most other computers, in that if you

stay at 10m for a 9m stop, for example, that stop may clear off, but another stop at, say, 8m will be indicated.

Stop-depths lack the raw 9m, 6m, and 3m slices that are more familiar with most other computers, and you can chase progressively shallower stops in this way, with continuous decompression, all the way to the surface.

It's the same with deep-stops. In this way, the Cobalt did not exactly tie in with the other mainstream computers I had alongside it, yet the figures amounted to the same.

The one thing I am not able to test is the efficacy of the algorithm in its ability to avoid decompression sickness.

All I can say is that it felt familiar, and there was no "happy no-stop diving", nor reason to leave the computer hanging on a line under the boat until its mandatory decompression requirements had cleared.

The Compass

Calibrating the compass prior to using it in specific geographical latitudes is easy. The manufacturer even provides a tray within the packaging to make this foolproof.

Needless to say, I didn't need to use that. I just followed the on-screen instructions. You can call up the compass at any time during the dive without losing important diving information.

It stays on for as long as you need it, so there's no annoying turning off right at a critical moment. You press the "Select" button to find it and the "Back" button to cancel it.

It works when the Cobalt is held at any angle, and a reciprocal course it automatically noted.

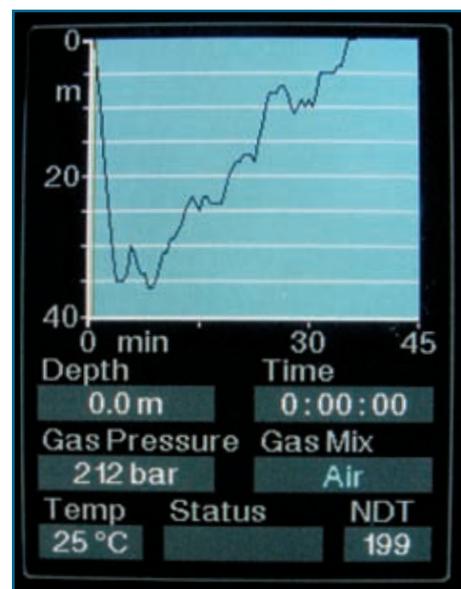
Post-Dive

Once you've surfaced, the Cobalt summarises all the details from the dive, including any violations. You can view the dive profile, and

there is a dive-log summary. Because of the quick-connection of the hose, it is not necessary to leave it attached to your regulator, and you can take it back to your cabin or room.

You will be able to download to a PC any of 600 stored dives recorded at the default sample rate of every 30 seconds, as soon as the final PC software is available over the Internet.

There will also eventually be general software



Above: Dive log display after a real dive.

upgrades available in the same way.

If you violate a mandatory deco-stop and continue to the surface, a very clear warning of impending medical problems fills the screen in yellow. Few of us will ever get to see that!

Getting Familiar

It would be foolish simply to take this computer diving and not get the advantage of its

comprehensive dive-simulator. I took the new Cobalt away during a family holiday at Christmas to get fully re-acquainted with it, but without actually getting wet.

While my kids played on their Nintendos and laptop computers, I had hours of fun pretending that I was diving, and got fully familiar with the brightly coloured display.

It's not exactly what you get under water. It shows the litres of gas used (to help with planning) instead of remaining gas-pressure, and the simulated dive profile is also displayed

all the while, so you can instantly see if it looks sensible. This means that you can simulate the actual dive you plan to do and see if it's viable.

Conclusion

This is a no-nonsense nitrox computer that is totally relevant to what you do when diving. The OLED display is fabulous. I'll bet there's a trimix version not far behind.

There are no computer games or unhelpful peripherals but what it does it does exceedingly

well. In fact the cover of the instruction manual bears the legend "Simply brilliant, isn't it?" and that about sums it up.

Had it been wirelessly linked, it would have been worth 10 stars.

Alas, at the moment the Atomic Cobalt is not yet available for sale in Europe. We'll have to wait for demand to make CE-marking an economic option for the US manufacturer. ■

COMPARABLE COMPUTERS TO CONSIDER:

Uemis Zurich SDA, £999