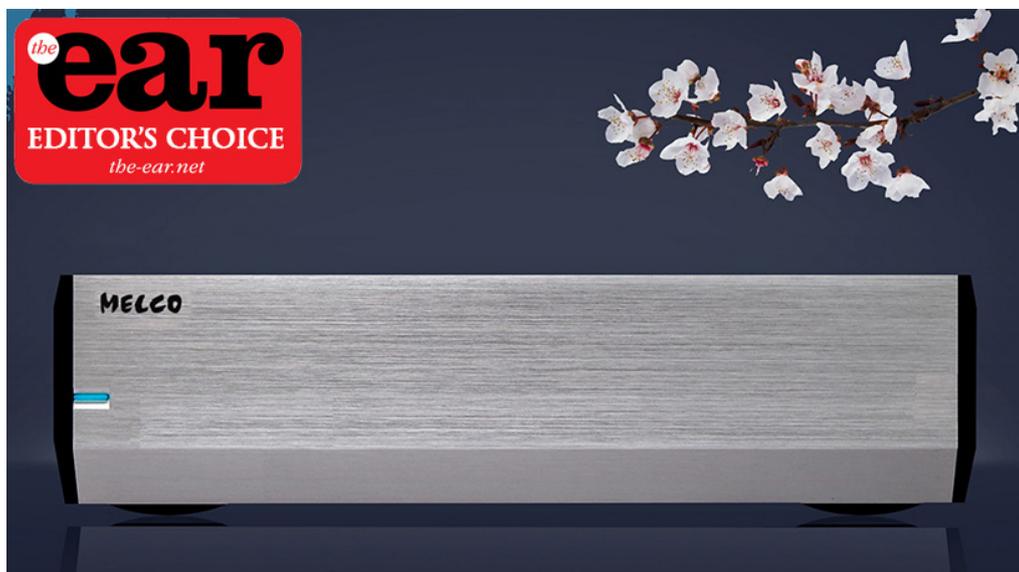


the ear

HI-FI MUSIC GEAR

hardware review



Melco S100

Friday, November 13, 2020
Jason Kennedy

I don't suppose I was alone in thinking that Melco had gone too far when they announced the S100, a network switch with a £2,000 price tag. How on earth could a switch make enough difference to warrant that kind of expense, especially when Melco's music servers already have a dedicated output for streamers that effectively acts as a high quality switch. Their reasoning for why it could be beneficial comes down to the same one found in pretty well all of their products; less noise in the signal means higher sound quality at the output.

The network or data switch is a part of any home network be it wired or wireless, there is a switch built into the back of every router providing multiple outputs, and if you are looking to create a streaming system that stands a chance of producing hi-res results it's a good idea to have a separate switch between the network at large and the audio system. A separate wireless network for control purposes helps too. I have tried a couple of computer peripheral switches and added an audio grade power supply to one of them, and every time you make a change here it has a notable effect on sound quality. This is because there is a lot of traffic flowing around any network pretty much all of the time and that acts to spread noise through the network and into anything connected to it. A PC isn't (apparently) affected by such noise but our ears are clearly sensitive to its effects when its added to an audio signal, all you have to do is swap the cheap supply found with a standard network switch to a linear one and there is an uplift in sound quality.

The Melco S100 is of course no ordinary network switch, it isn't based on something made by Netgear or Cisco, it's presumably based on something made by parent company Buffalo but only in the most basic sense. There are many factors that put this well outside the realms of computer peripherals, most obviously the high quality casework that was created for Melco's 100 series components in order to keep vibration at bay, but there's a lot more inside. A 1.5MB packet buffer acts as a data reservoir, taking in signal from the source and delivering it to the requisite output, the 'traffic settings' which handle the data going through it, have been optimised for the components that are used in audio systems. Be they Roon Core processors, digital music libraries or the real world routers that are part of most networks.

There are eight ports on the S100 but these are divided into 100M/fast ethernet and 1000M/gigabit ethernet groups, the lower speed ports are for audio components such as servers and streamers while the faster gigabit ports are to for the PC and any Roon hardware. For wi-fi routers they recommend the slower ports if music is streamed that way or the gigabit port if it is solely used for control. There are two other connections on the back of the Melco called SFP, this is a fibre optic connection that Lumin components offer. Given that some enthusiasts convert their ethernet connections to fibre optic and back again in order to reduce noise this is an appealing option that it would be good to see more hardware makers adopting.

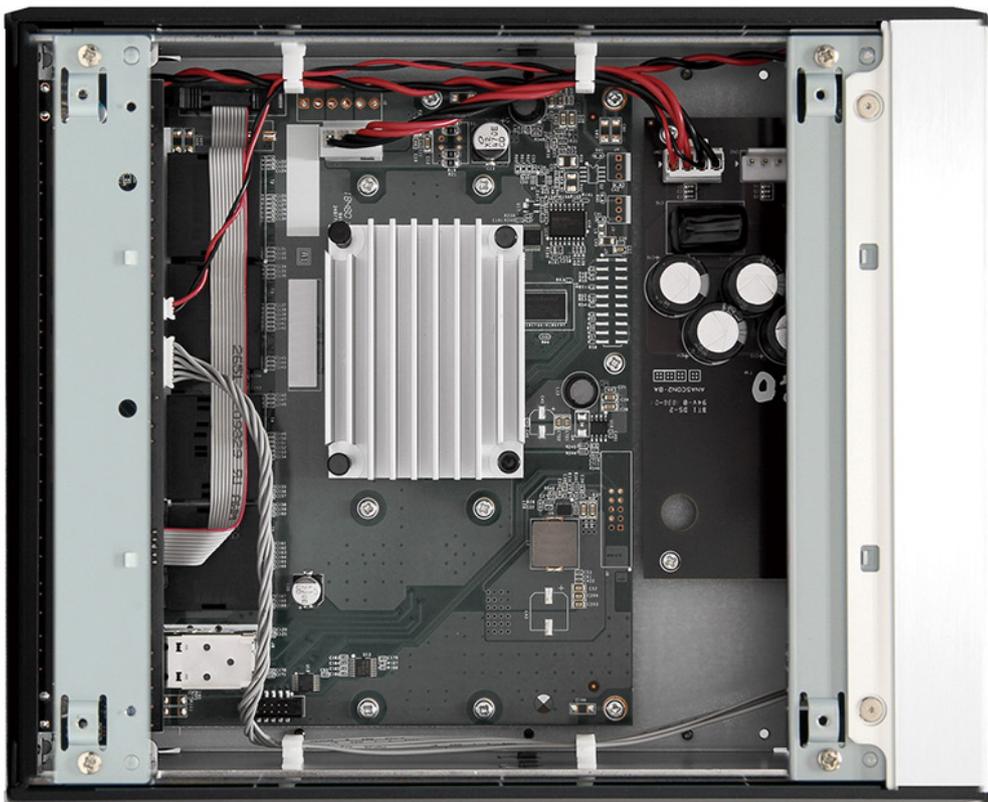
Sound quality

My initial explorations of the S100's potential involved direct comparisons with other network switches and as you can read it proved to be significantly better than all of them, but its real impact was felt a couple of weeks later when I went to review a loudspeaker and kept noticing how rich and detailed the sound was. It really seemed to be a lot better than it should have been and then the penny dropped, the Melco was still in the system and bringing these qualities to everything that I streamed. I should point out that most of the time it was not in the signal path either, I connect my server to the switch but the streamer itself is only connected to the server, which has always proved to be the best sounding approach with servers from



Melco and Innuos. What the S100 is doing in this situation is acting as a gatekeeper, stopping noise on the larger network and beyond from getting through to the audio network. And doing a phenomenally good job of it.

My initial comparison was with a Netgear GS108 gigabit switch powered by a Longdog Audio linear power supply, the signal in this case being run through the switch rather than direct from the server. Here the Melco added body to the sound which meant extra depth of image, it also took a lot of the grain out of the higher frequencies and improved timing. It made the Netgear sound flat and hard by opening up the sound and making space for the various instruments and voices to express themselves. It even made the music, Michael Chapman's *Rainmaker*, sound as if it had higher production values than had previously seemed the case. Higher notes were obviously cleaner and brighter and low level detail much clearer, the noises from the audience on Keith Jarrett's recent *Budapest Concert* being far better defined but not intrusive, with the piano having a stronger presence. There is also a richness of tone that is very rare in digital audio where tubes are not involved, the vibrancy of the instrument and the player's occasional vocalisations having a lot more character with the Melco in action.



Going back to my normal server to streamer connection the tone instruments went from sounding great to sounding real, again thanks to extra depth of resolution. The sound of Bastian Keb's *The Killing of Eugene Peeps* being less thick and more open with superb delicacy and subtlety, any hint of its digital origins disappearing in the process. I also did a couple of A/B comparisons using tracks from Qobuz, here the timing made as great a leap in quality as the tonal aspects of each track, which had more fine detail and greater presence within the room with the Melco rather than the Netgear. I did wonder if this switch was good enough to close the gap between services like Qobuz and my library, it did help but the local version sounded more relaxed and enjoyable every time. Finally I made a contrast with the English Electric 8Switch that is a quarter the price, here the timing was on a par but the Melco had the upper hand when it came to scale, tonal polish and believability. It all comes down to the sheer quantity of musical detail that gets through when noise is kept so low.

The Melco S100 reinforces just how significant a part network derived noise (RFI, EMI) plays in streaming systems. It made as much difference as to the end result as servers, streamers and DACs do, and that's the key point really, that a well thought out network switch is as important as the parts of the system that actually handle the audio signal. Now can someone please make one that I can afford!



Specifications

Type: Streaming audio network switch
RJ45 Ethernet ports: 4x 100Mb, 4x 1000Mb gigabit
Fibre optic ports: 2x SFP
Clock: not specified
Packet data buffer: 1.5Mb
Accessories supplied: Melco Ethernet cable
Dimensions (HxWxD): 61 x 215 x 269mm
Weight: 2.5kg
Warranty: 5 years with registration