

The Wadia 581se CD/SACD Player

by Roy Gregory

Wadia's 861, and latterly the 861se, CD player has been pretty much a permanent feature around these parts, not least because the only player I've heard that seriously surpassed its performance cost five times as much, while few others even got close. Until recently, that is. The arrival of the Audio Research CD7 marked the first machine to equal both the price and musical merits of the Wadia, whilst the arrival of SACD, and more recently the D3 versions of the Esoteric machines to play them on, has offered up another challenge.

With that in mind, and somewhat frustrated by the lack of developments from the parent company, our 861se made a long (and extremely fruitful) trip to the Great Northern Sound Co, for their seriously extensive modification programme. Ex-Wadia engineers, they do a fantastic job that I'll be reporting on in Issue 62, but in the meantime, what should happen along but the latest offering from Wadia themselves.

Dubbed somewhat archly the 581se, the new machine is visually almost identical to the old, further adding to the confusion. It uses the same monolithic construction, digital volume control and offers the same digital input and switching options*, indicated by an i suffix and \$500 premium over the £9950 cost

of the standard version. But look a little closer and you'll see differences that whilst subtle, hint at important changes. Not least are the slots cut in the side and bottom panels, to improve cooling. Then there's the fact that the display actually sits in the middle of its window, while the remote is half the size and ten times as useful

(bear in mind that the original was



the biggest and most useless remote ever, requiring you to stand right in front of the machine to get it to respond, and having so many identical buttons that spotlighting was a prerequisite for operation).

But these changes are much more than skin deep, internally embracing four key areas of system performance.

*These are even more relevant today, especially given Wadia's outreach strategy based on the 170 iTransport, a neat little dock that extracts a digital signal from your iPod.

I'll sketch over these fairly quickly, due to the limitations of space, but it will give you some idea:

1. The power supply section has been totally revised, now featuring six separate and independent supplies for different sections of the circuitry, and upwards of 30 local regulation stages. These include a sophisticated new switch-mode architecture developed to provide individual supplies for the transport, display and digital sections.

As before, there is also extensive internal mechanical isolation, while extensive inductive filtering on the charging caps, as well as careful shielding and positioning ensure that the switching supply has no deleterious effects, either internally or externally. The complete power supply arrangement delivers a noticeably cleaner ground plane.

2. A new, patent pending clock circuit has been implemented, that includes its own voltage regulation built right beside it on the board. Wadia's research showed that jitter performance was significantly influenced by fluctuations in oscillator temperature and voltage. By attacking both variables with heavy regulation and thermal compensation, accuracy has been improved to the point where it is measured in single parts per million.

3. Not content with simply including DSD decoding, Wadia



► further developed the format, creating a parallel processing algorithm operating at 64bits and 2.8 MHz, that corrects deficiencies in the rise time of the original encoding, delivering improvements in phase accuracy and a 124dB S/N ratio.

4. The new SwiftCurrent 3 output topology moves from an i/c based implementation in the 861, to a discrete Class A circuit in the 581se. That's why it needs all those slots! In order to avoid loading the DAC's output, resulting in non-linearities, the circuit itself is a decoupled current mirror design. The new layout also provides three separate paths per channel, meaning that the positive and negative legs required for the balanced outputs are distinct from the single-ended path, allowing Wadia to ensure that both balanced and single-ended outputs deliver identical levels without resorting to an extra gain stage before the RCA sockets.

Okay, so it reads like a wishlist of audio upgrades to the existing circuit, but that's exactly what it is, helping to explain why it took so long to arrive. The end results are both sonically and operationally impressive.

In use, the 581se certainly runs noticeably hotter than its predecessor, while it also seems more sensitive to support, the Stillpoints component stand delivering an even greater benefit than it did with the 861; that discrete output stage perhaps? I'll mention again the remote control, which is now sensibly sized, nicely laid out and operates flawlessly from distance. In fact, the only (unavoidable) step backwards is the sluggish disc handling imposed by the inclusion of SACD. The transport and optics are derived from a Sanyo model with extensive

modifications, whilst decoding is carried out by a monolithic Sony chip, in combination with Wadia's proprietary Digimaster 2.5 algorithm. As well as the digital volume control, you also get balance and a choice of three decoding profiles, each offering subtly different levels of extension and focus. I generally preferred the meat, substance and sense of flow that came with Algorithm A, but it's worth following Wadia's clear instructions as regards comparing the three, as you will have your own preference and there are also instances in which an alternative setting offers better results. In addition, it's worth noting that (as with the 861) you can adjust the 581's maximum output level to match the overall gain of your system. This is important in any situation, but especially so if you are using the player as a

in the player's performance. The 861's bass extension, definition and texture were always exceptional, but even when warmed-up and on song (about 10-days in) it was a little reticent, reluctant to kick up its heels. Well no more; the 581 is a quicker and far livelier sounding player. It's ability to time notes, define when they start, when they stop and the interval in between, makes music as a whole much more free-flowing, lucid, expressive and really allows a performance to breathe. This has a lot to do with the low-frequencies but that should come as no surprise; so much of music flows from their foundation. But it involves other factors too, not least the blacker background that lets you hear the notes more clearly. Listening to Eliza Gilkyson's 'Beauty Way' the bass has more shape and colour, whether it's the bottom string counterpoint of the acoustic

opening or the insistent impact and easy lope of the drum and bass fill that picks up the track and pushes it forward. Just like the 861, the 581 tracks the even steps of the bass guitar melody, giving each note its distinct pitch, but now they have much more

of a groove, a sense of purpose rather than simply filling the space.

Listening to live acoustic recordings, everything from the Du Pre Elgar from Moscow or the Gorecki 3rd Symphony to Jackson Browne and the Wadia makes the volume and boundaries of the venue much more apparent. Audience noise, especially the shouted interjections on JB's *Acoustic Solo Volume 2*, have a much more obvious sense of position and distance, while the repetitive strains of the Gorecki's opening bass phrases have space around and below them, the notes floating properly on their acoustic ►



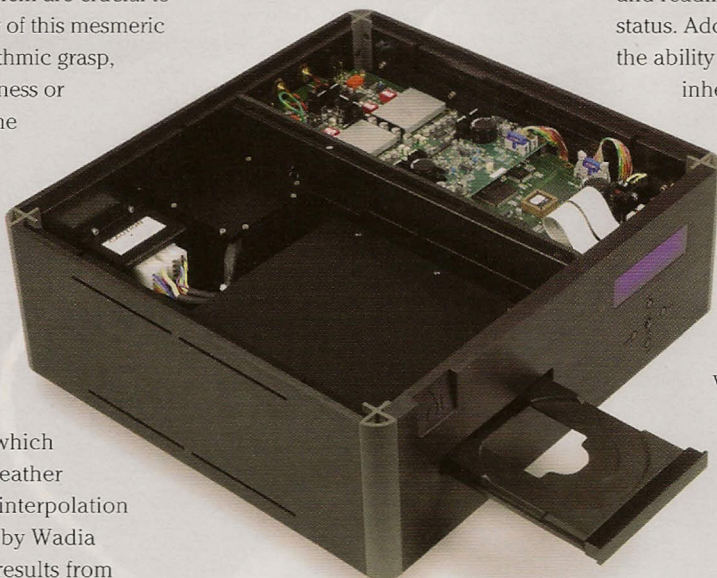
digital pre-amp, ensuring that you run the volume control near the top of its range and don't risk losing resolution. Finally, and in its own way most welcome of all, the 581 doesn't suffer the protracted warm-up of its predecessor, sounding far less leaden from switch-on and achieving near full performance overnight; a blessing for reviewers and the eco-sensitive alike.

In fact, the easier, livelier tread that's immediately obvious on switch on is a key indicator to the improvements

► cushion, the texture of the bowing and the complexity of the stacked harmonics drawing you in. It may seem obtuse to talk about pace when it comes to a symphony with four slow movements, yet the gradual evolution of each, the subtle textural and stylistic differences between them are crucial to the captivating quality of this mesmeric piece. Any lack of rhythmic grasp, any ham-fisted clumsiness or tightness of grip and the illusion collapses. The 581 pulls you in and keeps you there, testament to the natural accuracy of its low-frequency tonality, flow and weight.

Of course, the Gorecki is an SACD, which brings us to another feather in the 581's cap. The interpolation algorithm developed by Wadia delivers exceptional results from the high-definition discs. SACD isn't a silver bullet. Just like any other medium, there are good and bad examples. But more discs sound better on the Wadia than any other machine I've used. It seems to make the most of their detail and transparency, without ever tipping over into the slightly spotlighted, detached quality that can make some of them sound ethereal and unreal. Instead, the tonal and harmonic accuracy of SACD are wed to a sense of purpose, substance and structure that broadens the gap between it and even the best Red Book discs to embarrassing proportions. Direct comparison of discs available on both formats leaves you wondering that there was ever any debate about SACD's benefits. Eleanor McEvoy's 'Love Must Be Tough' has so much more space, separation and detail on the high-definition format that you wonder if it's the same recording. But it is the added subtlety and

shape to the vocal, those familiar tones render so much more naturally and intimately that makes the song more natural and emotive. There's greater dynamic range, but greater emotional range too and it's the latter that's really important. Meanwhile,



an album like The Pixies' *Doolittle* which never made a comfortable crossing from LP to silver disc is transformed when the Wadia delivers the SACD. Gone is the CD's glare and spatial compression, the manic jumble of instruments and screaming vocals. Instead there's the space and carefully layered production, the energy and controlled edge that made the record so impressive way back when. If SACD has passed you by until now, buying a 581 won't just open that door, it'll have it off its hinges. As good as the Wadia is with CD – and it's very, very good – give it a decent disc and it's SACD performance is in another league entirely.

But irrespective of format, the this latest Wadia delivers a significant step forward from the already excellent standards of its predecessors. With its effortless dynamics, transparency and smooth high-frequency extension, the expressive ebb and flow it brings

to musical performances allows it to stand alongside the latest record players without feeling second best. The 861 was the first CD player that made me want to play silver discs. The 581 has kept pace with the impressive evolution of high-end analogue replay and readily reclaims its benchmark status. Add in the functional flexibility, the ability to play SACD, the potential inherent in the 170i transport and the existence of an enhanced and upgraded version in the shape of the 781 and Wadia are back with a bang. The face might be familiar, but the performance – that's been elevated to whole new level. Why do I get the feeling that this is only the first chapter of this particular tale? ►+

TECHNICAL SPECIFICATIONS

Type:	One-box CD/SACD player
Decoding Software:	Wadia Digimaster 2.5
Sample Rate:	1.4112 MHz
Outputs:	1pr single-ended RCA 1pr balanced XLR
Output Level:	Variable
Maximum Output Level:	Internally adjustable between 0.3 and 4.25V
Output Impedance:	51 Ohms
Dimensions (WxHxD):	432 x 184 x 420mm
Weight:	5kg
Finishes:	Black or silver
Price:	£10000

UK Distributor:

Musical Design Company
Tel. (44)(0)1992 573030
Net. www.mdc-hifi.co.uk

Manufacturer:

Wadia
Net. www.wadia.com