

ADL

HiFi World (UK) – ADL A1
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All is A1-OK

Martin Pipe is enthused by the Furutech-made ADL A1 'micro-DAC'

Remember the two-box CD player? A transport spun the disc, recovering the digital data that would be turned into music by an accompanying digital-to-analogue (DAC) converter box.

Today, we live in an age of ever-shrinking electronics - computing

power that not so long ago filled an air-conditioned room is now fits a smartphone in your jacket pocket. What a pity these 'jacks-of-all-trades' seldom sound particularly good.

And so I was intrigued to learn of the ADL (Alpha Design Labs) A1, a pocket-sized battery-powered DAC/headphone amp that can stream music from the USB port of an Android device (there's also the X1, its Apple-happy equivalent). Thanks to its Cirrus CS4392K converter chip,

the £435 A1 natively-supports DSD (2.8MHz and 5.6MHz) and 16- or 24-bit PCM audio with sample rates of up to 192kHz. A range of top-mounted LEDs indicate the currently-active mode. It's supplied with a number of USB connecting cables, including short ones that hook up to smartphones and tablets and longer ones that enable the A1 to act as a computer DAC.

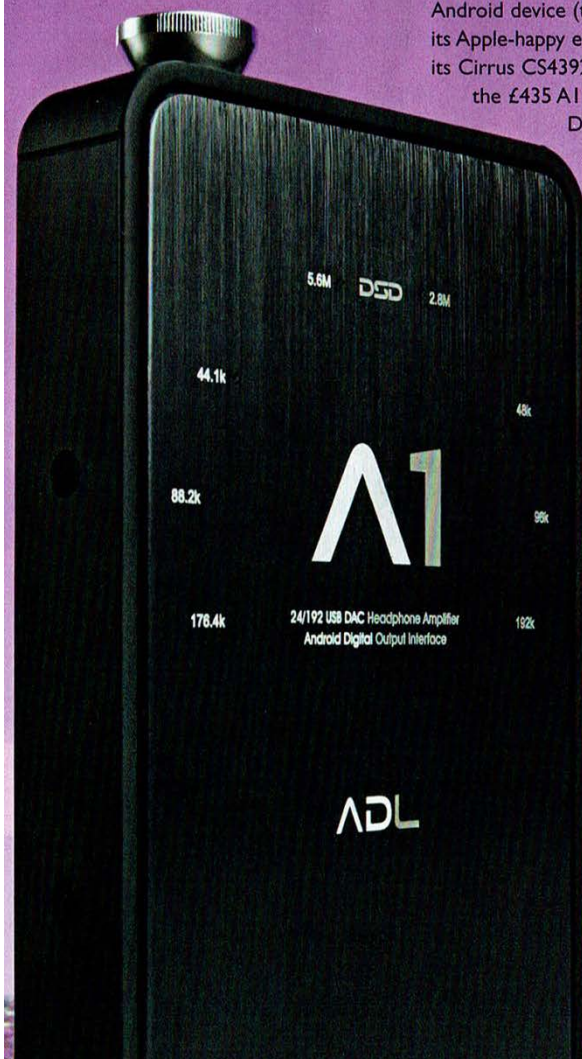
The A1 is about the same shape and size as my Samsung Galaxy S4 Mini, and as both are thin they easily fit in my pocket,

together (ADL even supplies a band to bind them). I could use the smartphone like the transport of a two-box CD player, streaming music of my choice to the A1 and its audiophile electronics. No more lousy headphone drive chips – the possibility of playing hi-res music on the move is an enticing one.

Not surprisingly I was excited. However, this soon turned to disappointment. I just couldn't get the two devices to talk to each other. The caveat for Android users is that their device needs to support a USB protocol known as 'On The Go' (OTG). And while the full-sized Galaxy S4 is OTG-conversant, the Mini isn't. If you're planning to use an A1 in this role, check first that your device is compatible (a list of tested models is on the website).

But fear not; as the A1 is capable of more. As just mentioned, this pocket wonder will act as a USB DAC with various computer platforms - Windows XP or higher (downloadable driver needed), or Mac OS X. ASIO and asynchronous transfer are supported. The desired input is selected with a slide switch - which has a third position. This accepts the input from a Minidisc-type 3.5mm optical input, enabling the A1 to be used as a DAC with conventional digital-audio sources like CD transports.

In addition to the headphone socket is a 3.5mm line output, which is also adjustable in level via the front-panel analogue volume knob (which also turns the A1 on or off). As a result, you'll be able to drive





Dominant is the OTG USB port that allows the A1 to be used with a handful of recent Android devices. Thanks to the adjacent mini-USB port, the A1 can act as a computer DAC. The 3.5mm analogue line/headphone socket doubles as an optical digital output, so the A1 can act as a USB-to-optical converter for high-end DACs.

power amps and active speakers directly from the unit. That the A1 is being run from the 'clean DC' of the internal batteries (which are charged via USB) means you don't have to worry about the sonic effects of mains-driven power supplies. A single charge is good for up to seven and a half hours of continuous playback.

Another nice touch is an analogue input (again, 3.5mm). You can thus use the A1 as a volume control with another source.

PERFORMANCE

Although the Android audio feature was out of bounds, I was able to try the A1 with an inexpensive Sony CD player equipped with optical output and an Apple MacBook Pro. I drove Sony's MDR-IRs from the headphone socket and my Linn LK280 power amp and Acoustic Energy AE109 speakers for larger-scale listening.

Everything worked as it should, and it proved easy to get the A1 to talk to the Mac and its Audirvana playback software. DSD tracks were played with ease, the relevant indicator on the A1 confirming that the data was being streamed natively, rather than being subjected to an intermediate PCM conversion process. Hardly surprisingly, DSD files (2.8MHz/DSD64) sounded marvellous through headphones or loudspeakers.

'Take Light in the Fracture' by Michigan-born virtuoso violinist Emily Palen was utterly captivating. Every note, every subtlety that the instrument's wood imparts, every string rasp, every nuance of every bow is laid out for your listening pleasure.

With 24/96 PCM material the presentation had effortless musicality. The natural tonal balance and

smoothness emerge unscathed here. With more modern recordings – carefully-chosen 16-bit CD-quality ones, such as Dire Strait's 'Brothers in Arms' – reveal the dynamic and resolving potentials of the A1.

However, it's less tolerant of less-than-ideal recordings – flaws are exposed with no mercy, especially via the intimacy of headphone listening. The Edsel CD issue of New Musik's second LP 'Everywhere' is a case in point. You can pick out tape dropouts, background noise and even an unpleasant rumbling. Such anomalies are not so bad they detract unduly from the music, but they show just how resolving the A1 can be.

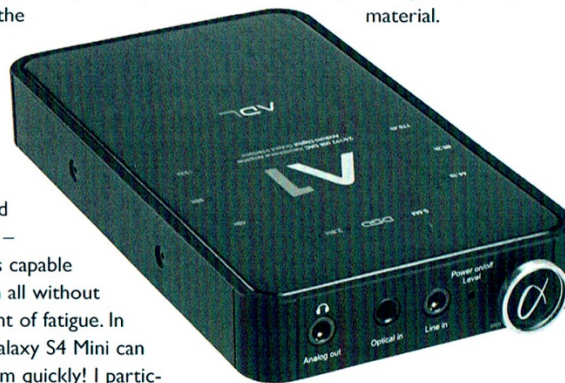
In addition to the Sony headphones, I tried Sennheisers and Onkyo models – and the A1 was capable of driving them all without the slightest hint of fatigue. In contrast, my Galaxy S4 Mini can run out of steam quickly! I particularly enjoyed listening to my CD of the late Sir Colin Davis conducting the LSO for a 2002 performance of Holst's 'The Planets'. The soundstage was cohesive and balanced, and even during crescendos individual

performers could be identified within the mix.

CONCLUSION

If you have an OTG-compatible smartphone, then the ADL A1 lets you partner its multifarious benefits with a musical performance that's up there with many dedicated music players (which cannot access the Web, play games or let you send messages!).

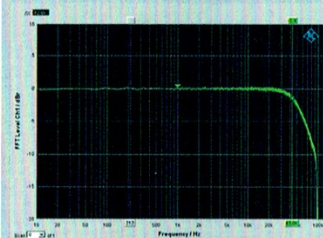
Even if yours can't, what we have here is nevertheless a flexible and capable DAC/headphone amp in a remarkably-tiny package that really impresses with everything from standard Red Book CD-quality rips to high-resolution material.



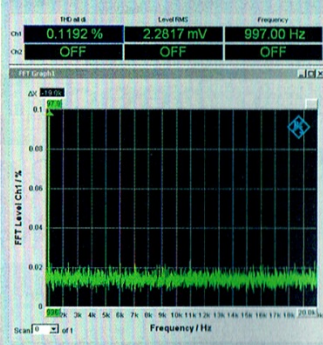
The main headphone output is here seen with the optical input, which enables the A1 to be partnered with conventional sources like CD players. The rotary analogue volume control on the right also switches the unit on or off. LEDs set into the A1's top panel indicate incoming source format and sample rate.

MEASURED PERFORMANCE

FREQUENCY RESPONSE 192k



DISTORTION, 24bit -60dB



The ADL worked to 192kHz sample rate through its optical S/PDIF input, frequency response reaching 43kHz, our analysis shows, so it well exploits high sample rate. With 24bit PCM, distortion at -60dB was reasonably low, measuring 0.12%, some output amplifier noise influencing this result. Dynamic range was 105dB, good if not up to Astell&Kern's 115dB or so for a portable.

With 1.7V maximum output, the ADL A1 will drive even insensitive planar magnetic headphones, like Oppo PM1s, loud.

The ADL A1 measured well. It could usefully have more dynamic range but it is a little better than CD as it stands. **NK**

Frequency response	4Hz-64kHz
Separation	92dB
Noise	-104dB
Distortion	0.12%
Dynamic range (EIAJ)	105dB
Output	1.7V

ADL A1 DAC/ HEADPHONE AMPLIFIER £435



OUTSTANDING - amongst the best

VERDICT

Good things can come in small packages!

FOR

- detailed, revealing and plenty of drive
- Android, USB and optical DAC support
- battery power

AGAINST

- won't work with all Android phones
- no bundled optical cable

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