

Melco S10 for a sweet digital life

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Melco S10 network switch

The Melco S10 could have been made to whip up the bits is bits brigade into a frenzy. The notion that a network or data switch can have a bearing on sound quality is an anathema to such flat earthers, but one that costs five grand would be too much. And yet here it is some two years after launch and still selling and selling well. The Melco S10 is made for anyone that wants to get the best out of a streaming system regardless of whether they use a streaming service or a music library such as one of those made by Melco.

The reason for going this far with a network switch is that all the signals that are presented to a streamer have to fight their way through mountains of noise on any network. The digital element allows the system to work, the noise doesn't stop the signal getting to its destination and being unpacked, but the more noise that comes through with it the worse the sound quality that results. The information that is sent around a network is packet data which the receiving device opens up and extracts the key data from, data that is turned into a digital audio signal in a streaming system. A computer is designed to do this without the interference compromising the results and a streamer (which has a computer processor onboard) can do the same but we can hear the noise that accompanies the signal as a harshness in the sound. It's what makes digital sound like digital a lot of the time.

What you need is to deliver the signal without the noise or with as little of it as possible and that's what the N10 was created to do. Like its server sibling the N10 the Melco S10 is a two box design with the power supply in one chassis and the switch in the other. Removing the power supply from the environs of signal processing has long been a way of reducing noise in any audio component, and while a lot of budget components have a basic wall-wart style supply the S10 has a high grade linear supply in a box of same size and finish as the switch proper. The Melco S10 is essentially an upgraded version of the S100 with a separate power supply. This separation allows for improved power management in the latter and full screening to stop any radiation from the supply getting into the so-called head unit. In terms of connectivity the

Melco S10 offers eight ports split into two groups of four, the two groups differ in terms of speed. One group will process data at up to 100 Mbps and the other runs at up to a gigabit. Standard network switches today are all gigabit devices, higher speed throughput is generally a good thing with PCs, TVs etc. Audio streaming does not require so much speed and it has long been a Melco approach to reduce speed in order to reduce noise wherever possible. The Melco music libraries for instance are not as quick at serving data as a regular NAS drive and sound a lot better for it.



The gigabit connections on the Melco S10 are there to connect non audio devices such as the router, PC and wi-fi endpoints while the 100M ports are for the streamer and the music server if it's being used as a USB-DAC player. The latter meaning that if you are using the USB output of a server to connect to the DAC use the slower ports, if not Melco recommend that you put the NAS on the gigabit ports. In my system where the Melco N10 server is not being used as a USB-DAC player but connects to the streamer via ethernet this didn't work for some reason, so I connected it to one of the slower ports and all seemed to be well.

Melco S10 sound quality

Initial investigations into the benefits or otherwise of the Melco S10 were done with the Kii Three BXT active digital loudspeaker system, which being so explicit is particularly good at revealing the pros and cons of any changes to the system. And the effect was not subtle, it was if anything quite profound. The best way to describe it is relaxation. The Melco S10 brings an ease that is positively analogue in character to this most digital of systems (Class D active operation, onboard DACs, ethernet speaker connections). It brings out the beauty and presence in every recording, making the music warmer and easier to enjoy. The emotional power of every performance is maxxed out because the noise floor is reduced and the fine, quiet details take on a much clearer and more organic shape. This means that it's easier to hear the expression in the playing, the feeling that each musician puts into the performance.

I love the way that the Melco S10 allows the system to put the performance into the room by revealing all the cues that tell us about the space in which the recording was made, in this respect it makes the other switches I've tried sound crude. Or to put it another way, it reduces the digital hash to a far greater extent, filtering out significantly more of the RFI and EMI noise. The result is scale of image and beauty of tone that is supreme. Pianos have attack, shine and body, double basses have definition, weight and power and everything that's played has more musical detail; more of the good stuff than it does with less ambitious switches.

It doesn't limit power or dynamics but takes away the graininess that becomes more obvious when you play at higher levels, thus making them easier to enjoy. Some instruments use distortion to great effect, the electric guitar being the prime example, and this type of deliberate effect is clearer when the signal contains less noise. I enjoyed Jeff Beck and the equally crunked up sounds of Massive Attack, the latter being remarkably well produced, there is a clear envelope around the voice and electronic sounds of Man Next Door (*Mezzanine*) for instance. The latter is still a grungey recording but that's the way it is intended to sound, the band paint a picture of lives less comfortable after all and the production reflects this. Terry Callier's Lazarus Man on the other hand is mesmerising thanks to the reduction in the noise





floor, it's OTT bass no longer a problem. If you want to hear just how good a recording is then streaming it through a system that has the Melco S10 at its network gateway is the way to go.

The Melco S10 proves that the network switch is a crucial part of any streaming system. It is not alone, there are more ambitious examples available elsewhere, but it is capable of allowing streaming to compete with the best sources available to the sound quality conscious music lover. It allows such systems to unveil the finest details, the nuances that combine with the fundamentals to produce a far more complete picture and one that is not tainted by a high noise floor. With Esbjörn Svensson's beautiful solo album *Home.S* it lets the harmonics flow without any hardness or ringing, leaving a far more natural and open sound.

Melco S10 verdict

I wouldn't recommend the Melco S10 unless you have a streamer and DAC that will be able to fully reveal what it can do, but experimenting with more affordable electronics shows that it is beneficial at any level. Noise will be amplified by any decent component after all. If however you have invested in a serious front end then a network switch that's designed to minimise incoming noise is not a luxury it's a necessity. Don't borrow a Melco S10 unless you can afford to buy it, it will be very hard to let go.

Specifications

Type: Streaming audio network switch

RJ45 Ethernet ports: 4x 100Mb, 4x gigabit

Fibre optic ports: 2x SFP

Clock: not specified

Packet data buffer: 1.5Mb

Accessories supplied: Melco Ethernet cable

Finish options: silver, black

Dimensions (HxWxD): 61 x 215 x 269mm

Weight: 13kg total

Warranty: 5 years with registration