

# T+A MP 2000 R/PA 2000 R

The engineering team at Germany's T+A has shoehorned much of the latest design thinking from its cost-no-object separates into a new range of R-Series components  
 Review: **John Bamford** Lab: **Paul Miller**

It was at last summer's High-End exhibition in Munich that Germany's T+A Elektroakustik announced it was developing a new line of 'real world' components featuring technologies trickled down from its high-end HV-Series products. So while the company's svelte R-Series has been the 'middle-range' in its product portfolio since 1992, they have now been given a thorough makeover.

The source media player is the £4200 MP 2000 R. It's a high-spec DAC with built-in CD drive, FM and DAB+ tuner, network streaming client with internet radio functionality (vTuner), and a plethora of hi-res-capable digital inputs. Bluetooth connectivity is also included for direct streaming from phablets.

## CUSTOMISABLE OPTIONS

We have it partnered here with the matching PA 2000 R integrated amplifier, rated at 100W/8ohm, which has six line inputs (three balanced XLRs and three single-ended RCAs) and also costs £4200. The new R-Series line also includes a more powerful integrated amp, the 140W/8ohm PA 2500 R (£5577) which has beefier twin power supplies and larger heatsinking, and there's a pre/power combo currently in development. Vinyl enthusiasts are catered for too, with a partnering G 2000 R belt-drive turntable. This is priced at £3430 fitted with a Rega-sourced arm and Ortofon 2M Bronze MM cartridge, or at £4720 with Clearaudio Carbon-2 tonearm and MC-2 moving-coil cartridge.

On paper the two components reviewed here might seem a *little* expensive. It's only when actually seeing them that one can appreciate the fine engineering and meticulous attention to detail. Of course the metalwork isn't anything like as over-the-top as T+A's high-end 'HV' series components (a two-man lift), nevertheless the quality of fit and finish is exemplary.

**RIGHT:** Exquisitely designed and laid out – with level-dependent forced air cooling – the PA 2000 R combines an efficient switchmode PSU with a derivation of T+A's 'High Voltage' amplification

These components don't just look classy in their brushed aluminium casework but their control buttons and knobs also feel sumptuous in operation.

The PA 2000 R amplifier comes with a neat universal system remote handset (model FM2000) which sports a logical layout and offers all manner of menu-driven settings to configure the amplifier for individual preferences and requirements. The display can be customised; inputs can be named to match sources; bass and treble can be adjusted (either individually for the left and right channels or in unison); and there are three loudness settings to best suit the size of your room and sensitivity of your loudspeakers. All tone settings can be bypassed via the handset or the 'Flat' button on the front panel.

A headphone socket is included on the left of the fascia, preamp outputs are included (RCA only), and LAN sockets provide interfacing for computer-

controlled home automation systems from the likes of AMX and Crestron. An optional MM or MC phono module is a simple retrofit (priced £506), while one of the inputs can also be configured for pass-through, selected by a trigger signal.

The rotary volume knob governs banks of precision resistors which are switched using gold contact relays (these are heard clicking as you alter the gain in 1dB steps). Channel balance is adjusted by pressing and holding down the volume control for a couple of seconds.

Meanwhile the almost-all-encompassing MP 2000 R might be considered a substantially scaled-down version of T+A's £8300 MP 3000 HV media player [HFN Jun '13] amalgamated with the DSD-capable USB technology debuted in the company's £11,670 PDP 3000 HV disc player/DAC [HFN Mar '15]. At this MP's heart lies T+A's sophisticated re-clocking regime with four pairs of Burr-Brown 384kHz/32-bit





capable DACs in a 'double symmetrical' configuration, with oversampling carried out by a 56-bit DSP and with four digital filter options for playback of PCM files [see PM's boxout below].

### PURIST APPROACH TO DSD

The CD mechanism is cocooned in an isolated enclosure and offers rapid track access, with support for CD Text. Only 'standard-res' (up to CD quality) playback is recommended via WLAN. However, via a wired network connection the media player's streaming client can handle audio up to 192kHz/32-bit. Playback is also possible directly from local (FAT32-formatted) storage media connected to either of the player's front or rear panel USB-A sockets.

Note that DSD cannot be played by the MP's streaming client, only by pushing into the unit's USB-B input from a computer running appropriate music player software. However, T+A does take a commendably purist approach to DSD playback. DSD data is handled entirely separately from PCM data, the MP 2000 R employing what the company calls its 'true 1-bit DSD converter' to reconstruct an analogue

waveform from DSD's single-bit stream. Standard (64Fs/2.8MHz) and double-rate (128Fs/5.6MHz) DSD are accommodated alongside PCM up to 384kHz/32-bit by the DAC's USB-B input, while the supplied driver software enables playback of quad-rate DSD (256Fs/11.2MHz) – albeit currently only from PCs running Windows.

The unit's analogue filtering automatically limits bandwidth to 44kHz, 60kHz or 80kHz for DSD64, DSD128 and DSD256 respectively. As for the remaining numbers, the unit's Toslink optical inputs handle data up to 96kHz/24-bit and its RCA electrical inputs are capable of 192kHz/24-bit. The player's separate (double-mono) output stages are galvanically isolated from the digital section by means of transformers.

As with the PA 2000 R amplifier, there are myriad settings available for tailoring the brightness/sleep/context behaviour of the MP 2000 R's vacuum fluorescent display to taste. And if the media player and amplifier are daisy-chained via their 'R2Link' communication

**ABOVE:** Both media player (top) and amp feature clear VFDs for navigating their comprehensive menu settings. Classy alloy casework is available in a silver or black finish

sockets using a supplied RJ45 cable, system operation is elegantly unified. Free control apps are available both for iOS and Android smartphones and tablets.

### MESMERISING MUSIC

The combination of media player and amplifier not only looks elegant and proved satisfying to use, it was easy to be seduced

"The music simply "bloomed" with deeply saturated colours on display"

by the composure and finesse of its sound quality. Spinning up the CD of the evergreen Proprius recording *Jazz At The Pawnshop* [1996 remaster, First Impression Music FIM XRCD 012/013]

showed precisely just how capable these components really are. The intimate atmosphere of Stockholm's Jazzpuben Stampen (the 'Pawnshop' club) captured by Swedish sound engineer Gert Palmcrantz nearly 40 years ago on a couple of Nagra's running at 38cm/s sounded enchanting, the recording's mesmerising soundstage and the musicians' infectious enthusiasm for the straight-ahead swing jazz standards clearly depicted.

Another 'audiophile test CD' that I hadn't played for what seems like years – it was used so often for system analysis and played to death at hi-fi shows that I frankly got sick of it – is the Oscar Peterson Trio's *We Get Requests* [Verve 521 442-2]. Driving my Townshend Sir Galahad speakers this T+A combo recreated a captivating picture of the musicians' performance in the stellar recording of the opening track 'You Look Good To Me', the body and resonance of Ray Brown's bowed string bass and the lifelike sound of Ed Thigpen's drum kit accompanying Peterson's piano ➔

### WHICH FILTER?

Something of a T+A tradition, the MP 2000 R offers four custom filters. 'FIR Long' and 'FIR Short' are traditional linear-phase types while 'Bezier/IIR' and 'Bezier' are minimum-phase filters based on Bezier polynomials. FIR Long is the default filter, offering equal pre/post ringing and a brickwall roll-off (-0.2dB/20kHz, +0.2dB/45kHz and -6.1dB/90kHz with 48kHz, 96kHz and 192kHz media respectively). Phase distortion is low and rejection of aliasing images superb, but the ringing is not ideal. FIR Short trades less pre/post-ringing for poorer rejection of out-of-band images (just -8dB versus -102dB for FIR Long). The two Bezier filters offer the same (negligible) stopband suppression as FIR Short but with almost no pre-ringing in the time domain. While these filters modify the audioband with CD/48kHz media, they are ideal for 96kHz sample rates. Here, 'Bezier/IIR' offers a slightly brightened upper treble (+0.3dB from 10kHz-20kHz) with a roll-off thereafter (-28dB/45kHz) while 'Bezier' offers a gentler all-round response (-0.2dB/20kHz and -4.7dB/45kHz). There is no difference in the frequency response between any of the filters with 192kHz media. PM

# LAB REPORT

## T+A MP 2000 R/PA 2000 R



**ABOVE:** A plethora of digital connectivity – two coax and two optical S/PDIF, wired and wireless LAN, USB A and B plus balanced XLR and single-ended RCA outs. The amp [below] offers three RCA and three balanced XLR ins, pre and 4mm speaker outputs

appearing rich in tonal subtlety and textures, with lovely 'dark' space around all the instruments.

The amplifier sounds extremely assured and dynamically adroit, with firm bass control and power-plenty, never stressed even when pushed to deliver high SPLs. Naturally the sound doesn't match the vivid detail and spine-tingling thrill factor of T+A's much more expensive HV-Series components. It can appear a little cautious and subjectively soft at high frequencies but the voicing is sensibly balanced considering the components' pricing and the calibre of loudspeakers with which they're likely to be partnered.

### THE BEAUTY OF DSD

Of course, the overall character of the sound can be altered quite considerably by switching the media player's digital filters – the default 'FIR Long' filter sounding a tad 'zippier' but less open than 'Bezier'. In my room, with my speakers, the 'Bezier/IR' was usually the preferred choice, but your mileage will surely vary, and change depending on the nature of the recording chosen.

Performance moved up a notch with modern hi-res material. Hearing 96kHz/24-bit recordings of 'Mosaic' and 'Blues De Luxe' from the DVD-A *Guitar Noir* by ex-Wings finger-style guitar maestro Laurence Juber [AIX Records, AIX 80018] highlighted the poise and fine transparency of the T+A 2000 R combo as it portrayed the rich timbres of the instruments.

Juber's signature Martin acoustic, accompanied by Domenic Genova on string bass and Steve Forman on percussion, sounded tremendously vivid, three-dimensional and sharply focused, with the ensemble projected in a most natural and unforced manner. The music simply 'bloomed' in deeply saturated colours, and high-level transients in the musical peaks were finely-etched without any hint of digital artefacts to induce uncomfortable edginess.

And while I'm no DSD evangelist for sure, hearing the manner in which the combo presented the many fine recordings available on [natedsd.com](http://natedsd.com)'s *Just Listen* compilation reinforced my impression that there's a sonic 'beauty' inherent in DSD that is undeniably beguiling. It's the imperturbable handling of high-level crescendos, and the gentle ease of the sound that's so attractive.

That the MP's network client doesn't handle DSD might be a deal-breaker for some of you who are collecting DFF or DSF files, but it wouldn't bother me at the present time, as I still prefer to push from my Windows 10 computer via JRiver Media Centre.

Back to PCM playback – and as I found when auditioning T+A's heavyweight MP 3000 HV media player during the spring of 2013, reliably identifying any sonic difference between pushing from computer and streaming via LAN proved nigh-on impossible.

I had a friend 'blind test' me with a few tracks and soon concluded that I was mostly guessing rather than hearing noticeable differences in sonic presentation, so well-balanced and wholly integrated is the MP 2000 R's overall design. ☺

### HI-FI NEWS VERDICT

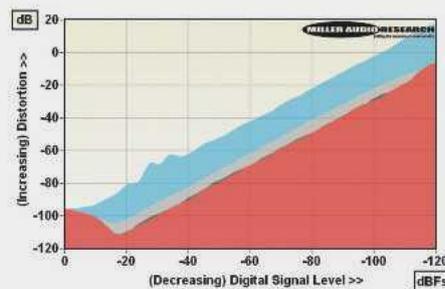
Audiophiles obsessed with separates might consider these slim 2000 R components somewhat middle-of-the-road. But make no mistake: they're extremely refined and highly capable units, offering a taste of the high-end in a compact form factor. If you're looking for components that are living-room friendly and look and sound tremendous, you'll struggle to find a more complete package.

Sound Quality: 87%

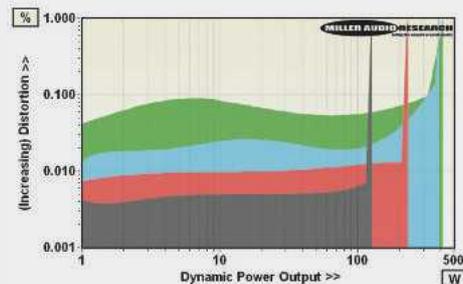


Yet more textbook performance from T+A: the PA 2000 R besting its 100/200W 8/4ohm specification with 2x125W/8ohm and 2x230W/4ohm – illustrating the remarkable 'stiffness' of its PSU – alongside the 127W, 230W, 390W and 410W available into 8, 4, 2 and 1ohm loads under dynamic conditions [see Graph 2, below]. (The 'Clipping Protection' menu option has no impact on these figures.) The amplifier is also exceptionally quiet, offering a 99.3dB A-wtd S/N ratio, and has a carefully managed response that's flat to within  $\pm 0.1$ dB from 20Hz-20kHz and reaching  $-1$ dB/51kHz out to  $-3.1$ dB/100kHz. Distortion increases from 0.003% at 1W to 0.005% at 10W where it holds right out to the rated 100W/8ohm (all at 1kHz). At the high frequency extremes, THD increases to 0.02% (20kHz/10W) but this is still below the level achievable by the best modern tweeters.

The partnering T+A MP 2000 R source is no less impressive, offering a full 4.27V output (balanced XLRs) with a 113.3dB A-wtd S/N ratio and distortion held to a remarkably consistent 0.0016-0.0017% from 20Hz-20kHz via all inputs. THD falls to as low as 0.0003% at  $-20$ dBfs via S/PDIF and USB inputs with 24-bit media and 0.0008% via CD [see Graph 1, below]. Frequency and time domain responses depend entirely on the selected digital filter [see boxout, p45]. Completing this clean sheet is the MP 2000 R's near-perfect jitter suppression – 10psec or less via S/PDIF or USB at all sample rates and 115psec (the 16-bit limit) with CD. Readers may download full QC Suite reports detailing the performance of the T+A MP 2000 R (CD, S/PDIF, USB and filter) and PA 2000 R (amplifier) by navigating to [www.hifinews.co.uk](http://www.hifinews.co.uk) and clicking on the red 'download' button. PM



**ABOVE:** THD versus digital level (1kHz via S/PDIF, red; via USB, black) and CD (1kHz, grey; 20kHz, blue)



**ABOVE:** Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads. Current limit is 20.2A

### HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	125W   230W
Dynamic power (<1% THD, 8/4/2/1ohm)	127W   230W   390W   410W
Output imp. (20Hz-20kHz, MP/PA)	45ohm / 0.043-0.045ohm
Freq. resp. (20Hz-20kHz, MP/PA)	+0.0 to -0.3dB/+0.01 to -0.01dB
A-wtd S/N ratio (MP/PA)	113.3dB (0dBfs) / 99.3dB (0dBW)
Distortion (20Hz-20kHz, MP/PA)	0.0016-0.0017% / 0.002-0.021%
Digital jitter (CD/ S/PDIF / USB)	115psec / 10psec / 10psec
Power consumption (MP/PA)	17W/330W (50W idle)
Dimensions (WHD, MP/PA)	460x82x405/460x82x405mm