

SOLE RULER

In stereo's top echelons it's not all pre/power amps – there are some integrated amps up there, too. T + A's brand new PA 3100 HV aiming at top honors – and it has a secret weapon in the form of a powerful auxiliary power supply.

The development department at T + A never stands still: hardly has one new model been waved out of the door by its proud ‘parents’ than a new challenge is underway. And with the HV series, named for its ‘high voltage’ working, the Herford company has at last made the breakthrough onto the world stage, and shown the competition the way to do things.

The 3000m ended the era of tube equipment at T + A, thanks to the use of that HV technology in the voltage amplifier part – responsible for sound and dynamics and with extremely good linearity, but still the company’s engineers saw further development potential, this time in the preamplifier section. In its new 3100-series form, it has a strong similarity to the P 3000: all the boards have been reworked and the entire preamp is now DC-coupled. From these measures, development manager Lothar Wiemann promises more control over the sound image, more imaging precision in the spatial depth and a further increase in bass dynamics.

When trying DC coupling, without servo control, many designs fail, and go back to the ‘safe’ way of doing things. At T + A the most stringent component selection and adjustment as well as stable thermal conditions ensure that the 3100 series doesn’t drift, despite the lack of a servo. To achieve this, T + A designs the product to heat up quickly, so that within around 30 minutes the same temperature prevails throughout the enclosure.

But it’s helped by its design principles: since the late 1980s, T+A has used a combination of long-term stable, gas-tight relays and high-quality single resistors from Vishay for volume regulation: if the red pencil of the bean-counters has been in evidence anywhere in the design, it’s not here!

Meters on board

But it is not only the inside that things that have changed, because now on the front of the amplifier are two large meters, of the kind especially popular in Japan and America – it’s a long way from Westphalian understatement. Attention has also been paid to the sensitivity of the controls, which now react to the lightest of touch, and the functionality of the remote control, which now has improved range and a wider ‘arc of view’ – both are said to have been improved by a factor of ten.

When we picked up the review sample from the factory, it was already fitted with a moving coil phono board, an option

adding around 1100 euros to the bill: it’s of a double-mono construction, with a wide range of adjustment available to suit the maximum range of cartridges, while a similar board for moving-magnet fans is also available. Could we want for any more? Well, it would be handy to have the adjustment options adjustable by remote control...

Oh, and if you’d like a parametric equalizer built into the amp, T+A already has a solution which we have seen in the past in the P3000 HV preamplifier. It’s a 2000 euro add-on here.

High end is expensive – why?

Again and again we are asked why high-end devices are so expensive, and whether it would be possible to deliver such performance at a more favorable price. T + A’s Lothar Wiemann and Siegfried Amft have their own views on the subject, explaining that they produce almost everything in-house, with sub-assemblies built by a company located opposite their premises. Approximately 100 permanent



◀ Even the remote control is made in-house. The cable connects the amplifier to the power supply.

▲ The solid aluminum chassis is laid out mirror-symmetrically around the transformer; the power supplies have almost inexhaustible reserves, but still sounds sensationally open and transparent even in quiet tones: PA 3100 HV/PS 3000 HV.

employees are kept busy throughout the year thanks to clever production planning – there’s no ‘hire & fire’ here –, with a dozen development engineers on the team, one of whom works purely on apps.

Anyone who has ever been caught in a service queue and ultimately received an unsatisfactory response from an overseas call-centre will be pleased to know that T + A’s in-house service provides telephone support for owners of the company’s equipment, while parts are still held even for the very first CD players made. But the company also minimizes the chances of buyers needing such support: a failure rate in the thousandths, of the standard normally ascribed to makers of studio products, maximizes customer satisfaction, while the desire for perfection and the uncompromising search for ever better solutions often ensure updates are made available within a very short time.

So man-hours in development and service back-up are no small factor in the pricing here, but the quality of components and assembly is also readily apparent: turn the input selector or volume control, or look at the 40 mm thick front panel – and you’ll see and feel that precision in action. However, some carefully sophisticated detail remains hidden from the viewer, unless you’re in the habit of looking at components to see whether they’re antimagnetic!

Wiemann and his team do just that, shopping for every one of the approximately 2000 components that make up a 3100-series product – from screws and nuts made from nickel-free rhodium or gold-plated, to capacitors manually soldered onto copper their copper ‘legs’ in the quest for quality. For all that, some 50% of the power transistors the company receives are rejected: this has nothing to

do with the absolutely excellent quality of the transistors, which have a constant idle current regulation and a built-in temperature sensor, but with the fluctuations of the gain factor. Eight of these transistors are used for each channel of the 3100R per channel, each amplifier taking two days to complete. Then it goes to the high temperature and humidity of the torture chamber, and the whole thing is vigorously – and extensively – shaken.

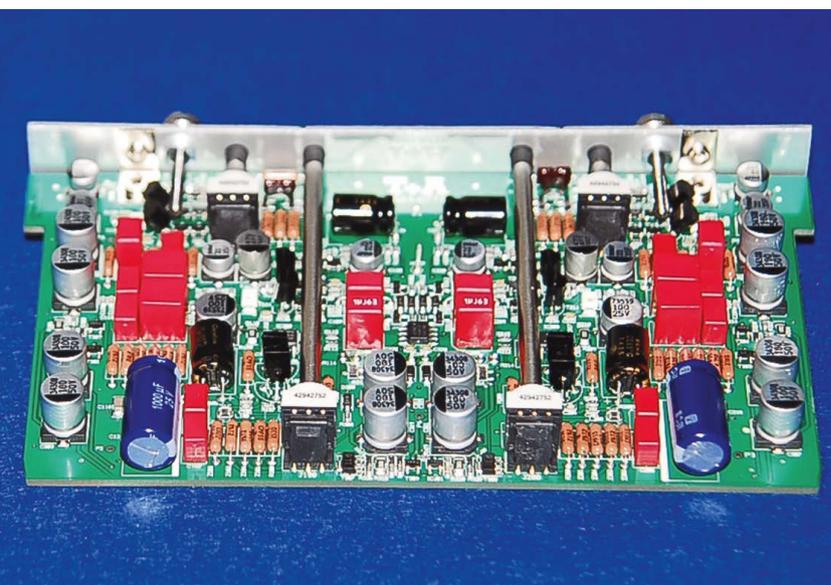
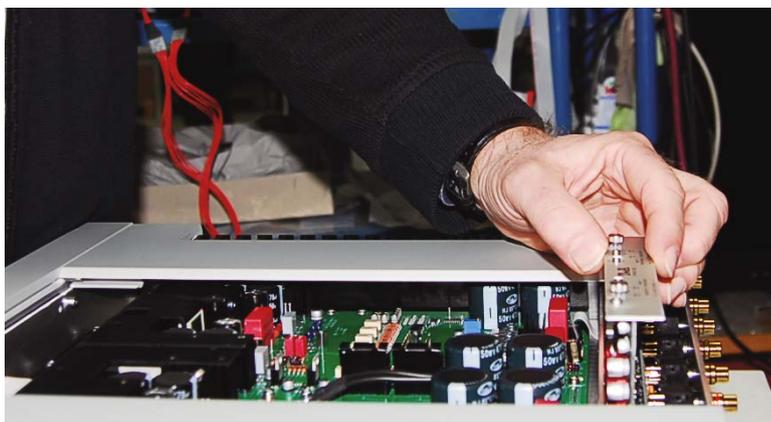
Only then is it measured again, to check for consistency. And that’s why high end is expensive!

Auxiliary power supply: pure luxury?

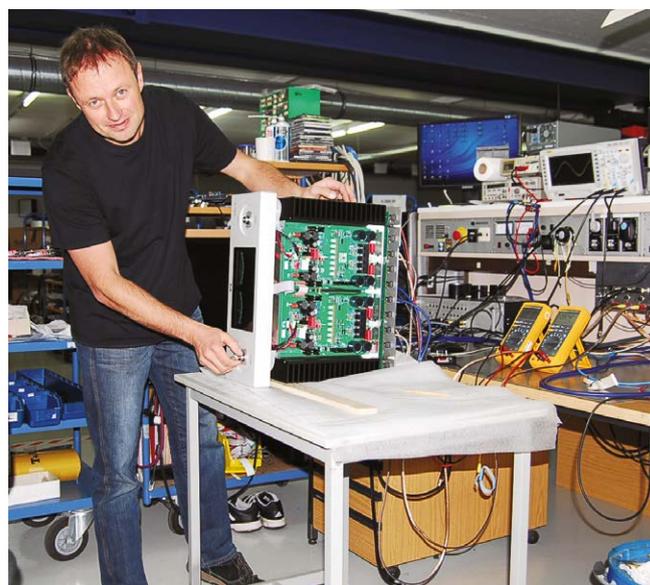
Given all this effort, one wonders why the 3100R can now also be upgraded with an optional auxiliary power supply? Well, in Herford they listen to their customers, and such an arrangement was a



▲ Here, the versatile phono module is plugged in: there are mm and mc versions, each of a strict dual-mono design.



▲ All components are antimagnetic and, where required, are custom-made, meaning a single resistor can cost eight euros instead of eight cents.



▲ Every single device is thoroughly tested for two days – including the climatic chamber and the vibration test.

frequently expressed wish, so even the perfectionists of T+A didn't stand the way of customer demand. At any rate, the power provided – about 30 watts/channel of pure Class A – should be enough to get any speaker voice-coil near to a state just before, or even beyond, its melting point. Want even more? You can, of course, add on an additional power amplifier should you want.

With all the possibilities offered, the operation remains simple and clear – and we were already asking ourselves after some pieces of music why Wiemann had spoken so modestly of small tonal progress. You see, there was no need for an ultra-revealing speaker to make it clear that this amplifier delivers an easily-heard and readily comprehensible step towards greater authenticity of reproduction. The Rolling Stones live on Cuba on vinyl is no sonic delicacy, the tonal balance leaving much to be desired, and yet the T + A conjured up the atmosphere of the concert in front of 1.2 million spectators in our listening room – in the middle of December there was a holiday mood. We wanted more, so we put Dizzy Gillespie on the French Riviera in the T + A 3000 CD player of T + A, and discovered that the

sound of the waves was a little more authentic with the 3100 than it had been with the 3000 amp.

So when is the power supply worthwhile?

Some tests with different loudspeakers were necessary until we were sure the auxiliary power supply could bring something extra to the party, this being especially the case with older loudspeaker designs having critical impedance and phase characteristics. However, current models from Bowers & Wilkins, Canton, Dali, Dynaudio and T + A itself also benefit from the luxury power supply, and there's more to it than just a little extra ease in the sound. The gain of stability in driving beats should be tested by anyone interested in their loudspeakers, but with every speaker we tried the difference was greater than that between the 3100 and its excellent – and still-made – predecessor, the HV 3000: Dee Dee Bridgewater's voice on her tribute to Ella Fitzgerald from 1997 never sounded more detailed, multifaceted and fascinating. After all these years, this excellent recording was able to reveal new facets – and all thanks to the T + A 3100!

Michael Lang



▲ The T + A-team: From left to right, boss Siegfried Amft, chief developer Lothar Wiemann and sales manager Oliver John direct the company's fortune, and have plenty of ideas in store for new products and strategies. The future of T + A is in safe hands.

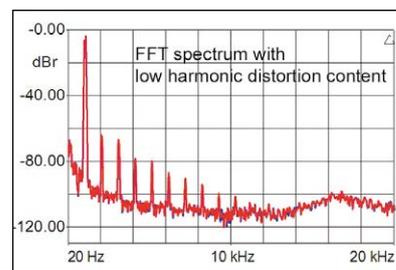
T+A PA3100 HV / HP 3000 HV



around €16,000, PSU € 8500,
phono € 1090
Dimensions: 46 x 18 x 53 cm (WxHxD)
Warranty: 3 years
Contact: T + A, Tel.: 05221/7676-0
www.Ta-HiFi.com

Those who can afford it should not hesitate. Currently, we do not know a better amplifier – even without the additional power supply.

MEASUREMENT RESULTS



Continuous power at 8.4 ohm	280 468 W p. channel
Peak power at 4 Ω	606 W p. channel
Total harmonic distortion	
50 MW 5 W Pmax-1	0.03 dB 0.05 0.09%
Intermodulation	
50 MW 5 W Pmax-1	dB 0.006 0.03 0.04%
Signal to noise ratio CD 50 MW 5 W	71 89 dB
Signal to noise PhonoMC 0, 5mV, 10 Ohm	74 dB
At 10 kHz	79 dB channel separation
Damping factor at 4 Ω	100
Cut-off frequency (-3 dB, 4 Ω)	> 80 kHz
Practical connection	values
Crosstalk tuner/CD	81 dB (10 kHz/5 kΩ)
Synchronous error volume control	up to -60 dB 0.1 dB
Power consumption	
From Standby Idle	0 - 220 W

LAB-COMMENT: Excellent in all relevant respects, with almost inexhaustible power reserves. Even less noise with the extra power supply

FEATURES

including 4 x cinch/XLR, phono optional; Pre out cinch/XLR, tape monitor, remote control, balance and EQ, headphone output, 2 pair of LS outputs, display, mute



STEREO-TEST

SOUND QUALITY CD	98%
SOUND QUALITY PS	100%

PRICE/PERFORMANCE



VERY GOOD