



SOUND JUDGEMENT

Touted as the missing link to audiophile sound, digital-to-analogue converters and headphone amplifiers are the secret to getting the most from digital music. **By Christopher Lim**

WITH the phasing out of CDs and vinyl records, music lovers are increasingly keeping their collections on computers or mobile phones. The problem is: How do you get the same sound quality you got with traditional hi-fi set-ups? Unfortunately, too many people are wasting their money upgrading their computer speakers and headphones – when they really should be looking at two other gadgets that are the real key to digital music bliss. The first of these is the digital-to-analogue converter (DAC), and the second is the headphone amplifier.

Digital-to-analogue converter (DAC)

On computers, phones and MP3 players, music is stored in bits and bytes. Before these come out of speakers or headphones as music, they have to be converted into sound signals. And that's the job of a DAC.

You might think this task is rather straightforward. But it's not. Accuracy is the bugbear of good digital-to-analogue conversion. What you put in one side rarely comes out accurately on the other. In the world of sound, you hear this inaccuracy as harshness, brittleness and an absence of realism and atmosphere. That's why those who grew up listening to vinyl records and cassette tapes have become used to thinking of digital sound as cold and sterile. It doesn't help that the DACs built into most computers, phones and music players are rubbish. The solution is to buy an external DAC to plug your computer into. This also applies if you want to upgrade the sound quality of your CD player.

One of the best value-for-money DACs you can buy comes from Trends Audio, a Hong Kong company that

designs its products in the special administrative region but manufactures them in China. Shelve any bias against hi-fi products made in China, because many of them combine great quality with rock bottom price tags.

The Trends Audio UD-10.1 Lite USB Audio Converter costs \$190 from local distributor Audio Trio. Buying direct from www.trendsaudio.com will cost you US\$119, excluding shipping.

Either way, that's ridiculously cheap compared with the entry-level V-DAC from prestigious UK brand Musical Fidelity, which local distributor Alpha Audio sells for \$460. The V-DAC is one of the cheapest competitors to the UD-10.1 Lite, but, in terms of features, offers only a handful of extra input options to make up for being almost double the price.

Just plug the UD-10.1 Lite into any computer using a standard USB cable and you are all set. There's no extra software to install on either Windows or Macintosh PCs – but you can't use it with phones or MP3 players.

If you are on a tight budget, you can stop your upgrade project right here because the UD-10.1 Lite has a headphone jack built in. It's a brutally bare brushed metal box less than 8cm wide and weighing just 250g, but it does the job.

When tested against the built-in headphone jack on several computers from Dell and Apple, the UD-10.1 Lite audibly smoothens music with harsh sibilant sounds, and adds a bit of bass and a touch of mid-range warmth. The improvement is as noticeable with audiophile-grade lossless music files as it is with low-quality MP3s.

If you are looking for a hardcore DAC upgrade, however, check out the Naim DAC (\$5,484) from distributor Absolute Sound (absolutesounddistribution.com). It's a huge jump in price from the Trends Audio UD-10.1 Lite, but is in a different class altogether in terms of audio qual-

LEHMANNAUDIO BLACK CUBE LINEAR HEADPHONE AMPLIFIER



LEHMANNAUDIO RHINELANDER HEADPHONE AMPLIFIER



NAIM DAC

TRENDS AUDIO PA-10 TUBE HEADPHONE AMPLIFIER

BEYERDYNAMIC A1 HEADPHONE AMPLIFIER

GETTING AN EARFUL

Beyerdynamic A1 (above) is available in a \$3,339 bundle with its new top-of-the-line T1 headphones (top left); Trends Audio PA-10, shown here as part of the Trends Audio Combo Hi-Fi System (right), utilises a vacuum tube, which imparts warmth to the sound

ity and compatibility.

The main thing you can't do is plug your computer into it via USB – you will need a special digital cable for that. But it accepts most other inputs and outputs, ranging from standard to esoteric.

You can even connect a run-of-the-mill iPhone/iPod USB cable to the Naim DAC to play music directly from your device while it charges. You can also control playback from the DAC's buttons, and the inferior DAC built into your iPhone's or iPod is bypassed. The Naim DAC is the only high-end DAC officially certified by Apple for use with its mobile products.

As one would expect at this price, tested sound quality is as big an improvement over the Trends Audio UD-10.1 Lite's as the UD-10.1 Lite's quality is over built-in headphone jacks on computers. The Naim DAC makes music sound more three-dimensional, with detailed highs that don't fatigue, a rich and expansive mid-range and bass that's deep and full.

However, the Naim DAC only makes sense if you have at least CD-quality music files, or plan to use it with a CD player. And it will only truly shine if you have a music library that is of better-than-CD quality.

But if you have a suitable sound source, the Naim DAC is an incredible piece of kit, despite of its prodigious 5.6kg weight and 43cm width.

Headphone amplifier

Full-size headphones and in-ear earphones have become increasingly popular as more people listen to music on computers and mobile gadgets.

But even the best headphones and earphones don't sound their best with standard computer and phone set-ups. An even bigger problem is volume. Many audiophile headphones require so much amplifier power to drive them properly that when you plug them into a laptop or phone, you can barely hear anything even at full volume. This is especially the case if you enjoy listening to quiet jazz or classical recordings.

The solution is to buy a dedicated headphone amplifier. Trends Audio comes to the rescue again in the value-for-money segment with its PA-10 tube headphone

amplifier (\$320 from Audio Trio; US\$225 direct), which is about the same size as the UD-10.1 Lite DAC.

As the name suggests, the PA-10 utilises a vacuum tube, which imparts warmth to the sound. You can swap different types of tubes to change the amplifier's sonic character. There's more than enough power to drive the most inefficient headphones, and the PA-10 makes even lousy MP3s sound rounder, richer and more alive.

Unfortunately, the tube also gives the PA-10 physical warmth, and it easily gets hot enough to fry an egg. Don't put it on your lap or anything that will melt or burn.

An alternative is the Lehmannaudio Rhineland (630), which doesn't use tubes and is almost as small. It lacks the warmth of the PA-10's sound, but makes up for that with balance and neutrality.

The only clear downside is that the standard configuration doesn't provide enough power to drive inefficient headphones properly. For that, you need to unscrew the casing and fiddle with mini-switches. It's not brain surgery and it does solve the problem, but those with phobias of screwdrivers and circuit boards may be concerned.

The Rhineland's big brother, the Lehmannaudio Black Cube Linear (\$1,540), which you can also buy from local distributor Audio Note (hi-fi.com.sg), doesn't suffer from the same issue. All the mini-switches to boost volume are located on the bottom of the amplifier's longer exterior, which is convenient.

The Black Cube Linear has a much more detailed mid-range than the Rhineland, along with better bass extension. The treble is also a bit more articulate. Overall, it impresses with more

poise and authority than its sibling, and while the Rhineland distinguishes itself from the cheaper Trends Audio PA-10 more in terms of sonic character than sound quality, the Black Cube Linear easily justifies its premium pricing.

Stiff competition for the Black Cube Linear comes not from the bargain bin but from a peer. Beyerdynamic's A1 amp (\$1,869) is being introduced here next week when stock arrives at dealers Hung Brothers (www.hung-bros.com) and Stereo (stereo.com.sg).

One area the A1 clearly beats the Black Cube Linear in is bass response. It will go as low as your headphones can handle. It's agile too, and will keep up with everything from Bach cello suites to drum-and-bass dance music. There's none of the thinness often encountered in cheaper headphone amplifiers, and the bass quality is meaty and distinct. The A1's midrange is a touch richer than the Black Cube Linear's, and treble performance is on par.

There's no need to fiddle with mini-switches because the A1 seems to automatically adjust to whatever kind of headphones you use with it, which results in a consistent volume range.

The question is whether it's worth paying a \$329 premium over the Black Cube Linear primarily for better bass. If you value bass response and have the money, then the answer is a definite yes.

Moreover, the A1 is available in a \$3,339 bundle with Beyerdynamic's new top-of-the-line T1 headphones, which cost \$1,850 by themselves. Buying both in the bundle saves you \$380.

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TRENDS AUDIO UD-10.1 LITE DAC