

Roksan Oxygene CD transport & Integrated amp

With these 'audiophile lifestyle' components, majoring on design, simplicity and ease of use with today's wireless sources, Roksan aims to reach a wider high-end market

Review: **Steve Harris** Lab: **Paul Miller**

It must have been Denis Morecroft of DNM who first brought the minimalist slogan 'Less is more' into the language of hi-fi, to explain his special concepts of audio circuit design. But Bo Christensen of Denmark, with a rather different agenda, must have been the first to actually engrave the words on a product.

With his Artora components, Christensen wanted to strip away unnecessary complications and produce a system for the future with a simple, pure aesthetic, and the ability to handle wireless sources: as he put it, 'No controls. No Wires. No compromise.' And he cleverly made the very words 'Less is more' provide a hidden control system.

ROKSAN DEVELOPMENTS

In 2012, when Roksan announced its Oxygene series, it became known that the British company had acquired the Artora designs. But Roksan worked hard to improve and upgrade the products before launching its own versions.

This review covers just the first two models in this exciting new series. In the Oxygene amplifier, the use of Class D or switching-amplifier technology provides high power and excellent performance from a physically compact package. The high efficiency of Class D means that there is very little heat dissipation, so the amplifier doesn't require big heatsinks or a lot of ventilation.

In this instance, the designers have chosen one of the well-known range of Hypex UcD [Universal Class D] modules, which have the best reputation for sound quality. The UcD circuit was invented by the brilliant audio engineer Bruno Putzeys, who'd worked on the development of Class

D amplification and noise shapers at Philips before teaming up with Hypex in 2005.

Along with the amplifier we received the Oxygene CD transport, which has appeared in advance of the expected complete CD player. This is based on a Pioneer DVD mechanism, which is attached rigidly to the casework, with some damping applied. Up until now Roksan players have featured mechanical coupling or suspension systems for their transports, but there just wasn't room for this in the Oxygene.

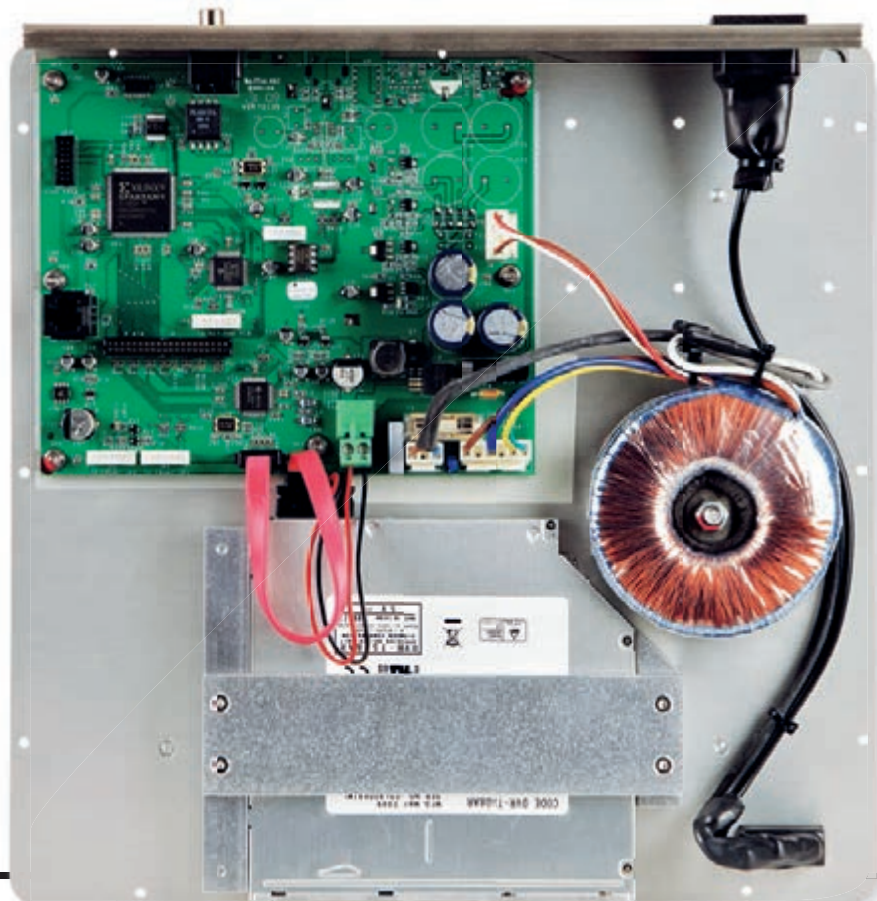
Although the casework still closely resembles that of the original products, it has been completely re-engineered and much improved in the process. Originally,

the cases were a clamshell, made in top and bottom halves, with a clearly visible joint line running around the front and sides. But Roksan has developed a case that's made in one piece and bolts on to a concealed flat base plate. So there is no joint line and there are no visible fixings, except at the back.

Roksan's one-piece cases are milled from solid billets of aluminium by CNC machines; it's said each Oxygene case takes an hour and 20 minutes to machine.

TOUCH-SENSE CONTROL

Of course, the great key feature of the design is the touch-sensitive controls, a



RIGHT: Roksan's CD transport uses a Pioneer DVD-R/RW disc transport. Note the missing components (top right of PCB) that will be included in the forthcoming Oxygene CD player



bit of magic to impress your friends, and an elegant solution in itself. Each unit has a conventional on/off switch, hidden underneath at the front right hand-corner, and there are simply no visible knobs or switches to spoil the smooth lines of the casing itself. Instead, all functions are initiated by touching one of the engraved words 'LESS IS MORE' on the top surface. Each of three words forms a separate touch-sensing control button.

This is achieved by reducing the thickness of the aluminium to just a small fraction of a millimetre, at the points where the lettering is seen. When you touch, or in reality lightly press, the surface, the metal bends slightly. The movement is microscopic, but the resulting pressure on a piezoelectric sensor below is enough to give a signal which can be used to action the commands. The metal thickness here is critical, but the CNC machines used by Roksan's German suppliers can work down to tolerances of two microns.

In each front panel there is a grid of tiny holes with white LEDs behind, forming an oversized dot-matrix display that can show up to ten characters. At switch-on, the display simply reads 'ROKSAN', but its purpose is to indicate functions as you operate the controls.

From the front, the two units look identical except for the CD transport's loading slot. On the transport's back panel, the only signal connections are the usual coaxial (RCA phono) electrical and Toslink optical outputs. These will also be provided on the CD player, to cater for those who will want to use it with a separate DAC. Controls for the CD player will be identical to those on the transport, with 'MORE' and 'LESS' becoming forward and reverse. When you insert a disc, the display will change from 'NO DISC'

ABOVE: Displays here are showing CD tracks and elapsed time and source/volume setting. On Bluetooth input, the amp can display a device name of up to ten characters

to 'READING' for around ten seconds, and the CD will start to play, with the track and elapsed time displayed as it goes. A quick touch on 'IS' gives 'PAUSE' while a longer press will stop play, with the display now showing the number of tracks and total time. From here you can press 'IS' to eject or 'MORE' to start play again. While playing, a brief touch on 'MORE' or 'LESS' will skip tracks forward or back, while a longer touch gives fast forward or fast reverse.

'There are simply no visible knobs or switches to spoil the effect'

BLUETOOTH ANTENNA

All this takes longer to describe than to figure out in actual use, though you might have to read the manual to discover that you can go into repeat-disc mode by touching 'LESS' and 'MORE' simultaneously!

While the amplifier has the simplest frontal aspect, it naturally has more going on around the back. There are pairs of phonos for three line inputs, and more unusually, a screw-on short-range Bluetooth antenna. As you'd guess, 'LESS' and 'MORE' give you volume down and up. The central 'IS' now becomes a mode switch, so that a touch on this will change the functions of the other two sensors from volume to source-select, so you can use them to choose from three line inputs or the Bluetooth option.

A WIDE SOUNDSTAGE

To listen to the Oxygene units in combination I needed to add a suitable DAC. After experimenting with others, I ➔

COMING UP FOR AIR

Oxygene's 'Less Is More' concept originated with the Danish designer who has created so many iconic pieces of audio art, Bo Christensen. Trained as an architect, Christensen burst on the hi-fi scene in 1985 as co-founder of Primare, and as creator of the Primare 928 Series preamp and monoblocks. They weren't the first amplifiers to use the so-called shoebox format, but in styling and construction they went as far beyond previous examples as their namesake Porsche went beyond a Ford Escort. Next came the equally eye-popping 200 Series, in stainless-steel cases that looked like models of spaceships. But these expensive products only sold in small numbers. In 1993 Bo Christensen sold out and left, but not before he'd initiated the seminal Primare 301. The following year, he launched a new company, Bow Technologies. This time his statement products were the grandiose ZZ One amplifier and ZZ Eight CD player while the wild-looking, wackily-named Wizard CD and Wazoo amp aimed at less extreme price points. In 2009 Christensen finally 'bowed' out of Bow Technologies but by then he'd long been working on the Artora project, in partnership with Danish painter Niels Bjorndahl. Their ArtoAmp 150 integrated and ArtoPlayer 1000 were first shown at the Munich High End show in 2009.

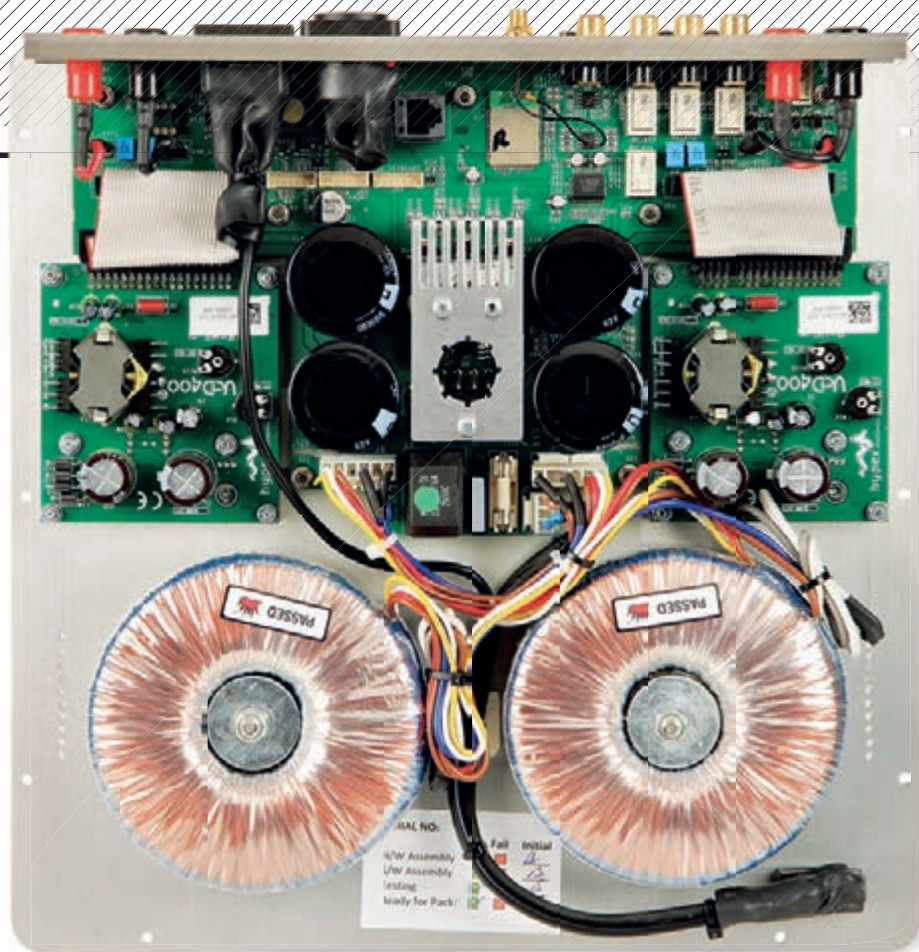
TUFAN TALKS

You might have guessed, wrongly, that this new product range name was inspired by the Jean Michel Jarre album (and this month's Vinyl Icon, p78). Roksan's Tufan Hashemi explains: 'No, I pondered for long and we came up with a number of exotic names, both ancient and new. However, the concept of this design is simplicity, clarity, freshness, purity, style. So I thought of "air", "fire", "water", "oxygen". Oxygen appealed more to everyone, and then to make it unique, I decided to spell it the French way – Oxygene.'

Speaking of the products' origins, Tufan says: 'Bo Christensen had a big influence on the looks of the Oxygene, but did not get heavily involved with the electronics. Quite a few other designers have been involved, each adding a small but crucial part to the realisation of the Oxygene philosophy.'

And the wireless aspect, with Bluetooth, is really part of that philosophy? 'Simplicity and modern use requires an amplifier of this class to be readily accessible via a smartphone. The Oxygene works perfectly with Bluetooth devices that do not have aptX, but with aptX the quality of sound from the source improves tremendously.'

'Oxygene is a full audiophile lifestyle range of products,' affirms Tufan. 'We will have an additional power supply for the amplifier that increases the output to more than 150W, and we have designed a wonderful USB DAC. For an established analogue company, it would be natural to want a super record player and phono stage in the same range, and we are working on these right now.'



ABOVE: Dual mono, right down to the substantial linear power supplies, the Oxygene Integrated is based around a pair of single-ended UcD400 Class D amplifier modules from Hypex Electronics

settled on the Pathos Converto – a striking piece of design in its own right, though in a very different vein from the Oxygenes.

Before setting this up, I'd already found myself happily listening to music from my Mac via Bluetooth. This really is a great convenience feature as the Oxygene pairs with your device quickly and painlessly. Radio 3 programmes from internet radio at the usual low bit-rate sounded rather thin and hardly audiophile, but music files came over really well. The Oxygene amplifier will remember up to 16 BT devices, so once set up, operation will be seamless even if the entire family want to use their various smartphones with it.

Returning to more conventional sources, I started by listening to the Oxygene amplifier only, using a Rega CD player. From the start it impressed by producing an extremely big and wide soundstage, with strong and sharply-focused positioning of instruments, although to be critical, there was a feeling that it was not so strong on depth. On Marta Gomez's *Entre Cada Palabra* [Chesky JD301], it conveyed the scale of the recorded acoustic on the opening track 'Maria Mulata' quite well though seemingly not managing the

ultimate sense of depth and distance which is possible here.

At the same time, there was plenty of detail and a pleasing feeling that some fine particulars were being revealed. The amp made you aware of the flute, which is quietly present in the ensemble from the beginning but only catches the attention in a solo passage.

And with Adele's 21 [XL Recordings XLCD 520] the Oxygene amplifier gave a really big, stable image with a good sense

of depth layering. The backing vocals were clearly positioned and solid-sounding behind Adele's sizzling lead. On 'Rumour Has It' the Oxygene amplifier clearly spelled out the subtle bass pattern which can,

all too often, just get buried in the massive drum sound that drives the track along.

With continued listening I found myself really appreciating the Oxygene's virtues of precision, speed and clarity. With 'Tangled Up In Blue' from *Blood On The Tracks* [Columbia 512350 6], it brought the focus sharply on to Dylan and his gripping narrative, while the backing instruments were cleanly and firmly placed behind and around him. As another test of stereo imaging, I put on *The Art Of* ↻

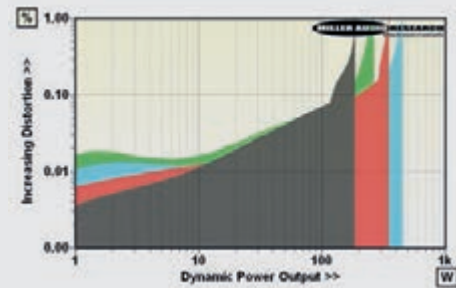
'I found I really appreciated the Oxygene's speed and clarity'

ROKSAN OXYGENE CD TRANS/AMP

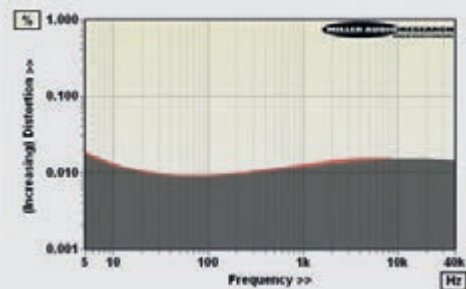
The Hypex amplifier modules always deliver a 'class leading' performance in the Class D category – their single-ended topology and compact form factor offering excellent load tolerance (the response is broadly unaffected by speaker load) with very low levels of ultrasonic interference. This 175W module actually offers closer to 110W/8ohm and 155W/4ohm with sufficient headroom to accommodate 185W, 350W and 450W into 8, 4 and 2ohm loads under dynamic conditions. Maximum current is limited to a generous 16.1A or 260W/1ohm [see Graph 1, below] which suggests the Oxigene Integrated will be compatible with all but the toughest of loudspeaker loads.

As expected, the response is well managed, showing a slight bass roll-off of $-0.9\text{dB}/20\text{kHz}$, an extended treble of $-0.3\text{dB}/20\text{kHz}$ followed by a more severe ultrasonic low-pass filter amounting to $-12\text{dB}/100\text{kHz}$. This is quite sensible with a Class D architecture although there's still a hint of switching noise at $50.75\text{kHz} \pm 450\text{Hz}$ (-60dB below 1W output). This is being addressed in later production samples. Harmonic distortion is very consistent with frequency at 0.009-0.017% across the audio range [see Graph 2] but increases linearly with output from 0.004%/1W to 0.01%/10W and 0.05%/50W through the midrange.

The partnering CD transport offers a textbook performance with a 75ohm S/PDIF output and no running parity, bi-phase, confidence, C-CRC or Q-CRC bit errors recorded on test. Readers may view in-depth QC Suite reports for Roksan's Oxigene amplifier and CD transport by navigating to www.hifinews.co.uk and clicking on the red 'download' button. PM



ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads



ABOVE: Distortion versus extended frequency at 10W/8ohm (left channel, black; right channel, red)



ABOVE: The rear panel for the CD transport has just coaxial and optical digital outputs, while the amplifier sports a Bluetooth wireless antenna as well as three line input phono pairs, an outboard PSU socket and wide-spaced 4mm speaker terminals

Janet Craxton [BBC Records BBC CD 635], which starts with the Mozart Oboe Quartet. Here, it's possible to conjure up Craxton a little to the right and with strings grouped across the centre of a natural soundstage. The Oxigene amplifier achieved this, although the image could have had a little more depth.

GELLING COMBINATION

Turning to the Oxigene transport, used with the Pathos DAC and feeding my usual Classé amplifier, I listened to Dylan again. This set-up could really populate the soundstage with a wealth of instrumental detail, even if the effect could seem a bit *too* overwhelming. But on the deceptively simple, spacious 'Simple Twist Of Fate' the combination excelled, projecting Dylan's vocal while retaining the feel of air around it, so that the track was a gripping listen right down to that final, dismissive snort from his harmonica.

With Florence And The Machine's *Lungs* [Island/Moshi Moshi], you could really groove to the contrasts in 'Dog Days Are Over' as it builds up to a magnificent rant. Florence's voice had silkiness and texture as well as power and the big bass drum sound had resonance and character.

Ry Cooder's *Bop Till You Drop* [Warner Bros 7599-27398-2] once again had the Oxigene/Pathos combination putting forth a busy, detailed soundstage, but with enough clarity to bring out the buried lead vocal on 'Little Sister'.

The Oxigene/Pathos duo also coped well with the dynamic challenges posed by Mitsuko Uchida's 1990 Snape Maltings recording of Debussy's *12 Études* [Philips 464698-2], where the piano sound ricochets around the wooden building, as the echoing treble sound never degenerated into a distorted harshness.

Putting the Oxigene components together, still with the Pathos DAC, I felt that the combination really gelled as I returned again to Dylan, and the system made foot-tapping sense of the 'Tangled Up In Blue' concoction of unremitting acoustic guitar over the rhythm section's great shuffle beat.

With Uchida there was a fine and convincing rendition of the piano's dynamics, and the Oxigene combination seemed well able to make sense of the reverberant acoustic. Even at those points where a torrent of loud treble notes generates a fearsome jangle of returning echoes, the Oxigene combination just calmly carried on.

On *Bop Till You Drop*, the Oxigene system seemed right at home too, bringing Ry Cooder's 'Little Sister' to life with clearly defined instruments, well-defined backing vocals, and above all (or rather *below* all) that powerful and effective rhythm section. More than ever I could marvel at the gorgeous guitar sound that introduces 'The Very Thing That Makes You Rich' and then laugh out loud at the line 'You had me down, scuffling like a dog'. ☺

HI-FI NEWS VERDICT

These are components that make an instant visual impact, but on acquaintance the Oxigene amplifier proved sonically impressive too. It has a clean, neutral, detailed and yet unforced sound, essentially vice-free. The CD transport also acquitted itself well, but it's a pity that the Oxigene CD player wasn't ready in time for this review, as this will surely prove to be the more popular buy.

Sound Quality: 85%



HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	110W / 155W
Dynamic power (<1% THD, 8/4/2/1ohm)	185W / 351W / 450W / 260W
Output impedance (20Hz-20kHz)	0.035-0.072ohm
Freq. response (20Hz-20kHz/100kHz)	-0.9dB to -0.3dB / -11.8dB
Input sensitivity (for 0dBW/75W)	91mV / 810mV
A-wtd S/N ratio (re. 0dBW/75W)	79.2dB / 98.0dB
Distortion (20Hz-20kHz re. 10W/8ohm)	0.0088-0.017%
Power consumption (Idle/Rated o/p)	27W/200W (3W, CD transport)
Dimensions (WHD)	310x60x310mm