

Lumin X1 music streamer

by Alan Sircom



Lumin sprung out of nowhere a couple of years ago. The Hong Kong-based brand was initially dismissed by the audio industry's xenophobes as some kind of rip-off of a well-known popular streamer from the UK that also begins with 'L'. Then people started to hear Lumin products, and the xenophobes skulked off. In fact, Lumin has been one of those brands that has rarely – if ever – put a foot wrong, and has made some excellent sounding digital audio products. But even by its own exalted and exacting standards, the X1 is a little bit special.

OK, this is Lumin's flagship music streamer, so 'a bit special' is expected. But the depth of 'special' can still take you by surprise. In fact, the rationale behind the X1 isn't just "let's make a big one!" Instead, Lumin looked to its already extremely popular S1 and A1 streamers and tried to work out how to make a better one. In the process, they looked at

many of the rivals and sought to better those in the process. So it's a real flagship, and one that's built like a battleship. First, it's a phenomenally well made box, or rather boxes... the separate power supply is smaller but no less substantial. The specs alone don't tell you just how solid and well-built this hewn-from-solid pair of chunky slabs of black or silver aluminium feel in the flesh. There's some sense of immediate tactile understanding of just how well-built these products are – something you don't normally get from streaming devices, save for those handful of truly top end models.

The player is built around twin ES9038Pro SABRE DACs with a claimed 140dB dynamic range. These are fed by an on-board Femto Clock System on a FPGA chipset. This digital nexus delivers up to DSD512 native and PCM768 playback at 32 bit resolution. The configuration of the X1 is about as dual mono as it's possible to get without separate chassis and power supplies. It's also fully balanced throughout. ▶

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► And it's here at that 'fully balanced' point that things become really interesting. To many audio companies, 'fully balanced' is more to do with a balanced circuit ending in XLR connectors. This notionally gives zero noise across long cable runs, but the difference between 'domestic' balanced and 'pro' is the use of balancing transformers in the signal path. These effectively nail the no-noise connection, and if you peel apart any recording studio, broadcast studio, or professional transportable studio or TV 'OB' (outside broadcast) unit, you'll find balancing transformers throughout. This is probably a bit 'belt and braces' for home audio (you are unlikely to have to run 100m of XLR cable through a noisy environment) but it guarantees the optimum operating conditions for balanced connections.

The specification sheet of any Lumin product reads a little like a *Who's Who* of digital audio formats. In fact, it's easier to cite the formats and standards the X1 doesn't cover rather than the ones it does. OK, so there are probably some relatively obscure formats that don't make the cut – I can't find Monkey's Audio on the list, for example, but on the other hand, if it's offered in any streamer from the halfway decent on up, the Lumin will support it. It's more likely that Lumin does support Monkey's Audio and I just can't find it on a huge laundry list of supported formats. This means that the alphabet soup of streaming services are all supported, right up to and including MQA.

Clever continues throughout the X1. It has dual Ethernet ports. One is a regular RJ45 LAN and one is an optical network connection. This means you can hook a local NAS direct to the Lumin for optimal performance, all the while retaining the functionality of the full Ethernet connectivity and streaming and control point opportunities that brings. You could even use a tablet computer hardwired into the network a little like a giant Custom Install handset if you like. The optical network connection (SFP or small form pluggable) links the Lumin to fibre channel devices, and also tends to be less noisy compared to conventional wired Ethernet networks.

The X1 has a small but significant ace up its sleeve, in that it has both USB and BNC S/PDIF digital outputs, with the USB supporting native DSD512. This makes the Lumin great to talk to DACs if you don't like the on-board converter, but also means recording is possible.

Finally, on the hardware side, we move to the X1's power supply block. This is an external CNC milled solid billet of aluminium, housing a dual-toroidal transformer, with a low noise linear regulator, power supply taps for digital and analogue circuitry, and a nine-pin connect for attaching to the head unit of the X1. Or it can be used as an upgrade for one of Lumin's other streamers. OK, so adding the X1's power supply to an S1 does not bring it up to X1 standards, but it's a good upgrade, all the same.

There are some network streaming DACs that can work as a DAC in the absence of a network, but this isn't one of them. It has to be connected to a network, and to stream music to the Lumin, you will need to have a basic understanding of UPnP networking, or use devices that have UPnP preinstalled. Which made it handy that the Melco N1 was in the loop for this month's review roster. The two positively purred in one another's company. The Lumin happily pulled music off the Melco's UPnP server connected locally, and the Lumin dragged in Tidal and the like from its second Ethernet connection to the outside world. If you are thinking of streaming music from a home computer, remember to load up something like MinimServer on that computer first.

If you aren't a black belt in networking and aren't using something like the Melco, help might be needed when the Lumin flashes up 'Network Error' on its blue fluoro display. Chances are, the problem is incredibly easy to resolve and will take seconds to fix, but not if you are the kind who doesn't see the joke in "where's the 'any' key?"

All this is by way of introduction to what is, very probably, the nicest sounding network streamer out there at the moment. Or if not the best, then close to the best, and free from the best's addiction to box collecting. The big guns with multiple boxes can match or even better what the X1 can do on a good day, but you are talking of possibly as much as an eightfold increase in price and a fourfold increase in lost shelf space. All for maybe a mild improvement in absolute terms.

But step away from the comparison and focus on the X1 instead. It has a sense of absolute confidence in its own performance that is typically the domain of the best in analogue. There's a sense of order to the sound; it toes the right balance between expressive and exuberant, and authoritative and dour. It's not mercilessly honest, and doesn't ►



▶ leave less than ideal recordings brutally exposed, but it is precise and detailed enough to highlight their iniquities. The control of the sound isn't so overpowering as to make the X1 seem oppressive, and yet isn't so loose or ill-timed as to make it wayward. It just portrays the music more honestly than most.

This is best expressed in its handling of dynamic range, which is little short of superb. Not only in the big expressive swings of a Mahler symphony, but in those quiet microdynamic interplays between musicians and the band that audiophiles love so much. It's perhaps why so much jazz is played in audio shows, but that sound of a group playing in total harmony with one another and perfect lock-step is what the Lumin X1 does best to resolve. Once again, that's more of a function of good analogue than digital audio and the X1 is getting so much right here it's hard to focus on writing a review. I just want to run back and play one more track.

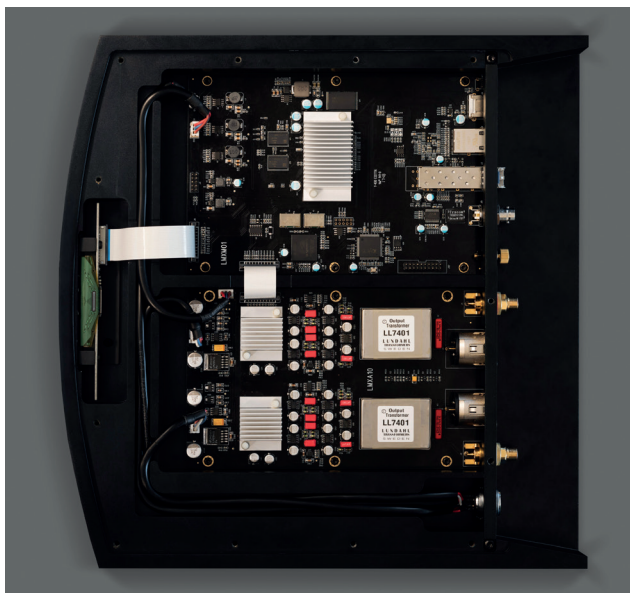
There's a sense of true dimensionality to the soundstage, a more dynamic presentation than is usually associated with streaming, and couple that with lots of mid-band detail, which nonetheless retains a sense of natural refinement and ease over the long-term. The excellent midrange clarity and detail quickly register as significant aspects in the performance of the X1 too. It sort of does everything right here, with few, if any, sonic downsides.

I've often noticed in myself that the very best products often get little in the way of musical highlights. I don't tend to discuss the recording or the artiste too much. In part because in the rare best of them, discussing such a thing almost places limits on the product. Such is the case here.

Perhaps the best description of what the X1 does so well is a non-verbal one. A member of the audio world (who

would wish to remain nameless) came round to my place to talk about reviews. He expressed an interest in, and then heard, the X1. We played 'The New Cobweb Summer' from Lambchop's *Is A Woman* album [Merge]. There was a brief silence after the track finished, followed by a sharp intake of breath, a shake of the head, and an expression of concern for people he knows who sell one of those well-known rivals. Another track was played – something from Radiohead's *In Rainbows* [XL] if memory serves, followed by yet more silence, then the sound of some air being sucked over teeth, and finally, "That is the best I have ever heard that sound on anything!" Followed by the inevitable stream of swearing as it dawned on him just how much he's going to have to spend on a streamer soon.

Here's the thing. When a reviewer gets a product for review, we're often on our own on this. We need to delve into its network secrets and installation tips, which in the most extreme cases ends with the reviewer being a beta tester. The really good streamers take a step above this, but it's still the person who hands the whole installation over to a third party who gets the best from a product like the X1. Not someone who has to detox his iPad to get all the control point apps out of its system, someone for whom this is their music system, pre-installed almost to a turn-key level, by an expert installer. They just listen to music. And it's those people who get the absolute best from the Lumin X1. When perfectly installed with all the right ducks in a row, it's completely fantastic. A reviewer will often get to completely fantastic through the medium of several days of ripping apart a network to build a network, and that can make us jaded. But if after that process, you are met with the kind of operation and sound the X1 can deliver, you know you are onto something good. ▶



► The X1 nailed every aspect of musical performance I look for in a recording; soundstaging, musical coherence, dynamic range, detail, vocal articulation, solidity of image... you name it, the Lumin did it and did it well. I could swap from light breathy songstress to heavy opera and nothing whatsoever phased it, when suitably set up.

I am really, really struggling to find that little niggling doubt that my job is all about. But there doesn't seem to be one. Once put in place, this is a robust and charming performer that delivers a sound that is as dynamic as you'll hear from computer-side audio, and with the sort of detail and richness normally associated with analogue sources. The nearest I can get to getting hot under the collar with the Lumin is the lip that hides away the rear connections is a bit thick. And I guess it doesn't cope with personal audio, but that's what the digital outputs are for.

To say I'm impressed by the Lumin X1 is something of an understatement. I am blown away by its performance. While eleven and a half grand for a streamer is a lot of money, what it does puts it in direct competition with products that cost several times as much and take up a lot of shelf space in the process. As such, this might just be the Goldilocks point in high-grade network streaming as it stands today. It's not the easiest product to get right and I strongly recommend calling on the skills of a Networking Ninja who knows the ways of the Lumin to get the job done for you. But when it is done... wow! Just wow! It's early into 2019, but this already counts as one of the best products of the year. This is streaming at its very best. +

TECHNICAL SPECIFICATIONS

DSD SUPPORT: Up to DSD512 22.6MHz, 1-bit

PCM SUPPORT: Up to 768kHz, 16–32-bit, Stereo

ANALOG OUTPUT STAGE: Dual ESS SABRE32 ES9038Pro

DAC chips

Fully balanced layout with high-quality components

Output connectors coupled with dual LUNDAHL

LL7401 output transformers

Femto Clock System with precision FPGA distribution

UPSAMPLING RATES & BIT DEPTHS: DSD128 upsampling option for all files

PCM 384kHz upsampling option for all files

DIGITAL OUTPUT STAGE:

USB: Native DSD512 support, PCM 44.1–768kHz, 16–32-bit, Stereo

BNC SPDIF: PCM 44.1kHz–192kHz, 16–24-bit, DSD (DoP, DSD over PCM) 2.8MHz, 1-bit

OPTICAL NETWORK: Industry-standard SFP 1000Base-T Gigabit Ethernet

Use simultaneously with RJ45 (e.g. connect one to router and one to LUMIN L1 or NAS)

POWER SUPPLY:

External solid billet cnc dual-toroidal

Separate digital & analogue circuitry

Low-noise linear regulator

9-pin Output Connector

FINISH: Black anodised brushed aluminium (with matching PSU), Raw brushed aluminium (with matching PSU)

Dimensions: (X1) 350mm (W), 345mm (D), 60mm (H),

Weight: 8kg

PSU: 106mm (W), 334mm (D), 60mm (H),

Weight: 4kg

Price: £11,595

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