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T+A's sparkling HV pre/power combo



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T+A P3000/A3000/PS3000HV

Following the success of T+A's first 'HV' series components comes the company's promised pre/power amplifier combo – with an optional power supply upgrade too
 Review: **John Bamford** Lab: **Paul Miller**

When German audio specialist T+A Elektroakustik introduced its MP3000HV media player and partnering PA3000HV integrated amplifier [*HFN* June & Sept '13] its design engineers hinted that there were more components to come in its new HV, High Voltage, series. (For more on T+A's HV design methodology, whereby its components' various amplification stages are driven at unusually high voltage, readers might refer to our Sept '13 appraisal of the PA3000HV.)

THREE NEW COMPONENTS

And now here are *three* new HV components: a preamplifier, a two-channel power amp, and an additional power supply to 'beef up' the power amplifier's performance [see Lab Report]. Each is housed in an all-aluminium chassis identical in size and appearance to the previous units. And each boasts the same extravagant attention to detail and immaculate fit 'n' finish that has made its high-end integrated amp and media player such runaway successes [see boxout].

All are 'double mono' throughout, the left and right channels both electrically and mechanically separated, with power supply sections, audio circuits and control electronics housed in shielded chambers.

Given a cursory glance, the new P3000HV preamplifier (£9500) might easily be mistaken for the PA3000HV integrated (£9900) with its large VFD dominating the fascia, the display flanked in identical fashion by a rotary source selector and volume control. It's a tantalising combination of 'purist' audio exotica and comprehensive functionality that includes an *analogue* tone processor module to provide bass/treble adjustment, a user-variable 'loudness' control which can be adjusted to suit your loudspeakers' sensitivity and how far you sit from them,

RIGHT: Inside the P3000HV preamplifier separate L/R channel analogue tone processor modules sit above the main audio PCB. Power supply is concealed below in a shielded chamber

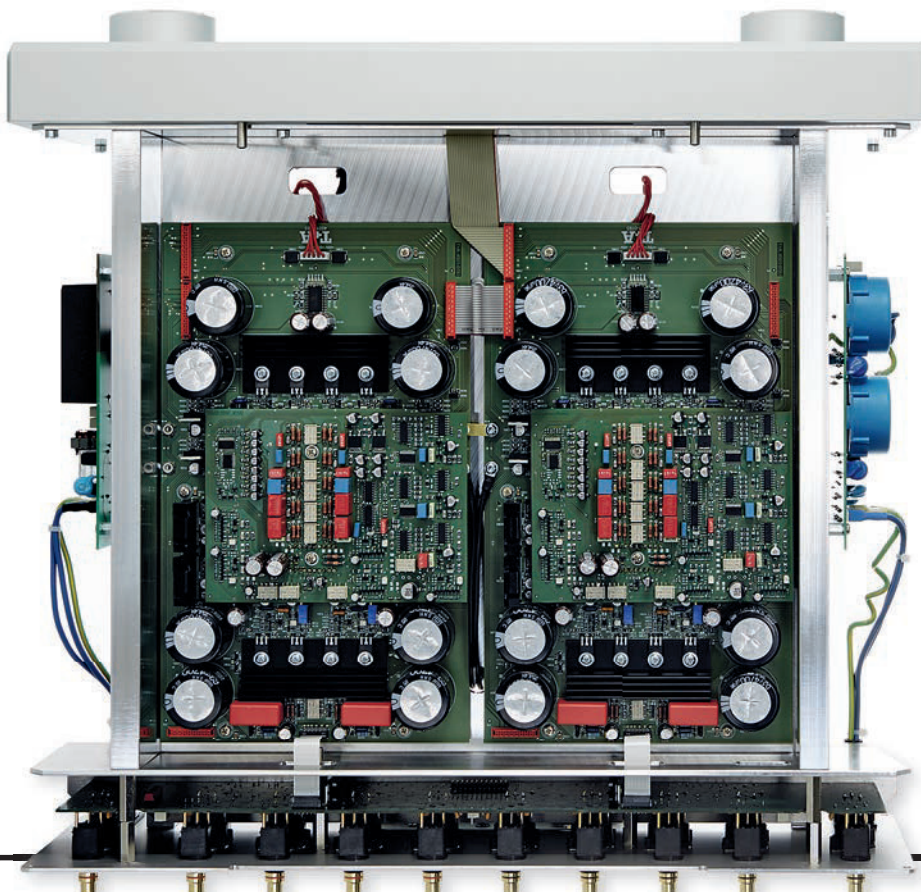
and three narrow-band parametric equalisers (per channel) working in the 20-500Hz range for tuning your speakers' bass performance to your listening room.

T+A provides a CD of audio signals and a free Windows PC utility on its website (with instruction manual) to aid accurate setup, although keen hands-on hobbyists will need to invest in a calibrated USB microphone. Settings can be entered manually or sent to the preamp via Ethernet from your PC. Or, of course, you can play around to your heart's content simply setting everything by ear to taste.

Illuminated touch-sensitive controls below the display window allow access to the preamp's configuration menu; inputs can be named; and the tone, loudness and parametric EQ functions can be individually enabled or bypassed. A headphone amp is built in as well, which

similarly can be turned on/off via the front panel. The preamp's source selector and volume control knobs have needle roller bearings to provide a luxurious operational feel, the electronic volume control employing discrete resistors and gold-contact relays to provide gain adjustment in 1dB increments. All input switching is carried out by sealed gold-contact relays incorporated within the circuits to keep signal paths as short as possible.

At the rear there are six line inputs, inputs 1-4 being switchable between single-ended (RCA) and balanced (XLR) operation. Furthermore, input 4 can be configured as a pass-through for integrating the preamp with a surround decoder. An optional MM/MC phono stage can be fitted by dealers, priced £990. And the preamp's microprocessor and display circuitry, and its critical analogue





audio circuits, are driven by completely independent power supplies – all the way to two AC inlet sockets. Oh yes: powering up the preamp requires *two* mains leads.

A SERIOUS STATEMENT

The partnering A3000HV power amplifier (£11,900) features a larger display window sporting two deliciously retro-looking power meters. Naturally these can be dimmed or turned off if you find them distracting. And you'll know it's a 'serious' power amp the moment you try to lift it – although its 2x300W/8ohm specified rating (and 38kg weight) is actually identical to that of the integrated PA3000HV. A rear switch converts the power amp to 'high current mono' mode.

Voltage and current amplifier sections are on discrete PCBs in separate case sections and galvanically isolated, while the fully symmetrical output stage employs MOSFET drivers and 'thermal tracking' bi-polar output transistors with integral temperature monitor diodes. Says T+A: 'We maintain the power transistors at a

constant operating point, regardless of temperature, which allows us to control the circuit's distortion behaviour regardless of the momentary load.'

There are two sets of rhodium-plated speaker terminals machined from pure brass which can be turned on/off via the front panel and used for bi-wiring or driving a second pair of speakers.

The A3000HV's linear power supply features a whopping 1000W transformer and is extremely 'stiff', nevertheless to further increase voltage and current stability to the amplifier's output stages the supplementary PS3000HV power supply unit can be added. Containing a 1200W transformer and a reservoir capacity of 240,000µF, it is hooked up via an umbilical cable terminated at each end with substantial M23 multi-pin connectors. At £7900 the PSU takes the price of the power amp to £19,800 – but it *does*

ABOVE: Two huge rotaries flank T+A's familiar operational display, governing input and volume as well as navigating through the set-up menu. In this picture, T+A's media player is selected

transform it into something altogether different [see Lab Report, p29]. The supply's huge VU meters can be switched to indicate operating voltage, current drain, or interference from the mains! Both the power amp and PSU employ IEC C20 inlet sockets rated at 16A, each unit supplied with a mains lead fitted with the requisite C19 female plug rather than a typical C13/C15 'kettle plug'.

All key functions are controlled via the chunky aluminium handset supplied with the preamplifier, and the three-box system becomes 'unified' for single button on/off switching once the units are daisy-chained via supplied 'E-Bus' CAT5 cables terminated with Neutrik RJ45 plugs.

Partner the amp combo with the MP3000HV media player and you're bound to prefer controlling your entire system with the company's FD100 handset supplied with the media player. This is a splendid bi-directional RF handset incorporating a small LCD screen displaying album artwork when streaming music files over a network – it comes with a charging base where it can be parked at night.

LIQUID POWER

I began listening to the P3000/A3000HVs as a two-box pre/power combo (£21,400). As with the PA3000HV integrated tested last year, I was greeted by a subjectively 'fast' and vivid sound with tight, punchy and fearfully powerful bass. I'd expected ↪

'I soon concluded the combo was far superior to the T+A integrated'

THE HIGHER HIGH-END

So enamoured were we of T+A's MP3000HV media player and PA3000HV integrated amp they got *HFN's* vote for being the best high-end audio component introductions of 2013-14. Other specialist hi-fi magazines throughout Europe agreed wholeheartedly – and the combo consequently won a prestigious EISA Award last autumn. 'To be honest, we designed our HV components primarily for the luxury audio markets of Asia and Russia,' T+A's head of development, Lothar Wiemann, tells us. 'We've been astonished – and delighted – by the demand for them among European audiophiles. Sales in our home German market alone have pretty much equalled our expectations for the whole world! Meanwhile our distributors have been clamouring for this more elaborate pre/power combination, which was always in our development plan but quickly became a priority to finalise.' Extreme high-end audio is thriving. Money, we're told, doesn't buy happiness but for those who can afford supremely luxurious products it has never been a better time to smile.

PRE/POWER AMPLIFIER



ABOVE: T+A's classic 'fishbowl' meters are bang-on accurate, revealing power output into a 4ohm load, not 8ohm. **BELOW:** T+A's 'supplementary' PS3000HV PSU replaces the A3000HV's 1000VA supply with a 1200VA powerplant solely for its bipolar output stage

it to be revealing, yet was struck more by its effortless liquidity that resulted in a less 'stark' and rather more forgiving nature than I'd witnessed from T+A's integrated.

I was feeding CD-quality and hi-res audio from my computer into T+A's £1990 DAC 8 converter [*HFN* Oct '12]. When I'd used this identical source into the HV integrated I'd thought the DAC not *quite* good enough for such a revealing amp, yet with this pre/power combo I harboured no such concerns.

Returning to Stravinsky's *Rite of Spring* with the Cleveland Orchestra under Lorin Maazel [Telarc CD-

82001] the three-dimensional picture of a recording venue was palpable, woodwind and strings clearly separated, and the overall tonality frankly 'beautiful' – without appearing artificially sweetened.

Even with pretty standard quality pop fare such as Daryl Hall and John Oates' 'She's Gone', from the duo's *Greatest Hits: Rock 'n' Soul Part 1* compilation CD [RCA PD84858], the presentation was surprisingly smooth and civilised, with

good control of sibilants. Meanwhile clarity was excellent, allowing the singers' close harmonies to be easily assimilated even as the dynamics of the recordings became 'crushed' during the song's chorus sections.

I soon concluded this pre/power combo is far superior to T+A's nonetheless fabulous PA3000HV integrated. It delivers detail a-plenty, while appearing relaxed

and unforced. Adding the PS3000HV PSU to the A3000HV increases its power output capability by a good few watts while offering a substantial reduction in noise [see Lab Report, p29]. The increased

sense of ease and effortlessness it provided to music replay represents a major upgrade in sound quality – transforming a beautiful pre/power amplifier into a world-class combo of which hi-fi dreams are made. It sounded both immediate and exquisitely refined, and dynamic contrasts were startlingly lifelike.

I got one heck of a fright from its explosive bass power while swimming in the ambience of the experimentally

'Bass clarinet was described in all its deliciously chocolatey detail'



LOTHAR WIEMANN

'I first came to work at T+A Elektroakustik as a student in 1978,' recalls Lothar Wiemann.

'Working here helped finance my engineering studies, after which I worked for a few years in a patent office. This might not sound particularly glamorous – I guess it wasn't anything like as rewarding as working in audio.

'But looking back I consider it an important part of my education, as it gave me many useful insights into the rapid technological developments that were occurring during the 1980s. I returned to T+A in 1989, when I was offered the post of Head of Development. It certainly doesn't seem like 25 years ago... so it must be true that time flies when you're having fun!'

Forthcoming from T+A will be a high-end SACD/CD player with digital inputs, including USB, so that other sources can utilise its on-board D-to-A converter section. A prototype was revealed at the Munich High End exhibition in May. It will provide an alternative source option to the MP3000HV media player that includes a CD drive and UPnP network client, but which *doesn't* include SACD functionality. It's expected to launch later this autumn, priced at around £13,000.

Intriguingly, it will feature two sets of analogue outputs for connecting to two line inputs on an amplifier via two stereo interconnects – as the player will have completely independent replay chains and reconstruction filters for PCM and DSD sources!



T+A P3000HV / A3000HV / PS3000HV

The technical prowess of this pre/power is beyond doubt with the P3000HV preamp the more 'linear' device offering a maximum +14dB gain (balanced), fabulously low distortion of 0.00007-0.00025% [20Hz-20kHz re. 0dBV – see Graph 2, below], a wide 102dB A-wtd S/N ratio and response flat to -0.45dB/100kHz. T+A's custom volume control acts in 1dB steps over a 60dB range with ±0.1dB overall accuracy, over an 80dB range with ±0.2dB accuracy and 90dB with just ±0.3dB variance – an incredible result!

The partnering A3000HV amplifier benefits substantially from the optional PS3000HV outboard PSU. There's obviously no change in the overall +26.5dB gain and only a fractional reduction in distortion from 0.01-0.043% to 0.0089-0.039% (1-300W/8ohm at 1kHz) and from 0.013-0.027% to 0.011-0.024% (20Hz-20kHz at 0dBV). The response is flat from 1Hz-50kHz (-0.5dB), reaching 100kHz at -2.3dB. Noise and power output are another matter, however. Disabling the A3000HV's main internal PSU reduces residual noise by 6dB and improves the A-wtd S/N ratio from 81.5dB to 88.8dB (re. 0dBV) with the PS3000HV connected. Continuous power output increases from an already substantial 350W/620W to 385W/700W into 8/4ohm while the dynamic output improves from 405W, 760W and 1.37kW into 8, 4 and 2ohm loads to 445W, 845W and 1.59kW [see Graph 1, below]. The output stage is protected above 890W (29.8A) into 1ohm with or without the PS3000HV. Readers may view extensive QC Suite test reports for the T+A P3000HV preamp and A3000HV power amp with/without PS3000HV PSU by navigating to www.hifinews.co.uk and clicking on the red 'download' button. PM



ABOVE: Preamp has six line inputs, four with balanced (XLR) options, a recorder in/out, and balanced and single-ended pre-outs. Power amp has two sets of speaker terminals for bi-wiring or can be switched to 'high current mono' mode

dissonant 'New Moon At Deer Wallow' from *Rain Tree Crow* [Virgin CDVX 2659]. The pre/power/PSU combo's seemingly unfettered low frequency power and definition plunges wa-ay down into the infrasonic region with ease, while the timbre and texture of Mick Karn's bass clarinet was described in all its deliciously chocolatey detail.

Similarly David Paich's bass synthesizer embellishments on Boz Scaggs' seductive 'Thanks To You' from *Dig* [Virgin 10635 2 1] were described immaculately by the HV amp combo, adding immense gravitas to the track's lusciously creamy recording quality.

STRIDENCY IN CHECK

I've not witnessed my Townshend Sir Galahad speakers so thoroughly 'gripped' and controlled since driven by Mark Levinson No53 monoblocks [HFN Jan '11], or so open and transparent to fine details buried in recordings. Moreover, voices and instruments always appeared realistically fleshed-out thanks to the combo's richly voiced midrange and natural high frequency reproduction.

With hi-res audiophile recordings I enjoyed holographic musical images, but also revelled in plenty of high-adrenalin hi-fi fireworks even when my system was challenged to reproduce less-than-stellar CDs.

One such was Michael Jackson's *Dangerous* [Epic 465802 2]: a cacophonous mess of a recording that sounds harsh, lean and scratchy

on any hi-fi system. But T+A's combo made the best of the rumbustious opening track 'Jam' and the only slightly less jarring 'In The Closet'.

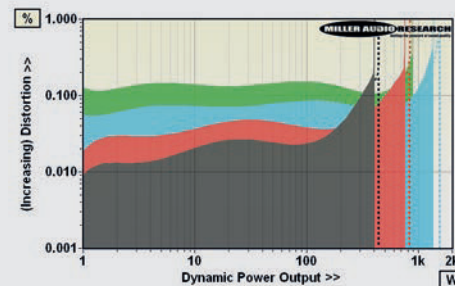
The amplifier's dynamic prowess delivered the music's attacking rhythms with aplomb and its uncommon civility made a pretty good stab at keeping stridency in check. As the preamp has tone controls even the most unpalatable of recordings can be tweaked to sweeten them.

As a trio this pre/power/PSU combo is the price of a new car, so I wouldn't dare call it 'affordable'. Yet I'm already turning a shade of green, as there will doubtless be audiophiles ordering 'five-packs': mono-ing two of the power amplifiers and adding a power supply to each! ☺

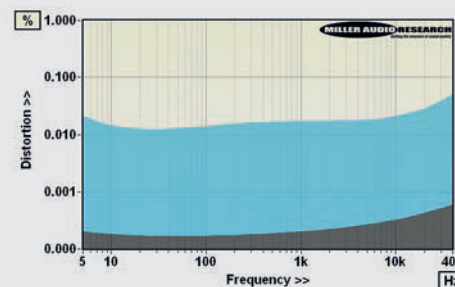
HI-FI NEWS VERDICT

T+A's 'no compromise' HV series components are designed for the luxury audiophile market. In that context, this latest amp combo is sensational value. We've said this so often of T+A's separates there's a danger of it becoming tedious: if they were made by a boutique audio manufacturer they'd come with price tags two or even three times larger. Little wonder the German company is selling them hand over fist.

Sound Quality: 89%



ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green). Dashed traces with PS3000HV PSU



ABOVE: THD vs. extended frequency; P3000HV (1V out, black trace) vs. A3000HV (10W/8ohm, blue)

HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	350W (385W) / 620W (700W)
Dynamic power (<1% THD, 8/4/2/1ohm)	445W / 845W / 1.59kW / 890W
Output imp. (20Hz-20kHz, pre/power)	45ohm / 0.051-0.061ohm
Freq. resp. (20Hz-100kHz, pre/power)	+0.0 to -0.45dB / +0.0 to -2.28dB
Input sensitivity (for 0dBV/0dBW)	200mV (pre) / 133mV (power)
A-wtd S/N ratio (re. 0dBV/0dBW)	101.9dB (pre) / 88.8dB (power)
Distortion (20Hz-20kHz, 1V/10W)	0.00007-0.00025%/0.011-0.024%
Power consump. (pre/idle/rated o/p)	45W (An)/5W (Dig) / 160W/960W
Dimensions (WHD All units) / Weight	460x170x460mm / 28, 38, 38kg