

Lux like heaven

Luxman's new DA-250 DAC is a superb performer with impressive flexibility says Jon Myles.

In theory making a good standalone digital-to-analogue convertor shouldn't be all that difficult. Select your DAC chip – or in the case of Chord Electronics make your own – design a circuit around it and then choose the casework, controls and inputs.

Of course, things are never quite as simple as that. Just as manufacturing a great loudspeaker takes a fair bit more than simply fixing some drive units into a cabinet, the art of producing a good DAC has many pitfalls awaiting any designer.

Indeed, there are so many potential nasties lurking in the digital domain, it's a wonder just how many companies are producing new products. But as computer-based

audio and high-resolution downloads continue their exponential sales rise this is how more and more people are consuming music.

So even venerable companies like Luxman – who, it must be remembered, produced their first tube amplifier way back in 1958 – have to move with the times to stay relevant.

And that is exactly what they are aiming for in the new DA-250 DAC/pre-amplifier which sells for £1999.95 – a slim unit measuring 81mm x 364mm x 279mm (H/W/D) and weighing in at 5.4kg.

More important, though, is its range of options. Digital inputs consist of one USB, one coaxial and two optical S/PDIF plus a single unbalanced analogue. For outputs

you have both balanced XLR and unbalanced RCA analogue, plus coaxial and optical digital; there's also a dedicated headphone output circuit.

The DA-250 has fixed or variable output. With variable the DA-250 can be connected directly to a power amplifier or active loudspeakers to act as a DAC/pre-amp. With fixed control of volume comes from the input source.

Internally the Luxman is based around a Texas Instruments PCM1795 DAC chip, meaning it can handle file sizes up to 32bit/192kHz and DSD (2.8MHz and 5.6MHz) via the USB input, as well as 24bit/192kHz on S/PDIF.

The front panel contains the on/off switch, input selector and volume control, as well as a small but



readable red LED display window that handily can be set to show the sampling rate of incoming files.

A credit card sized remote control allows for operation from across the room but there's also Luxman's own Audio Player software (available free for both Windows 10 and Mac OS-X) which works admirably well when the unit is hooked up to a computer.

Indeed, I installed both versions on my home computers (both Mac and Windows) and was up and running within minutes. The only thing, however, is that Windows users will have to install the free drivers - but we are all used to that annoyance by now, hey?

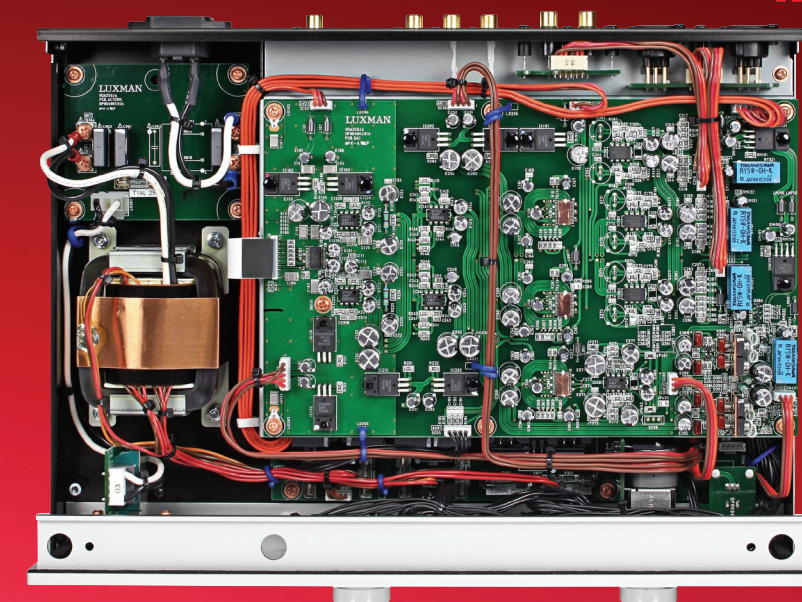
SOUND QUALITY

Luxman has always had a distinctive sound quality and it errs towards the rich and vibrant. This new DAC is no exception.

One of the most frustrating things about computer audio is that at times it can sound harsh and clanky with a decidedly edgy nature. The DA-250 ameliorates this by having a warm and forgiving sound quality.

Connected to a MacBook Air and playing into a pair of Wharfedale's excellent Reva-2 loudspeakers the Luxman sounded rich and effusive in very much the same manner as the company's amplifiers.

On The Clash's 'Live At Shea Stadium' (24/96) there was a depth



Internally the Luxman DA-250 uses a Texas Instruments PCM1795 DAC chip and a high quality linear power supply.

to the soundstage that brought out the atmosphere of this live recording. Listening to the opening 'London Calling', Paul Simonon's bass lines had a fulsome quality that made the track drive out of the loudspeakers.

Joe Strummer's growled vocals also had admirable clarity while the guitar work of Mick Jones was easy to pick out. This isn't the best live recording of The Clash and can sound unduly harsh via some DACs. The Luxman, however, got it just right, bringing out all the energy of the performance without drawing

attention to the deficiencies of the sound.

Much of this is down to the fact that the Luxman seems to have been voiced for musicality and a smooth, even sound - paying dividends during long listening sessions.

As such it loses something in terms of outright detail compared to the likes of the (admittedly more expensive) Resonance Invicta Mirus which is almost forensic in terms of pulling out every element of a recording. However, the Luxman counters this with a lusher and richer





Digital inputs comprise one USB, one coaxial and two optical S/PDIFs. There is also an analogue input. Balanced XLR and unbalanced RCA outputs are at top left, plus coaxial and optical digital at bottom right. A fixed or variable output selector switch sits at bottom left.



presentation.

This becomes evident on the San Francisco Symphony's rendition of Mahler's 'Symphony No 1' conducted by Michael Tilson Thomas on a 2.8MHz DSD file. There was a wide soundscape of the opening horns echoing in the distance, before the full orchestra came in; it was an enthralling presentation.

Switching out the loudspeakers and bringing in the headphone section via a pair of Noble K10s and Audeze LCD3 planar magnetics revealed a similarly impressive sound.

In-ears like the Nobles are always sharper and slightly more strident than over-ears such as the Audezes. However, they can bring out more detail and presence and the Luxman showed the difference between the two.

With a 24bit/96kHz download of Bruce Springsteen's 'Dream Baby Dream' the Nobles were sharper in the treble but brought in more

bass while the Audezes had a softer quality overall. That is just how it should be – showing the Luxman's headphone section is delivering just what you expect from your partnering equipment.

CONCLUSION

The Luxman DA-250 is an extremely impressive performer which demands a listen. Its sound is rich and warm in traditional Luxman fashion but that is no bad thing. Add in an exceptional headphone section and decent range of inputs and outputs and you will find it tempting at the price.

MEASURED PERFORMANCE

At full volume the DA-250 delivered a very high 5V from its headphone output from a peak level digital input (0dB) – more than enough to drive any headphone, since around 1V is very loud and 2V shattering. With Hi Sens (high sensitivity) this increased to 8.7V.

Both the phono socket line output and XLR balanced output delivered 2.4V – sufficient to drive any power amplifier, since most need 1V.

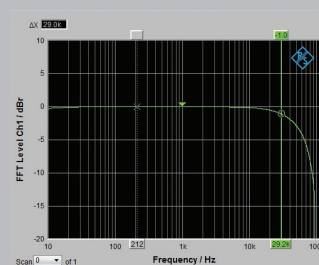
The analogue preamplifier section had no gain, 1V in delivering 0.9V out, so as a preamp the DA-250 lacks the x3 gain common in preamps and isn't suitable for low output sources like old tuner or cassette decks (0.3V out). With 2.7V input overload it is fine with all silver disc players, all of which deliver 2V.

Distortion at -60dB was low, measuring 0.02% with 24bit and 0.22% with CD, the latter being as low as it can get due to 16bit quantisation noise.

The important Dynamic Range value measured a high 119dB via both Phono socket and XLR analogue outputs – very good for the Burr Brown PCM1795 DAC chip used internally. Due to noise, likely in the USB receiver, this value fell to 114dB via the USB input, a large 5dB

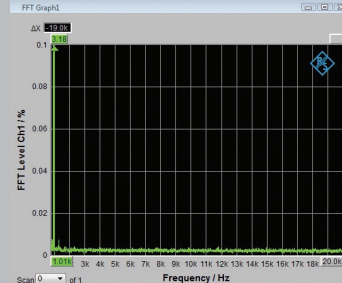
decrease. Noise via USB is becoming rare these days, so the DA-150 could be better here. Worse, from USB to the headphone output Dynamic Range measured 112.5dB, due to a little noise

FREQUENCY RESPONSE



DISTORTION

THD at 10	Level RMS	Frequency
0.0215 %	2.4764 mV	997.00 Hz
OFF	OFF	OFF



in the headphone amp. – rivals like the Audiolab M-DAC+ manage better for less.

The optical S/PDIF digital input worked to 192kHz where many reach 96kHz maximum, important for Astell&Kern portables with optical output delivering hi-res to 192kHz.

Frequency response reached 30kHz (192kHz sample rate) with Filter 1 and 2, the latter steepening roll off, whilst giving better time domain impulse response. With CD Filter 1 measured flat to 21kHz, whilst Filter 2 reached a lower 17kHz. These differences are small but Filter 2 is likely to sound subtly cleaner and more natural.

The DA-250 measured well in all areas but has minor blemishes; it isn't ahead of competitors. NK

Frequency response (-1dB, 24/192)
Hz- kHz

Distortion (24bit)	0.0005%
0dB	0.02%
-60dB	0.02%
Separation (1kHz)	101dB
Noise (IEC A)	-117dB
Dynamic range	119dB
Output	8.7V

HI-FI WORLD

LUXMAN DA-250
£1995.95



OUTSTANDING - amongst the best

VERDICT

Luxman's traditional looks, style and sound add up to a superb package. Highly recommended.

FOR

- smooth, refined sound
- versatility
- slim form factor

AGAINST

- tough competition

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