

# T+A E-Series Music Player *balanced* (£2890)

A leading light of the German hi-fi scene, T+A is once again available to UK audiophiles. We kick-off our tour of the brand with this versatile all-in-one CD and media player  
 Review & Lab: **Paul Miller**

There's probably no direct translation for 'Heath Robinson' engineering in German. If the likes of Burmester and T+A, featured here, are any guide, then it would suggest our Teutonic cousins simply don't do 'hairshirt' hi-fi. For not only is this E-Series variant of T+A's Music Player beautifully engineered and finished, it's also deceptively comprehensive. I mean, you've really got to squint before noticing there's a CD drive underlining that exquisite fluorescent display. So not only is this a five-input DAC, a USB hub for iPod and high resolution audio stored on standalone hard drives, a UPnP network client for computer-sourced streaming, an internet radio and analogue FM tuner – it's also a silver-disc spinner.

## BOXING CLEVER

Hence the all-encompassing product description 'Music Player', the *balanced* suffix a reference to the symmetrical circuit topologies that are the foundation of its design. In practice, while T+A's engineers cut their collective teeth on loudspeakers [see boxout], their experience in the digital domain still stretches back a couple of decades. It was the CD1210R player that, along with models from Sony, first offered audiophiles the facility of switching between different oversampling filter algorithms. That was in 1998 – the first and last time I saw an example of T+A's inventiveness available in the UK.

The intervening period has not seen T+A idle, as this all-in-one, line-level digital player serves to demonstrate. The Player is joined by a matching integrated amp, called the Power Plant *balanced*,

and a receiver that effectively combines the technology of the pair. But, for the audiophile (or 'audio freak' in T+A's unfortunate parlance), it's this line-level Media Player that really represents T+A's premier source component. And for good reason, for not only is it extremely versatile, exceptionally slick and glitch-free in operation but it offers a performance that belies the complexity, and opportunity for mutual interference, otherwise suggested by these high levels of integration.

Even the rounded contours and dovetailed construction of its lacquered alloy case are as much a function of CE compliance as aesthetic statement, the black plastic side-cheeks merely a cosmetic addition. T+A has also succeeded in

minimising clutter on its fascia without losing functionality to the remote control. The four main input buttons select Disc (CD player), Radio (internet and FM), SCL (Streaming Client – anything connected via the network or two USB ports) and Dig (three 192kHz capable coaxial inputs and two 96kHz optical inputs). The menu and 'crosshair' buttons to the right then allow you to navigate through various set-up options as well as the precise connection of the selected input.

The VFD screen is especially smart, combining a main display field that carries key text/descriptive information about the music in play, a vertical strip to the right that shows information about the device/network/reception status and a horizontal

**RIGHT:** Not a mini PC but a high-end CD player/DAC with FM/internet radio, USB and network audio functions added. The player supports modern file formats (up to 24-bit/192kHz) including WAV, WMA, AAC, FLAC and Ogg Vorbis





strip below that carries supplementary, context-sensitive data. The display has seven levels of brightness and may be configured in several languages.

### THE SMALL PRINT

There are, of course, numerous hidden features within the Media Player's menus. Digitally-governed balanced and bass/treble tone controls supplement the physical up/down volume buttons on the fascia, although the latter are only enabled if you have the optional £200 preamp board fitted. With or without variable outs, the Player feeds both single-ended and balanced connections – although the preamp does allow it to be connected directly to a power amp of your choice.

Of greater interest, perhaps, is the built-in option of two oversampling filters, the first a conventional high-order FIR type, the second a low-order 'Impulse Optimised' type not dissimilar to the Wadia/Pioneer Legato Link filters of yore [see Lab Report].

The menus also allow customised input naming, the option of phase inverted outputs and configuration of both wired and wireless network connections. The latter is not especially suitable for streaming hi-res 96kHz or 192kHz files, I

might add: wherever possible, stick to a wired LAN and use WAV or FLAC file types.

While we're on the subject of small print, I should add that although the Player accepts all digital input sample rates, files at 88.2kHz and 176.4kHz are indicated erroneously as 96kHz and 192kHz on its display. Also, while a wealth of metadata is displayed with USB or network-connected audio (all save album artwork), it is the file size rather than sample rate that's indicated. Not that a download's sample rate is necessarily a reliable indication of its native bandwidth, I'm bound to add [see *HFN* Jun '11 and hi-res download reviews, p82].

CD Text, where available, is also conveyed via this display, the selection of Oversampling Filter 1 or 2 overlaid in a separate 'window' by pressing the 'mode' button (or the 'musical note' button on the heavy, cast alloy remote handset). Finally, and unlike some other media/CD players, it is possible to load and cue-up a disc via the Media Player *balanced* while still listening to music via an attached HDD or network service.

'Filter 2 was preferred for its more relaxed perspective'

**ABOVE:** The black-fronted disc drawer is almost invisible beneath T+A's exquisitely detailed VFD screen that carries full CD Text, internet radio and networked/USB media metadata

### A SPRINT TO LISTEN

With little pause, the Media Player was transferred hot-foot from my lab to the listening room [*HFN* Aug '11] and hooked-up via its balanced connections (Furutech Reference/Teo Audio MHD cables) to my Krell S-1200/S-1500 pre/power amplifier.

Speakers included my regular B&W 802s and an extended spell using Wilson Audio Sashas.

With uncompressed rock and pop, the Media Player has a real spring in its step, its bass fleet of foot and

with a very satisfying 'bounce' to bass guitar and drums. While occasionally a little lean in balance, its presentation and soundstaging is otherwise broadly neutral and transparent. The elegant simplicity, the natural ambience and raw passion captured in Eleanor McEvoy's latest album, *Alone* [MOSCD409] was conveyed very sympathetically by the Media Player – but then any player that has trouble with this CD has far bigger problems!

There's a suggestion of sibilance in Eleanor's voice, a hint of sharpness heard through the Media Player that was successfully tempered by Oversampling Filter 2, this low-order filter free of pre-ringing [see Lab Report] also encouraging a darker tone and smoother top end. Indeed, with most discs, Filter 2 was preferred for its more relaxed perspective, almost as if the music were played with a marginally subdued tempo (impossible, of course).

As an aside, the Player's *digital* output shares the slightly cooler balance of Filter 1 as heard via my Devialet amplifier and compared with the digital output of both

### TRAILBLAZING T+A

Ever heard of a company called 'Theory and Application in electro-acoustics'? No, neither had I, but it's the long version of T+A, a hi-fi business born in 1978 building transmission line loudspeakers and one that has since grown into a leading light of the German high-end. All its products are developed and manufactured at its facility in Herford (Westphalia, Germany) and now extend to CD players, amplifiers, turntables, a BD HD-audio AV receiver, a huge range of loudspeakers (including active designs with digital inputs) and even an 82cm flat-tubed TV in addition to the Media Player featured here. There are five separate series of electronics in its range, beginning with the Caruso multi-source system through the 'R', 'K', E-Series and up to the super high-end V-Series that includes the iconic M10 1000W/4ohm monoblock tube/transistor hybrid amplifiers. Also incorporating a special 'high current mode' that promises 60W/8ohm in Class A, these incredible amplifiers will feature in an exclusive *HFN/RR* review very soon.



## MEDIA SERVER

## LAB REPORT

### T+A E-SERIES MUSIC PLAYER (£2890)

This hugely flexible music player offers a truly high-end performance from its wide 113dB A-wtd S/N ratio (CD, 24-bit S/PDIF and network inputs), low-level linearity good to  $\pm 0.4$ dB over a 110dB dynamic range and fabulously low <20psec jitter (all digital inputs). Regardless of input, the player's peak level output is a high 4.6V through a usefully low 20ohm (balanced) source impedance, enabling it to drive very long lengths of cable to remote power amplifiers. Moreover, unlike many other high output players, this E-Series model maintains very, very low levels of distortion over the top 10dB of its dynamic range [see Graph 1, below] – typically just 0.0001% through bass and midrange. Distortion (or more correctly THD+Noise) increases at much higher frequencies but, unusually, this also varies with incoming sample rate. 48kHz inputs, for example, are converted with a higher level of ultrasonic requantisation noise than 96kHz or 192kHz inputs, leading to 20kHz/OdBfs distortion figures of 0.0014%, 0.001% and 0.0009%, respectively.

The levels of stopband aliasing and high frequency (treble) roll-off are entirely determined by the choice of its long and short FIR oversampling filters, the former behaving like a 'standard' player with flat response to  $-0.14$ dB/20kHz and 102dB of stopband rejection. The latter offers an earlier but gentler roll-out of  $-3.38$ dB/20kHz and a mere 7dB stopband attenuation but with minimal pre/post-echoes in its impulse response [see Graph 2, below]. Readers are invited to view QC Suite reports for T+A's Music Player's CD, S/PDIF and networked audio performance by navigating to [www.hifinews.co.uk](http://www.hifinews.co.uk) and clicking on the red 'download' button. PM



**ABOVE:** Wired ethernet port is joined by connection for a WLAN antenna and RF remote control. Five S/PDIF digital ins are joined by iPod and external HDD USB ports, an FM aerial connection, fixed and variable (optional) RCA outs and balanced XLR outs

the Cambridge Audio BD751 and Musical Fidelity CLiC [HFN Aug and Jun '11]. This was certainly the case with AM's *Future Sons And Daughters* [Naim CD151 and 24-bit/48kHz download], an album with modern production values but a lively '60s resonance that's faintly irresistible. Coldplay's *Mylo Xyloto* was very resistable, however, the high levels of perceived compression finding no favour with the Media Player. This is not the sort of CD spinner to find a silver lining in an otherwise cloudy recording. Luckily, T+A's eject facility is no slouch...

### STREAMING SUCCESS

If, as I suspect, you'll identify the biggest differences in the Player's performance by switching between its oversampling filters with CD, these differences become less obvious with higher sample-rate material via an external USB HDD or, indeed, via its UPnP network. In both cases the extreme treble sounds less agitated regardless of filter setting: its rise into inaudible ultrasonics smoother and more progressive.

The lively, foot-stomping lick of fiddles from 'Blue Days, Sleepness Nights' [Nitty Gritty Surround, AIX 80008] had the room jumping with enthusiasm just as the closer, more immediate tension of 'Miner's Night Out' had us perched with some anticipation on the edge of the sofa. With this delightful album in particular and much hires material in general, the Music Player offers a very sophisticated sound, big on subtle detail and yet occasionally measured in its delivery of substantive dynamic swings.

This was illustrated by the opening bars of Mahler's Fifth Symphony [Duisburger Philharmonie/Jonathan Darlington, Living Concert Series; [www.hiresaudio.com](http://www.hiresaudio.com)], a

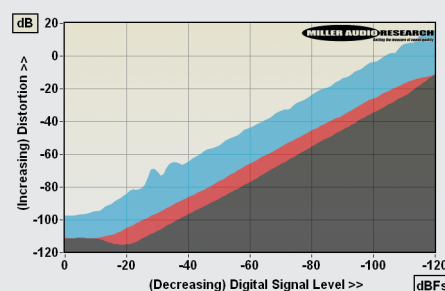
96kHz/192kHz recording that can bring the house down with a 'big' system. That grand sound was still obvious with the Media Player, its ability to wend through the orchestra and tease out the thrill of individual strings, the rasp of brass and rich resonance of the timpani was quite delicious, and yet, if I may extend the culinary metaphor, both its overall texture and aftertaste were faintly lacking.

While there was no sense of detail being masked, I was left with the feeling of musical composition winning out ahead of sheer passion and performance. It's the kind of sound at home in a colourful system, not one that's either lean or mean. Yes, I'll admit to being rather picky here, because, in the context of a multi-faceted all-in-one player, this performance is about as good as it gets. I certainly cannot imagine assembling a bunch of separates that combined this wealth of functionality – CD, FM/internet radio, network/USB audio and outboard DAC – that would usurp its position. Nor, I might add, offer a higher standard of fit, finish and firmware. ☺

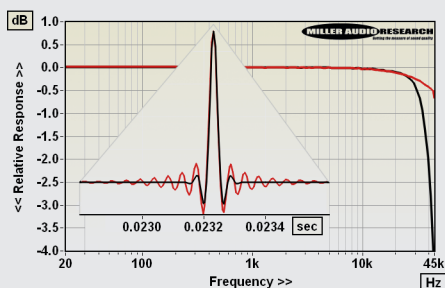
### HI-FI NEWS VERDICT

Beautifully built and flawless in operation, T+A's Media Player makes a valiant attempt to be all things to all media, and is largely successful in its endeavour. Nevertheless, while a disc player forms the core of the product, it is the peripheral networked audio and USB HDD functionality that finds the Media Player singing its sweetest, with CD a little thin in comparison. 'Streaming audiophiles' will be impressed.

Sound Quality: 80%



**ABOVE:** Distortion versus digital signal level over a 120dB dynamic range. 24-bit/1kHz (black trace) vs 20kHz (blue trace) with CD/1kHz (red trace)



**ABOVE:** Impulse and frequency responses (96kHz data) with oversampling mode 1 (red) and 2 (black)

### HI-FI NEWS SPECIFICATIONS

Maximum output level/Impedance	4.60Vrms / 22ohm (balanced)
A-wtd S/N Ratio (CD/24-bit LPCM)	113.0dB / 113.1dB
Distortion (1kHz, 0dBfs/-30dBfs)	0.00015% / 0.00045%
Distortion (20kHz/40kHz, 0dBfs)	0.00095% / 0.0016%
Freq. response (20Hz-20kHz/45kHz)	+0.0dB to -0.13dB/-0.66dB
Digital jitter (CD/24-bit, 48kHz/96kHz)	118psec/22psec/19psec
Resolution @ -100dB	$\pm 0.2$ dB
Power consumption	15W
Dimensions (WHD)	440x120x390mm