



POWER AMPLIFIER

Monoblock tube power amplifier. Rated at 80W/4ohm
Made by: Jadis S.A.R.L, France
Supplied by: Absolute Sounds Ltd
Telephone: 0208 971 3909
Web: www.jadis-electronics.com; www.absolutesounds.com
Price: £7998 (each)

AUDIO FILE

Jadis JA80 MkII

Hand-built with point-to-point wiring, as it's been since 1983, the French specialist's very first power amplifier design will now accommodate today's more powerful tubes
Review: **Steve Harris** Lab: **Paul Miller**

Named after an old French word meaning 'long ago', Jadis took off on the first tube amp revival wave nearly 35 years ago, and has stayed true to the cause ever since.

In fact, the JA80 MkII monoblock, priced at £7998 per channel, is an updated version of the company's very first product. When the original JA80 was launched back in 1983, tube supplies were dwindling and there was relatively little choice of valve types. Jadis founder André Calmettes based his JA80 output stage around the KT88 beam tetrode and its American near-equivalent, the 6550.

PURE CLASS A

Jadis has never set out to extract the maximum power from a given set of tubes, but has aimed for the best sound quality. Like almost all its designs, the JA80 is run in pure Class A, which means that the two tubes in a push-pull pair are conducting all the time, and this in turn means lower

BELOW: Hand-soldered, point-to-point wiring is a theme of all Jadis amplifiers. Note the busbar links (centre), configuring the output transformer here to 4ohm (1-16ohm is possible)

efficiency and limited power output. So although the JA80 used two pairs of KT88s in parallel, rated output was still only 60W.

Since the 1980s, with a strong revival of tube manufacturing, mainly driven by the guitar amp market but also feeding into specialist hi-fi, we've seen new tubes that not only replace the KT88 but also offer more power. First came the KT90 from Serbia, then the Russian-made Tung-Sol KT120, which could be used with the JA80.

In its MkII form, the JA80 also becomes compatible with Tung-Sol's latest and most powerful 'KT' tube. This is the KT150, identified by its egg-shaped glass envelope, which is said to reduce or eliminate microphony. You can choose to use KT120, KT90, KT88, 6550, 6CA7 or EL34s instead, but a change of tubes will require an internal modification by the factory or a Jadis agent. But tube choice is largely a matter of personal taste, as much as power output.

Jadis now offers a very wide range of amplifiers, from the gigantic JA800 down to the entry-level JA15 monoblock. Though

it's far from being the biggest model, the JA80 MkII's shoebox layout and harmonious physical proportions make it seem the epitome of classic valve amp design, with a look that combines functionalism with the bling of chrome and gold.

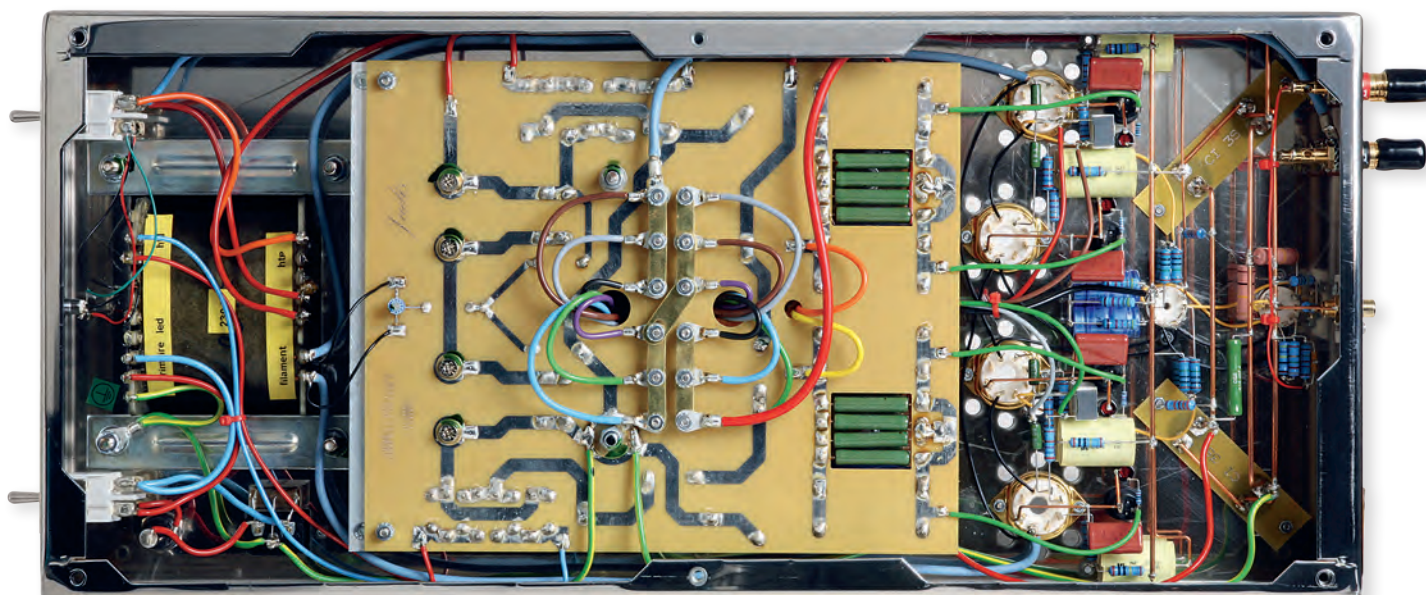
On display at one end of the chassis – under the sturdy black mesh safety cover – are the tubes. In front of the four curvy KT150 tubes are two small double-triode tubes, an ECC82 for the driver stage

and an ECC83, which is the phase splitter. Also seen reflected in the immaculate chrome surface are the coupling capacitors for these stages. Hidden underneath this section of the chassis, the

'The JA80 MkII really brought out the passion in the playing'

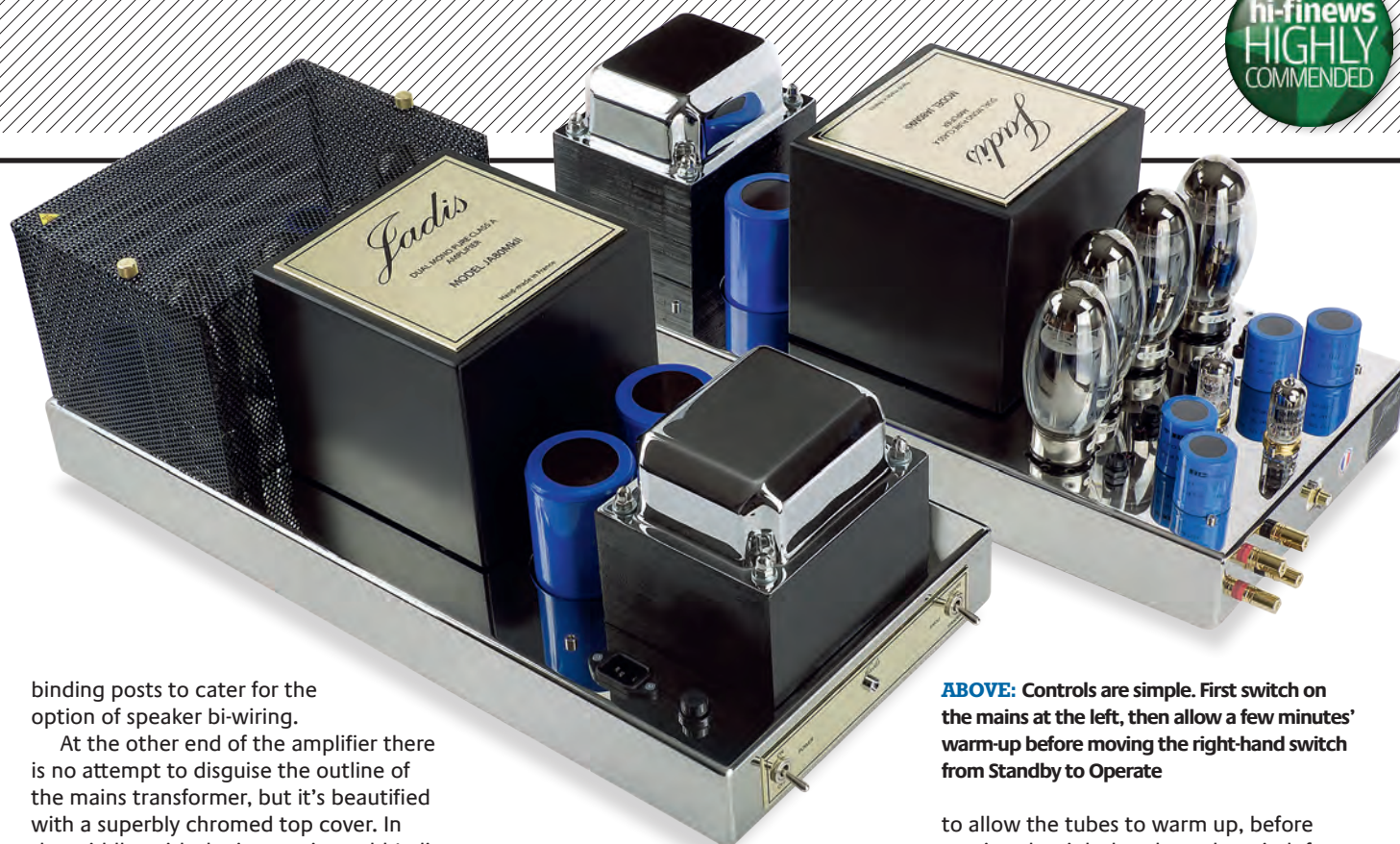
whole amplifier circuit is executed in hand-soldered point-to-point wiring, with components attached to the nest of connecting bars that run between the valve bases [see inside picture, below].

On the outside, the signal connections are simple and direct, just a single RCA phono input sited as close as possible to the ECC82, and two pairs of 4mm socket/



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binding posts to cater for the option of speaker bi-wiring.

At the other end of the amplifier there is no attempt to disguise the outline of the mains transformer, but it's beautified with a superbly chromed top cover. In the middle, with the impressive gold Jadis nameplate, is the box that contains the output transformer. This is made in-house at Jadis and its special design is really the key to the amplifier's success.

You can set the transformer's output connections to match speaker impedances from 1 to 16ohm, but this has to be done by removing the bottom cover and re-configuring a Meccano-like array of connecting strips. In practice, the default setting should be fine for conventional 4 to 8ohm speakers [see PM's Lab Report, p63].

AMP FOR THE ENTHUSIAST

In handling and operation, the JA80 MkII is still essentially an old-school enthusiast's amplifier, rather than a sanitised, 'tubes without tears' type. It does have automatic bias, so there are no bias-setting controls to fiddle with, but it doesn't use a lot of technology or modern peripheral control circuits to make it foolproof. For example,

Jadis warns that the preamplifier in your system should be switched on first, and having taken this precaution, switching on the JA80 MkII is a two-step process. On the front panel, the left-hand toggle is the main power switch, which takes the unit from Off to Standby mode, meaning that current can now flow to the heater filaments in the tubes.

Each power tube has a fuse and an indicator LED next to it. If an LED glows red, the fuse has blown and the tube is probably faulty, which means a call to your Jadis dealer. 'To ensure long-term reliability,' the instruction manual warns, 'the On/Off power switch must be operated with a quick firm movement.' When you flip this switch, you are making the electrical connection directly, not initiating an electronically-controlled relay operation.

It's advised that you should leave the amplifier in standby for five or ten minutes

ABOVE: Controls are simple. First switch on the mains at the left, then allow a few minutes' warm-up before moving the right-hand switch from Standby to Operate

to allow the tubes to warm up, before moving the right-hand toggle switch from Standby to Operate. Now the high-tension power supply to the tubes will turn on, the fascia's central LED will change from red to green, and the music can begin.

AN ORGANIC FLOW

The first music that I heard through these JA80 MkIIs was a Beethoven string quartet, from the Paris recordings by the Hungarian Quartet [*Les Quatuors À Cordes*; EMI France, CZS 7 67236 2]. These 1953 mono recordings naturally lack the theoretical dynamic range and extended frequency response of a modern studio offering, and can sound rather boxed-in. But with the JA80 MkII there was a great strength and realism to the middle range string sounds. The flow of the music was simply organic.

Back in the early 1990s, when I told Ashley James of AVI that I was trying to collect the original HMV LPs, he very kindly sent me the 7CD box set as a gift. I'd been enjoying this ever since, but listening again via the JA80 MkII made me appreciate anew both the musical power of the original recordings and the integrity of the CD transfers. They sounded, dare I say it, more analogue than ever, but I found myself forgetting about such distinctions as I was carried away by the performances.

Then I put on some music that needs to be turned up loud, 'Blues For Klook' from *Sang Melé* by French Hammond organist Eddy Louiss [Nocturne NTCD101]. This late-'80s hi-fi dem favourite was introduced to UK ears by Ricardo Franassovici of Absolute Sounds, long-term distributor of Jadis! Electric keyboards can sound cold and impersonal, but in this heartfelt

FAMILY AFFAIR

Very much a family business, Jadis is still located in the small village of Villedubert in the far south of France, where it got started in 1983. Founder André Calmettes was a cabinetmaker but also a keen radio amateur and a self-taught electronics hobbyist. After his first home-built tube amp had impressed friends and neighbours, he was persuaded to show it to an audio distributor in Paris. Calmettes teamed up with Jean-Paul Caffi, then working in pharmaceutical sales, and the brand was born. Soon Jadis was exporting to many countries, but especially the Far East. Today the managing director is André Calmettes' son Patrick, who'd been involved in the company from the beginning and took over when his father retired. Patrick's son Jean-Christophe joined the company in 1993 and is now technical director. Since Caffi's withdrawal from the company, the third key member of the team has been Liliane Expert, an experienced businesswoman in real estate and with a long-term interest in the company.



LAB REPORT

JADIS JA80 MKII

As we saw with the I-50 integrated, which afforded just 50W/4ohm at 3% THD [HFN Apr '15], Jadis's Class A push-pull configuration does not aim to squeeze the maximum output from its KT150 tubes. Indeed, Audio Research musters 80W/4ohm from its GSi75 [HFN Jan '16] while Icon Audio's MB90 MkII-m-150 achieves 120W/4ohm from a single pair of these tubes [HFN Mar '14]. And so it is with the JA80 MkII which, with no fewer than *two* pairs of KT150s per monoblock, delivers just 90W/8ohm and 120W/4ohm/1% THD (our JA80 mkII was configured for 4ohm – see inside shot, p60). But no-one should be considering this boutique beauty on the basis of Jadis's spec. for even the rated max. power consumption of 200W is closer to 300W in practice (idle or full output)...

Under dynamic conditions the JA80 MkII realises a similar 86W, 118W, 134W and 66W into 8, 4, 2 and 1ohm loads [see Graph 1, below]. The amp is clearly best partnered with sensitive speakers, for while its response is good to within $\pm 0.3\text{dB}$ over the 20Hz-20kHz audio range (and only mildly influenced by the $\sim 0.24\text{ohm}$ output impedance), its distortion is much lower at lower output. CCIR intermodulation, for example, increases from just 0.06% at 1W/4ohm to 0.2%/5W and 1%/10W while harmonic distortion rises from $\sim 0.015\%/1\text{W}$ to $\sim 0.05\%/10\text{W}$ and 0.45%/80W at midrange frequencies. The increase in distortion at bass/treble frequency extremes is more pronounced: from 0.05%/1W to 0.25%/10W at 20Hz and from 0.13%/1W to 12%/10W at 20kHz – so coloration will likely be more apparent at high treble frequencies [see Graph 2, below]. Noise, too, is a little high, the A-wtd S/N ratio clocking in at just 78dB (re. 0dBW). PM



LEFT: Pairs of KT150s exposed with the cage removed. One RCA input and bi-wire speaker connections are fitted (impedance set internally)

performance by Louiss there's never any danger of that. And the JA80 MkII really brought out the passion in the playing, the poignant lyrical feel of the swooping sounds Louiss employs in this elegiac minor-key blues. At the famous moment when a deep bass part starts, the JA80 MkII didn't disappoint, because the bass sound was full-bodied and dramatic, albeit – unsurprisingly – without the gut-wrenching slam you could get from a big solid-state amp.

PALPABLE SPACES

In fact, with synthesiser-based music generally, the Jadis seemed able to soften and humanise the electronica in a very appealing way. With the title track from Simple Minds' *Cry* [Eagle EAGSACD196], the JA80 MkII drew you in to the vortex of synth sounds that seem to swirl in three dimensions as the track builds to a climax. Perhaps you would not choose the JA80 MkII for this music if your main aim was to bring out bottom end power, but with this amplifier the Scottish superband's rhythms were hypnotic nonetheless.

On classic rock tracks, the JA80 MkII could provide a well rounded, even slightly softened quality that could welcome you in to the music. Putting on *Blood On The Tracks* [Columbia 512350 6], those rhythm guitars in 'Tangled Up In Blue' were insistent but not remorselessly aggressive, while 'Simple Twist Of Fate' was spacious, relaxed and poignant. That's not to say the sound was lacking in insight or detail though, as the JA80 MkII clearly revealed the little artifices of studio reverb that give Dylan's vocal a lift at the ends of lines.

If you feel that female vocals provide the acid test of any component or system, you might

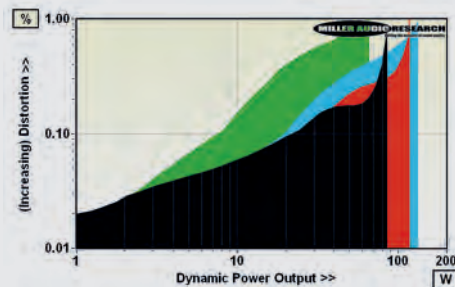
want to know that the JA80 MkII excelled in this department. I put on an old favourite: Rosa Passos with her 2008 album *Rosa* [Telarc CD-83646]. Here you have just voice and guitar, as the singer accompanies herself in a very well-judged studio acoustic, and the JA80 MkII made the most of it, that lovely youthful-yet-worldly voice presented intimately, yet with air round it as she caressed her lyrics into life. Her guitar sounded truly full-bodied and sonorous too as she fingered those beautiful Brazilian chords.

Returning to classical music and some favourite orchestral recordings, I found that the JA80 MkII really could give you a big, wide and gloriously laid-back soundstage, with a palpable sense of space and depth. On 'The Great Gate Of Kiev' from the Mussorgsky/Ravel *Pictures At An Exhibition* [Reference Recordings RR-79] the Minnesota Orchestra sounded both measured and sonorous, with the big bass-drum weighty enough to be convincing in a presentation that was truly enthralling. ☺

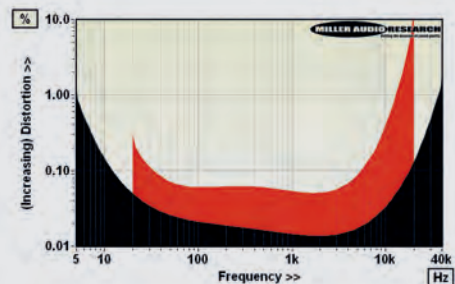
HI-FI NEWS VERDICT

Updated in terms of tube choice, the JA80 MkII version remains the deliberately traditional product it always was. It sounds delightful, smoothly inviting in the treble and well balanced within its own compass, adding a touch of its own character, pleasing rather than revelatory, but never warm 'n' woolly. Its great strength is the musical coherence it provides. It's expensive considering the power output on offer, but who cares?

Sound Quality: 84%



ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) loads. Maximum current is 8.1A



ABOVE: Distortion vs. frequency, 5Hz-40kHz at 1W/8ohm (black) and 20Hz-20kHz at 10W/8ohm (red)

HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	90W / 120W (4ohm tap)
Dynamic power (<1% THD, 8/4/2/1ohm)	86W / 118W / 134W / 66W
Output impedance (20Hz-20kHz)	0.235-0.250ohm
Freq. resp. (20Hz-20kHz/100kHz)	+0.01dB to -0.30dB/-7.3dB
Input sensitivity (for 0dBW/80W)	89mV / 815mV
A-wtd S/N ratio (re. 0dBW/80W)	77.8dB / 96.8dB
Distortion (20Hz-20kHz, 10W/8ohm)	0.050-12%
Power consumption (Idle/Rated o/p)	299W / 321W (85W standby)
Dimensions (WHD) / Weight	260x240x625mm / 35kg (each)