



David Price finds the Channel Islands D-100 monoblock amplifiers one of the least taxing, and most relaxing, Class D amplifiers he's heard to date...

Tax-Free!

We are undergoing an audio revolution, the like of which we haven't seen since the mid-sixties. Back then, the status quo was valve amplifiers such as the (now) classic Quad II. The advent of solid-state audio devices meant that a raft of new, more efficient solid-state based designs appeared. They used transistors that operated in Class B, switching on and off as the music signal required. Thanks to the dramatically lower heat produced more complex circuits producing considerably more power could be used.

This radically changed the whole hi-fi landscape. Just as CD transformed the 'default' sound of a hi-fi system in the mid eighties, so the transistor had done the same in the late sixties. In both cases, what was once smooth, warm and loose became tauter, tighter and tonally leaner – and in both cases, the change wasn't universally applauded as a step in the right direction. As with CD though, the advent of solid-state Class B amplification made hi-fi dramatically more reliable, practical and – not to put too fine a point on it – cheap to make (if not buy)!

With the exception of a few heretics (many of whom read this

very magazine), approximately 99.9% of the hi-fi listening classes now use solid-state amplification, invariably heavily Class B biased. To 'golden eared' tube aficionados, whenever they hear such a 'tranny amp', it sounds predictably tonally monochrome and two dimensional. Class B solid-state might be efficient and cost-effective, but it is not a universal panacea.

Well, that was how the world looked until recently. The past couple of years has seen the rise of Class D. Contrary to what is often supposed, the 'D' doesn't denote digital. Rather, Class D is a type of ultra high speed analogue switching transistor amplifier (the design of which has actually been around for years), which may or may not be run in conjunction with a digital input to modulate the output (as per Lyngdorf, for example). It uses a comparator/modulator scheme to look at the input signal and switch output devices on or off at a very high frequencies to replicate the input signal. Until recently they've been sonically underwhelming, but now – just now – we are witnessing a step change in Class D designs. At last, there are some which are now as good as (if not better) than serious Class AB designs, and they

offer unique advantages, as well as disadvantages.

Obvious positives are the thermal efficiency and low power consumption. Because the output transistors are only switched on for tiny fractions of a second, heat production is very low, and little in the way of heatsinking is needed to give adequate cooling. Given that heatsinks are massively expensive (as one glance at the Maplin catalogue will attest) – and heavy too – their omission is a major cost-saving boon. This low heat output also means lots of power is possible, relatively easily and inexpensively. Last month's review of Rotel's RB-1092 showed 586W into 8 Ohms (and around twice that into 4 Ohms) for £1,500. Fifteen years ago, you'd have to have added another zero onto that price tag, for a Krell or suchlike...

The downside is simple - many people think they are not musical. Personally I think this is a reductive analysis - a bit like saying that Italians are crazy drivers or the British drink tea all the time, there is an element of truth here, but it certainly doesn't necessarily apply in every case!

As far as Class D amplifiers are concerned, there are a number of different approaches, and whilst all share similar overall 'sonic footprints',

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the devil of the performance is in the detail. What is true is that Class D sounds 'clean' - go back to a Class B amplifier after a decent Class D, and you'll hear a zingy, fuzzy upper midband that somehow doesn't sound quite right. If you're listening to a Naim, or some other successful Class B design however, you'll also hear a liveliness and sense of animation that most Class Ds lack. Hence the 'Class D isn't musical' refrain...

Well, Class D is getting increasingly more animated. And it doesn't do it by sounding zingy and forward as per Class B, but in its own special way - which is something that I for one rather like. The Channel Islands Audio D•100 is an amplifier I have a particularly high opinion of - and that comes after living with the excellent aforementioned Rotel RB-1092 (at roughly the same price) and the superb NuForce Reference 9SE monoblocks at nearly £1,000 extra. The CAI D•100s are different to these, using Philips Class D technology, and you can hear it...

Anyone who remembers Audio Alchemy (anyone still have a Digital Decoding Engine?) may be familiar with Dusty Vawter, who was that company's customer service manager. When they went out of business, he teamed up with Monolithic Sound's Greg Schug to make Channel Islands Audio, designing various preamplifiers and power supplies. The D•100 uses a UcD-180 Class D module from Philips DSL via Hypex, modified in-house at CAI, with lots of attention to detail paid to - yes, you've guessed it - the power supplies...

Each (6.25" w x 5.5" h x 8.0") monoblock boasts a large 300VA custom toroidal transformer in conjunction with eight parallel capacitors, and discrete Schottky diodes in the bridge rectifier. There's a front panel 'standby' switch, which allows critical circuitry to be kept powered up. Round the back, there's a pair of speaker binding posts and an RCA phono input (there's an option of balanced XLR), plus an IEC mains socket. Unlike the ultra modern industrial design of the NuForce Reference 9SE, the D•100 is surprisingly 'old school' in look and feel. It's basically a heavy gauge steel chassis with 3/16" brushed, anodised aluminium front and rear panels, around which a crackle black finished pressed steel cover is fastened by stainless steel hardware. It is 'honest looking' I suppose, and to its credit is nice and compact too, but don't expect it to win any prizes in the style stakes. Channel Islands Audio

offer two derivatives, with 26dB or 32dB of gain.

SOUND QUALITY

Having spent this year so far with Class D power amplifiers - in the shapes of NuForce Reference 9SE and Rotel RB-1092 - driving both my Yamaha NS1000M and Quad 989

behind the plane of the speakers.

Contrast this to the similarly priced, excellent Class D Rotel RB-1092, and the latter is pushing images well ahead of the speakers, feeding you the music almost into your lap. But despite being more laid back, the CAI monoblocks don't sound two dimensional and

"one of the most laid-back, organic and natural of the breed I have encountered..."

reference speakers, it was fascinating to go directly to the Channel Islands Audio D•100s. Those who dismiss Class D amplifiers as unmusical are wrong in at least one respect, as this is just as misguided as saying 'all valve amplifiers are soft and loose'. Whilst there are a great many unmusical Class D designs (and loose valve amps for that matter), they do not all sound the same. Just as per any other type of amplifier, it ain't what you do but how you do it - and in this case Channel Islands have done it very well. Here's one very pleasant and endearing sounding D-type.

Kicking off with The Byrds' 'Draft Morning' on vinyl, instead of getting the rather clinical, mechanical and analytical presentation I have come to fear from amplifiers such as these, I was greeted with a surprisingly warm and enveloping sound. Indeed, I would go as far as saying this is one of the most laid-back, organic and natural of the breed I have yet encountered. Most surprising is the amplifier's midband, which is - if anything - a little recessed for some tastes. The D•100s don't throw the soundstage out into your face and pin you back in your seat, choosing instead to hang the image around, or even a little

flat. Rather, the soundstage hangs back way behind the speakers, and is extremely clear all the same. The Byrds' 'Chestnut Mare' was a delight, vocals located precisely in the centre of the soundstage but way back behind the speakers, and the oodles of atmosphere, those gently jangling guitars sounding beautifully sweet.

Tonally, the D•100 is again very accomplished. It is one of the most neutral Class Ds I've heard to date, making even the NuForce 9SEs (at £1,000 more) seem a little artificial, whilst the similarly priced Rotel suddenly seemed a tad chrome plated in the upper mid and treble. This amplifier is definitely from the 'black magic' school, with a deep, velveteen feel that is anything but forward, clanky or metallic. In my system, with my turntable and tube phono stage, they could sound a little dull through the (admittedly dull sounding) Quad ESL-989s, but the 'well lit' Yamaha NS1000Ms suited the D•100s superbly.

Stephen Duffy's voice in The Lilac Time's 'In Iverna Gardens' was a treat - as creamy as I've heard it through solid-state, and delivered delicately enough to catch all his tiny vocal inflections. Again, these monoblocks



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"for those of the tubular persuasion, who require serious power..."

really suited the dreamy mood of the music, showing their romantic side. While the Rotel RB-1092 delivered a wonderfully well resolved, powerful and dynamic sound, the Channel Islands monoblocks were ever so slightly less explicit and less muscular, yet seemed to carry the song's groove better – giving the sense of a flowing, lilting piece of music rather than a sequence of meticulously well defined notes. It's hard to describe, but suffice to say it was more emotionally engaging and less cerebral.

There's no doubt that the D•100s are a tad looser than the RB-1092, and this is down to their bass which is just a little softer and warmer than that of the Rotel. Whereas the latter can start and stop on a sixpence, the former are ever so slightly less taut down below. Don't for one second think they're loose and wobbly; they're not; it's just that the Channel Islands monoblocks' *pièce de résistance* is that lovely velvety, musical midband. Likewise, they're blessed with a very silky treble. It's not valve-like, but it's gentle and unfatiguing whilst being detailed and spacious. Again – I've yet to hear a Class D amplifier that has the sheer 'hear through' transparency of a top tube design, but I'd say that this treble is certainly no disgrace – and better even than that of the NuForce Reference 9SE.

Aside from the aforementioned slight looseness in the bass, the only downside of the D•100 is its stereo image

projection. Although I do love the fact that it is the least 'in your face' Class D design I've heard, it doesn't project images left and right with the same assuredness of the Rotel RB-1092. The latter has a sense of massive, untrammelled power (and all the confidence that comes with it), whereas the Channel Islands Audio D•100 is by nature more of the 'pale and interesting' variety. It is ultimately more satisfying musically, although lacks the Rotel's barrel-chested muscularity. I will leave it to you, dear reader, to decide which of

REFERENCE SYSTEM
 Michell GyroDec/vdH The Frog turntable
 Note Products PhoNote phonostage
 Marantz CD63KI DP CD player
 MF Audio Passive Magnetic Preamp (silver)
 NuForce P9 preamplifier
 NuForce Reference 9SE power amplifiers
 World Audio K5881 valve power amplifier
 Rotel RB-1092 power amplifier
 Yamaha NS1000M loudspeakers
 Black Rhodium interconnects/cables

the two presentations floats your boat – certainly at the price, both amplifiers are superb.

CONCLUSION

Having spent a happy month in the company of the Rotel RB-1092, and loving it for its power, projection and self-assuredness, I now find myself delighted with the Channel Islands Audio D•100s for altogether different reasons. These are almost the Rotel's antithesis – with an unusually organic and natural sound that majors on rhythmic flow and tonal colouring, they are about as close as Class D comes to a good tube amplifier (certainly, from what I've heard to date). I miss the Rotel's effortless, carefree power, but then again I don't know how I could live without the way the D•100s set up a groove and get into it with such aplomb. If you're of the tubular persuasion but require serious power then these are an inspired compromise, and if not then these should still be an essential audition.

MEASURED PERFORMANCE

This tiny Class D monoblock delivers disproportionately large amounts of power - by Class AB standards anyway - producing 112 watts into 8 Ohms and 196 watts into 4 Ohms. This is enough to cope with any domestic situation.

Distortion levels were very low all round, both in the midband (0.0008%) and at high frequencies, at all power levels. Our analysis shows 1 watt at 10kHz into 4 Ohms, where a figure of just 0.009% distortion was recorded - unusually low for Class D. Miniscule amounts of third harmonic mostly account for this. The D•100 monoblocks deliver exceptional results here and are in a class of their own amongst PWM amps. More surprisingly, although there was a tell-tale high frequency (400kHz, 0.28V) signal on the loudspeaker line, there was no d.c. offset.

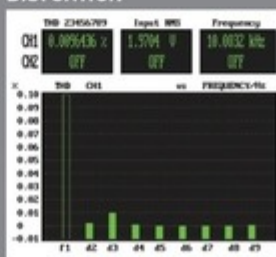
Frequency response measured a wide 7Hz-30kHz (-1dB) with a slow roll off above 30kHz, much like conventional amps.; there is no sharp low pass filtering at 20kHz and frequency response did not vary with load. Sensitivity was low at 1.3V so a preamp with gain will be needed

unless the sources are of the silver disc variety.

This is a neat and very well engineered Class D amplifier, one that measures a whole lot better than most. NK

Power	112watts
CD/tuner/aux.	
Frequency response	7Hz-30kHz
Separation	monoblock
Noise	-128dBV
Distortion	0.01%
Sensitivity	1.3V

DISTORTION



VERDICT Extremely clean Class D power amplifiers with a charmingly musical sound.

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FOR
 - musicality
 - delicacy
 - fatigue-free sound

AGAINST
 - bass grip
 - prosaic styling