

## PRE/POWER AMPLIFIER

Pre & power amplifier combination. Rated at 250W/8ohm  
Made by: Audio Analogue, Tuscany, Italy  
Supplied by: Decent Audio, Stockton-on-Tees  
Telephone: 05602 054669  
Web: www.audioanalogue.com; www.decentaudio.co.uk  
Prices (pre/power amp): £4999/£8999

# AUDIO FILE

# Audio Analogue Bellini/ Donizetti Anniversary

While the industrial design is familiar, the Bellini preamp and Donizetti power amp boast entirely reworked internals for this 'Anniversary' guise. And power is prodigious! Review: Adam Smith Lab: Paul Miller

It was back in 1995 that the Italian brand, Audio Analogue, launched its first product – the Puccini amplifier. A no-nonsense stripped-down integrated, it offered little more than an input selector and a volume knob, yet its no-frills approach won many fans. Subsequently the company has built a well-deserved reputation for providing a range of fine-sounding and stylish-looking amplifiers, and has also taken to the CD player market with models such as the Maestro and Crescendo.

Then, to celebrate its 20th anniversary in 2015, Audio Analogue decided to take a fresh look at some of its most noteworthy amps, redesigning them from the ground up to create a new flagship range. The results were the Maestro Anniversary [HFN May '16] and Puccini Anniversary [HFN Jun '16] integrated amps, plus the newer £4999 Bellini and £8999 Donizetti Anniversary pre/power amps we have here.

### CONTROL FREAK

The Bellini Anniversary preamplifier is a line-only design that weighs in at a not inconsiderable 12kg, its front panel a beautifully sculpted block of metal that sports a large central multi-purpose control flanked by no fewer than 22 LEDs. The six to the left of the control indicate which input has been selected or whether the unit is in standby mode, while the 16 to the right show volume level. The master control covers all of the unit's functions, but does take some familiarisation.

The control is pressed briefly to bring the unit out of standby mode, after which it can be rotated to change volume. Press it for three seconds to change between inputs and for five seconds to turn the

unit off. Even more oddly, the actual input change happens on the control's release, not the push, so it's easy to convince yourself nothing is happening. It is equally easy to press too long and inadvertently switch the unit off, or press too briefly and get nowhere. Even when you have this off pat, you'll discover that the control scrolls through the inputs sequentially, so changing from number one to number five takes 12 frustrating seconds. Fortunately, the preamplifier's solid-metal remote control sports separate buttons for volume, source selection and power that act instantly – much to my relief!

At the rear, five line-level inputs are provided. Numbers one to three are on single-ended RCA phono, but number four and five are balanced XLR types. There are also two pairs of single-ended (unbalanced)

'Such power will entertain your neighbours with the hi-fi high life'

outputs and two pairs of balanced ones, so you could connect the unit to multiple Donizetti Anniversary power amplifiers should you have sufficient money, space, loudspeakers and the desire to entertain your neighbours with the hi-fi high life.

Internally, the preamp is based around a newly-designed power supply equipped with extensive filtering to minimise the



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COMMENDED

LEFT: The Bellini Anniversary's fascia [top] is simplified by the use of one control for on/standby, volume and input selection. Pinhole LEDs to its left show the input chosen, those to the right volume and all are dimmable. The massive Donizetti amp [bottom] features an illuminated power button and matching fascia design

impact of mains noise and RF interference on sound quality. The audio circuitry utilises Audio Analogue's proprietary 'SeGeSTA' (Single Gain Stage Transconductance Amplifier) topology, which is fully balanced and eschews overall, or global, feedback.

### BEAUTY AND THE BEAST

Instead, the unit relies on judiciously applied local feedback to maintain stability and reduce noise [see PM's boxout, below]. The components are assembled onto a

four-layer PCB and include audio-grade capacitors and military-grade, through-hole resistors. The volume control, meanwhile, is a form of rotary encoder that governs output level via a resistor ladder, just as the various inputs are selected/switched locally by high-quality relays.

But what of the partnering Donizetti Anniversary power amplifier? Frankly, this is something of a beast! Its 41.2kg

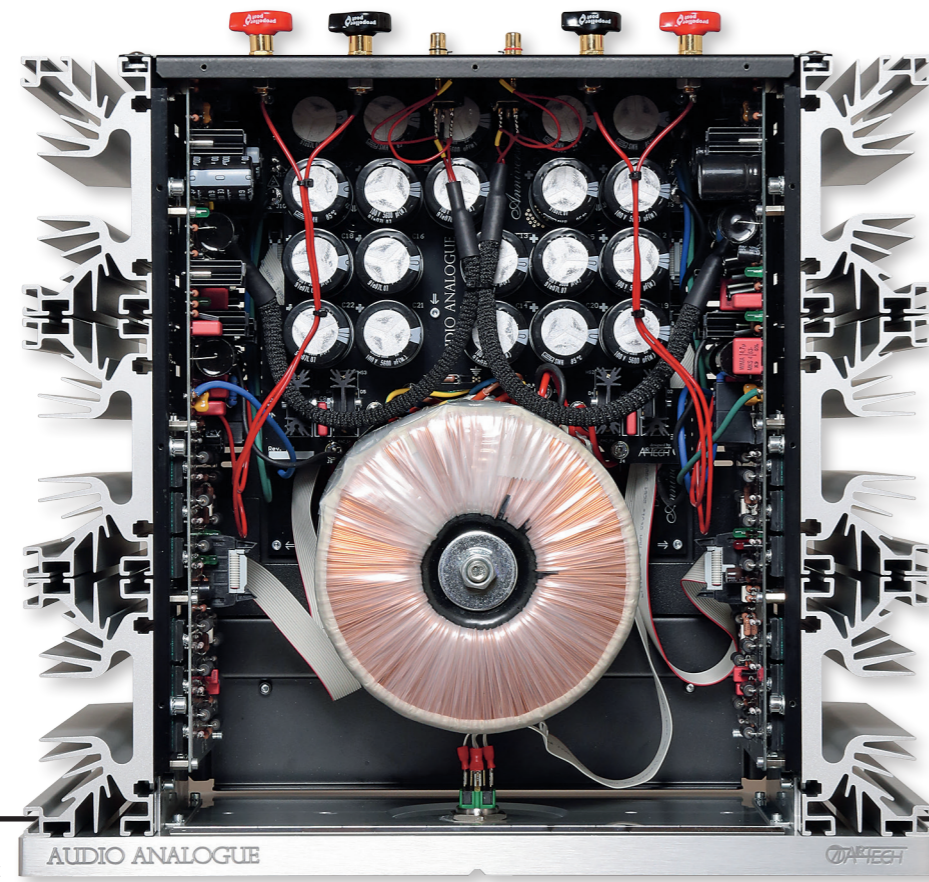
weight strongly suggests a two-person lift, and those persons might want to wear gloves as the edges of the heatsinks are not exactly smooth to the touch. Much of the power amp's weight comes from its two 1200VA transformers and, again, no global feedback is used in the amplification stages. As per the Bellini Anniversary, the circuitry is fully balanced and similar through-hole, military- and audio-grade components are used throughout.

The minimalist front panel is home to only a power switch and associated LED indicator, but things are a little busier round the back. The unit has both balanced XLR and unbalanced RCA inputs plus one set of speaker output terminals using some of the most stylish binding posts I have ever seen. As a plus, their chunky size and decent spacing makes them easy to grip should you wish to use bare-wire connections.

### WARM LOVE

After carefully heaving the amps into my Atacama Equinox equipment rack, they were hooked up to a Naim CD5 XS CD player with FlatCap XS power supply and PMC Twenty5.24 speakers [HFN May '17].

The Donizetti Anniversary's thermally-induced changes in distortion [see PM's boxout, opposite, and Lab Report, p55], means that it's more important than usual to allow an adequate warm-up period after switch-on before settling down to any critical listening. Drive the amplifier hard, ☞



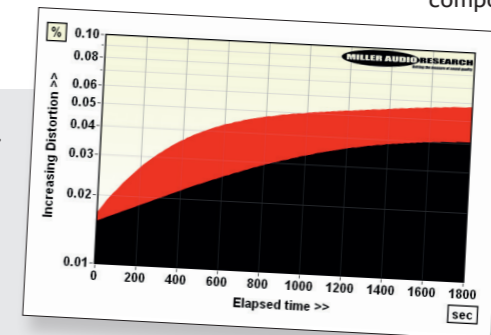
RIGHT: Two 1.2kVA toroidal transformers feed a 100V PSU with 56,000µF of reservoir capacitance [top]. The fully discrete output stage employs six pairs of bipolar power transistors per channel, supported by a series of (very sharp!) heatsinks

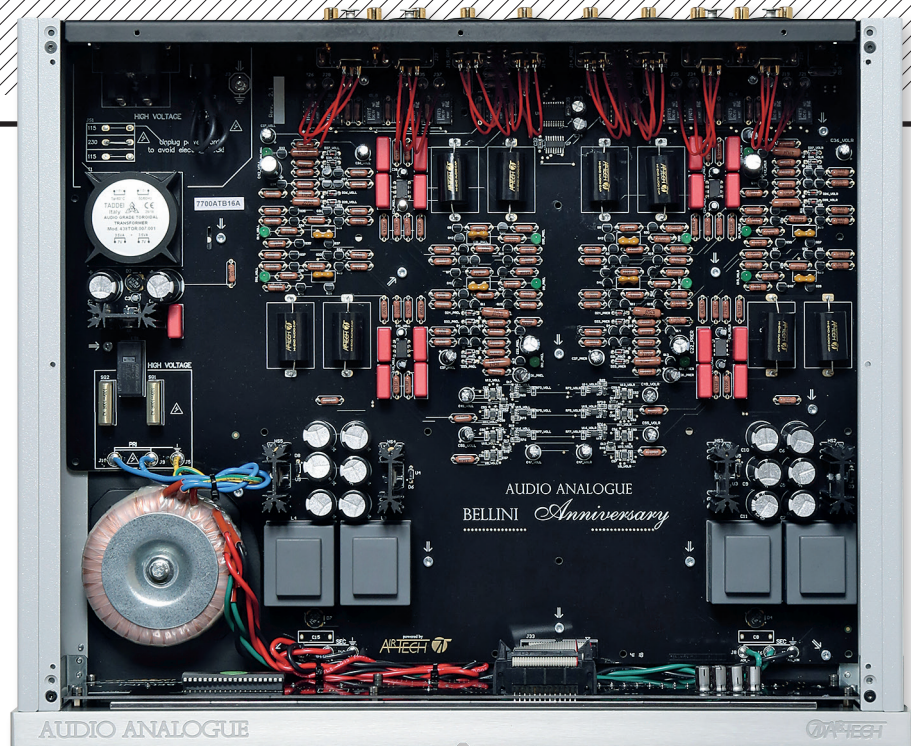
### GIVING FEEDBACK

In common with Audio Analogue's recent top-line products, the design of its Anniversary amplifiers has been given over to 'AirTech Labs' – a sub-brand dedicated to AA's product development [see interview, p53]. This team is responsible for the evolution in AA's amplifier circuit design already witnessed in the Anniversary series of Puccini [HFN Jun '16] and Maestro [HFN May '17] models. Indeed, aside from the retention

of the Bellini and Donizetti names, and distinctive casework, AA says these are both ground-up redesigns. Nevertheless, while the use of transconductance gain stages is new here, the over-arching principles of minimum local compensation (feedback), a fully-balanced architecture, a massive and very tightly-regulated PSU, and the ability to drive very difficult loudspeaker loads, is all very familiar.

While 'zero feedback' is seen as an aspirational badge of honour by more than a few audiophile brands, some form of stabilising compensation is required to determine gain (+26dB here), bandwidth and distortion, particularly when tackling the thermal drift of a high-power output stage. AA uses 'relay switches to minimise non-linearity and oversized military resistors to minimise thermal distortion' but whatever the purported subjective benefits of minimal feedback, distortion in the Donizetti is still clearly influenced by output level and temperature [Graph, 1kHz/10W/8ohm; black = left, red = right channel]. PM





**ABOVE:** The fully balanced, dual-mono preamp is an enhanced version of that first seen in the Maestro Anniversary integrated amp [*HFN* May '17]. A rotary encoder governs the stepwise volume

especially into lower impedance speakers, and it will continue to heat up with the possibility of further subjective change. Nevertheless, as a rule, as the Donizetti warms it also becomes markedly more smooth and insightful, even if the overall presentation of this pairing is not quite so easy to sum up in just a sentence or two.

### STARK RELIEF

In many ways, this duo is exceptional. The first thing likely to strike you is the remarkable midband lucidity, and the expansiveness of the soundstage. These amps have an uncanny ability to place both instruments and vocalists in their own space without the presentation as a whole feeling crowded or compressed. What's more, a virtual absence of background noise means that central performers stand out in stark relief, apparently on an otherwise empty stage, with musical accompaniment arranged carefully behind them.

A perfect example of this was American singer/songwriter Norah Jones on the track 'Feelin' The Same Way' [*Come Away With Me*; Parlophone 7243 538609 2 9]. Heard through the Bellini and Donizetti Anniversary she was seemingly standing in the centre of my room, with backing instruments slightly behind the plane of the loudspeakers. Everything was gloriously well defined and easy to follow. The three-dimensional sense of imagery set up by these amps could astonish at times, and this track showed off this ability perfectly.

'Strikes on the metalwork arrived with real force'

This Anniversary pre/power also serves up an impeccable performance when it comes to the top-end – the sheer level of clarity and purity in the treble region is again, first-class, enabling you to hear the tinkle of a pin drop in even the busiest of mixes. Cymbals in general possessed a delicious metallic sheen while more vigorous strikes on the metalwork arrived with real force before shimmering away into the distance. Equally, delicately struck hi-hats were as vivid-sounding as I have

heard them, and not once did they disappear into the back of the mix.

One point to note here was that while the amplifiers' performance was tonally similar through both balanced and unbalanced connections, the balanced provided just that extra hint of insight. If you buy this pairing, then going balanced is definitely worthwhile.

### FIRE BELOW

My initial puzzlement over this Audio Analogue duo's general character stemmed from the way in which they dealt with the lower musical octaves. Naturally, with the available power on tap from the Donizetti Anniversary, bass was prodigiously extended, solid and taut. Even better, it remained composed even with the amp wound up to thoroughly anti-social levels. However, while one minute the pairing would be pounding out a dance beat or a rip-roaring jazz double-bass line with precision and fire, the next would find it

## GIUSEPPE BLANDA

Audio Analogue, as we quickly discovered when talking with current owner and co-founder Giuseppe Blanda, is one of a trio of companies under a parent organisation called the AF Group SRL. A sister brand, Pegaso, focuses purely on valve-based products, launching the P50A integrated amplifier in 2018. AirTech Labs is the third sub-brand, controlled by Audio Analogue's Claudio Bertini, who also owns the Oasi Audio dealership in San Giuliano Terme, Pisa province.

'Audio Analogue's Anniversary edition hi-fi components were all conceived and engineered with input from AirTech designers,' says Giuseppe, 'the Puccini amplifier launched in 2016, was built around a genuine zero feedback design developed by AirTech's R&D department, led by AirTech designer Andrea Puccini, who acted as technical manager on the project'.

While Audio Analogue and AirTech are technical collaborators, the latter also looks like creating an identity of its own. 'We have some exciting news', reveals Giuseppe 'to partner the AirTech range of hi-fi cables, we will also be launching the first AirTech-branded amp in 2020'.

Does this mean that AirTech is going head-to-head with Audio Analogue as competitors? 'Not at all', replies Giuseppe 'our relationship will continue as ever. For example, we are already working on the new Audio Analogue Absolute integrated amplifier which is tasked to offer 40W in pure Class A or 100W in Class AB, switchable by the user'. Watch this space...





**ABOVE:** The preamp [top] offers five line ins (three on RCAs and two on XLRs), two tape ins (on RCAs), and four sets of main outputs (on RCAs and XLRs). The power amp [below] has inputs on RCAs and XLRs plus 'wing nut' 4mm cable binding posts

shrinking slightly, and in doing so leaving a well-recorded bass guitar line feeling a little withdrawn.

Nevertheless, the likes of Underworld's 'Jumbo' [*Beaucoup Fish*; JBO 1005438] showed the amps at their bass-pumping best, the track being delivered with a punch that was absolutely spot-on. The swirling keyboard arrangements and main loping synth-loop remained clearly discernible in the mix after the four-to-the-floor beat kicked in and pummelled my sofa. All in all, the Bellini and Donizetti Anniversary sounded glorious here.

### PURE INSTINCT

Then, as if to illustrate the Donizetti's slight unpredictability, Steely Dan's 'Jack Of Speed' [*Two Against Nature*; Giant Records 9 24719-2] found Walter Becker's bassline sounding just slightly too big and perhaps just a little less distinct than I am accustomed to. Usually, each note is well defined, making the underlying rhythm easy to follow even if, on this occasion, I could sense some slight hesitation.



**LEFT:** Compact but heavy IR handset governs volume, mute, input selection and 'set-up' (LED dimming)

Where the Audio Analogue duo definitely came out on top was with its handling of recordings that varied in their quality. The Corrs' 'Only When I Sleep' from their 1997 album *Talk On Corners* [Atlantic Recordings 7567-83051-2] is something of a sonic mess, sounding steely at best and clearly mixed to make it radio-friendly. Yet never have I heard it sound better than when played via the Bellini and Donizetti Anniversary pre/power. The amps simply cut through the nastiness, managing to impart a sense of order to the proceedings and even bring a hint of purity to the ragged top end.

They repeated this trick again and again, with all sorts of sonic disasters. So if you're seeking a pre/power pairing that is not only kind to less-than-well-produced recordings but also able to serve them up with sweetness and not a little polish, then look no further. ☺

### HI-FI NEWS VERDICT

The Audio Analogue Bellini and Donizetti Anniversary offer a combination of magnificent sound quality with a brute-force styling that I thoroughly enjoyed. They typically make a great job of poor recordings, too. That said, I can think of few other products I've reviewed in recent times where I'd say an extended audition was mandatory, simply because their brilliance can be a touch unpredictable.

Sound Quality: 83%

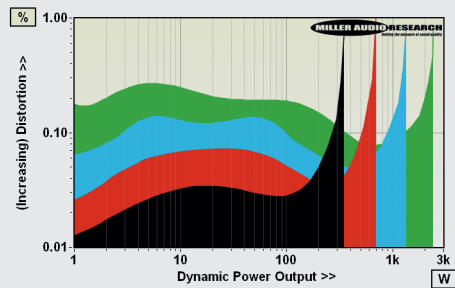


## LAB REPORT

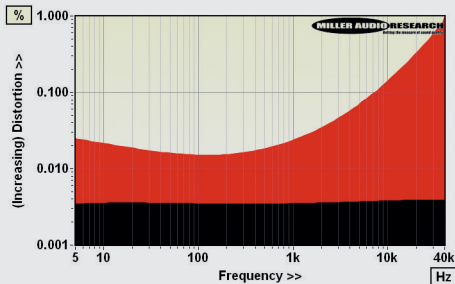
### AUDIO AN. BELLINI/DONIZETTI ANN.

Power output, and the Donizetti Anniversary's ability to drive low impedance loads, is deeply impressive thanks to its 49A dynamic current capacity (<1% THD/10msec) and exceptionally 'stiff' power supply regulation. In practice the rated 250W/8ohm output is beaten with power to spare at 2x350W/8ohm and a very solid 2x680W/4ohm (this +2.9dB uplift is very close to the theoretical ideal of +3.0dB). Stiff PSU regulation also means there's limited headroom under dynamic conditions, but with 350W, 690W, 1.35kW and 2.40kW available into 8, 4, 2 and 1ohm loads [see Graph 1] the Donizetti will surely drive any likely partnering speaker with ease. The 'zero (global) feedback' topology [see boxout, p51] sees distortion increasing quite markedly at HF (from 0.03%/1kHz to 0.35%/20kHz at 10W/8ohm) along with a moderate 0.14-0.15ohm source impedance and merely 'average' 86dB A-wtd S/N ratio (re. 0dBV).

Into a non-reactive 8ohm load the response falls by -0.28dB/20kHz and -3.8dB/100kHz while the matching Bellini preamp is flat to within ±0.02dB out to 100kHz but shows a broad but subtle uplift in bass of +0.06dB/100Hz, +0.08dB/20Hz and +1.0dB/5Hz. The Bellini Anniversary also incurs markedly lower levels of distortion than the Donizetti [black vs. red infills, Graph 2 below]. Distortion is much more consistent too, almost purely 2nd/3rd harmonic and a 'flat' 0.0035-0.0039% right across the 20Hz-20kHz audioband (re. 0dBV) with a minimum of 0.00065% at 600mV output. The maximum balanced output is 13.5V from a 72-73ohm source impedance and overall gain is a sensible +10.9dB (balanced in/out), bringing the total pre/power gain to +37.1dB. Noise is low, yielding a wide 99dB A-wtd S/N ratio. PM



**ABOVE:** Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads. Max. current is 49.0A



**ABOVE:** THD versus extended freq. for Bellini pre (1V out, black trace) versus Donizetti (10W/8ohm, red)

### HI-FI NEWS SPECIFICATIONS

Continuous power (<1% THD, 8/4ohm)	350W / 680W
Dynamic power (<1% THD, 8/4/2/1ohm)	350W / 690W / 1.35kW / 2.40kW
Output imp. (20Hz-20kHz, pre/power)	73ohm / 0.138-0.154ohm
Freq. resp. (20Hz-100kHz, pre/power)	+0.1 to -0.10dB / +0.0 to -3.5dB
Input sensitivity (for 0dBV/0dBW)	285mV (pre) / 139mV (power)
A-wtd S/N ratio (re. 0dBV/0dBW)	98.6dB (pre) / 85.7dB (power)
Distortion (20Hz-20kHz, 1V/10W)	0.0035-0.0039%/0.015-0.33%
Power consumption (Idle/Rated o/p)	101W/945W (18W, Preamp)
Dimensions (WHD, Pre/Power)	450x140x380/450x221x428mm