





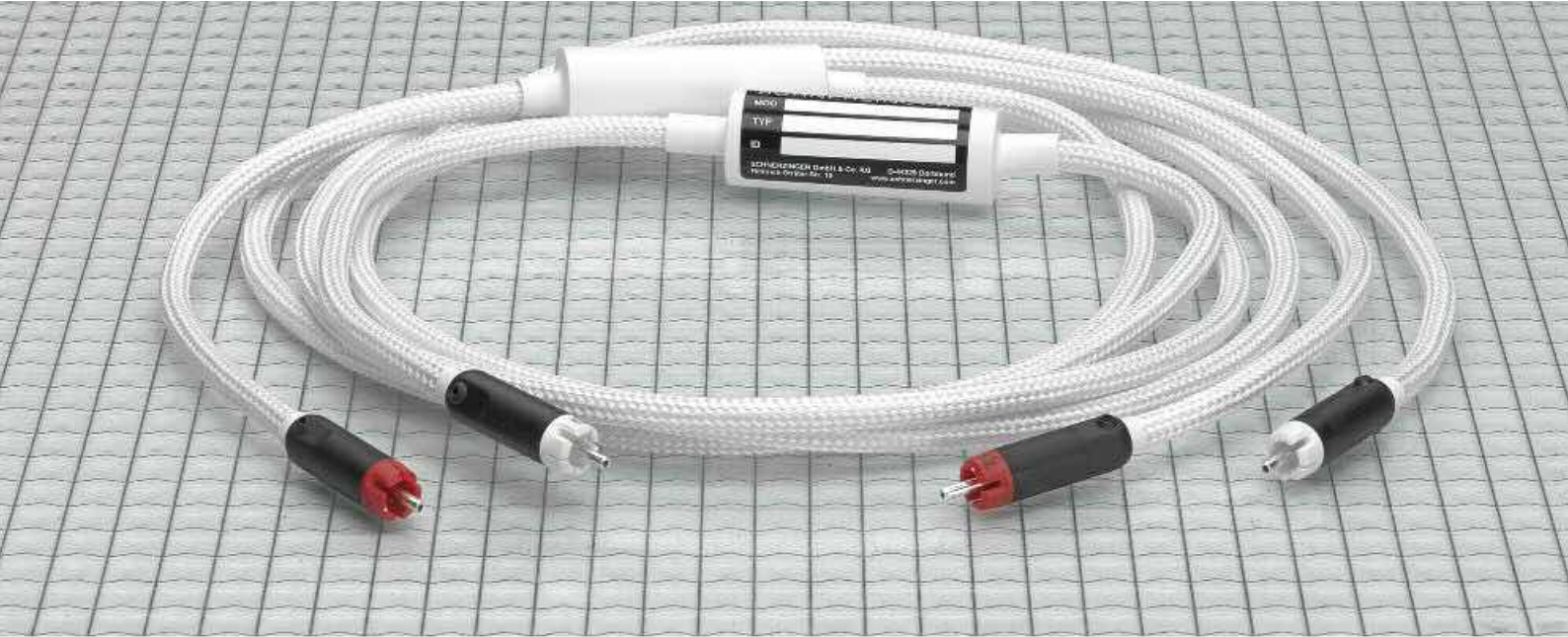
## A completely new perspective

**The influence of electrical interference fields on sound is one of the most underestimated factors, even in high-end audio – I have been pointing this out for a very, very long time. However, I only became aware of the extent to which this also applied to myself when I encountered the Essential Line cables from Schnerzinger.**

My first contact with Schnerzinger boss Dirk Klocke came about nine years ago – about two years after he had launched his company in Dortmund. At that time there was a real hype around Schnerzinger cables. From all sides, one heard that well-reputed, extremely high-priced high-end cables were making their way onto the second-hand market portals because their owners were now turning to those from Schnerzinger. Quite a few audiophiles, myself included, suspected a particularly clever marketing strategy behind these rumours. To get to the bottom of things, I contacted the company. This led to a most interesting telephone conversation with Dirk Klocke, in which we mainly discussed our personal sound ideals and even touched on topics such as quantum physics. In fact, we had planned to continue our dialogue soon, but then, as so often happens, other things intervened and I lost sight of Schnerzinger. Three years later, it was Michael Schwab, head of the loudspeaker manufacturer Zella-ton, who reminded me of the cable manufacturer’s product portfolio, which had grown considerably in the meantime. He enthusiastically reported that his company, together with Schnerzinger, had achieved its sonic target in cables and equipment tuning – also with regard to the internal wiring of his high end loudspeakers. When Markus Kampschulte from the Arnsberg hi-fi shop Loftsound, with whom I not only have a soft spot for Kondo Living Voice combinations in common, but also experience in recording studio work, raved about the Schnerzinger products, I simply had to call Dortmund again.

Half a year later, I not only have the power, digital and analogue signal cables from the Essential Line, but also an Operator power strip including wall socket as well as the Multi-Guard and Grid Protector power filter components from Schnerzinger – and my system sounds clearer, tidier, more dynamic and more natural than ever before. And I didn’t even take it to extremes: the new Essential Line is merely the entry-level product line into Schnerzinger’s cable world. When it comes to device connectivity and interference field correction, the company has a lot more one could invest in. During my numerous telephone conversations with the cordial and immensely helpful Dirk Klocke, it quickly





became clear to me how detail-obsessed and meticulous he is and, above all, with what passion he devotes himself to the development of his products. Of course, it would be nice if I could share with you without restriction the construction details of his cables entrusted to me. Unfortunately, however, I have to accept – and fully understand – that he does not like to divulge all the knowledge he has acquired over the years, which is reflected in unique design features. However, in order not to leave me out in the cold, he provided me with enough information about cable development to be able to write a book on the subject.

The initial spark for Dirk Klocke's audiophile life came from his grandfather. Georg Frederik Schner-

zinger was a cinema owner. After the outbreak of the Second World War, he buried his valuable projectors to save them from the bombs and was later able to build a new existence. Right back at the beginning of the sound film era, G. F. Schneiderzinger had already begun to build his own loudspeakers. In the early 1960s, he became aware of the enormous importance of phase-stable electrical signal transmission. For his grandson Dirk's 9th birthday, he gave him a hi-fi system, which included a Futterman-design output transformerless (OTL) amplifier.

Ever since, audio fever has gripped Dirk Klocke. His ear for sound and vocal colour was trained not least by encounters with musicians as diverse as

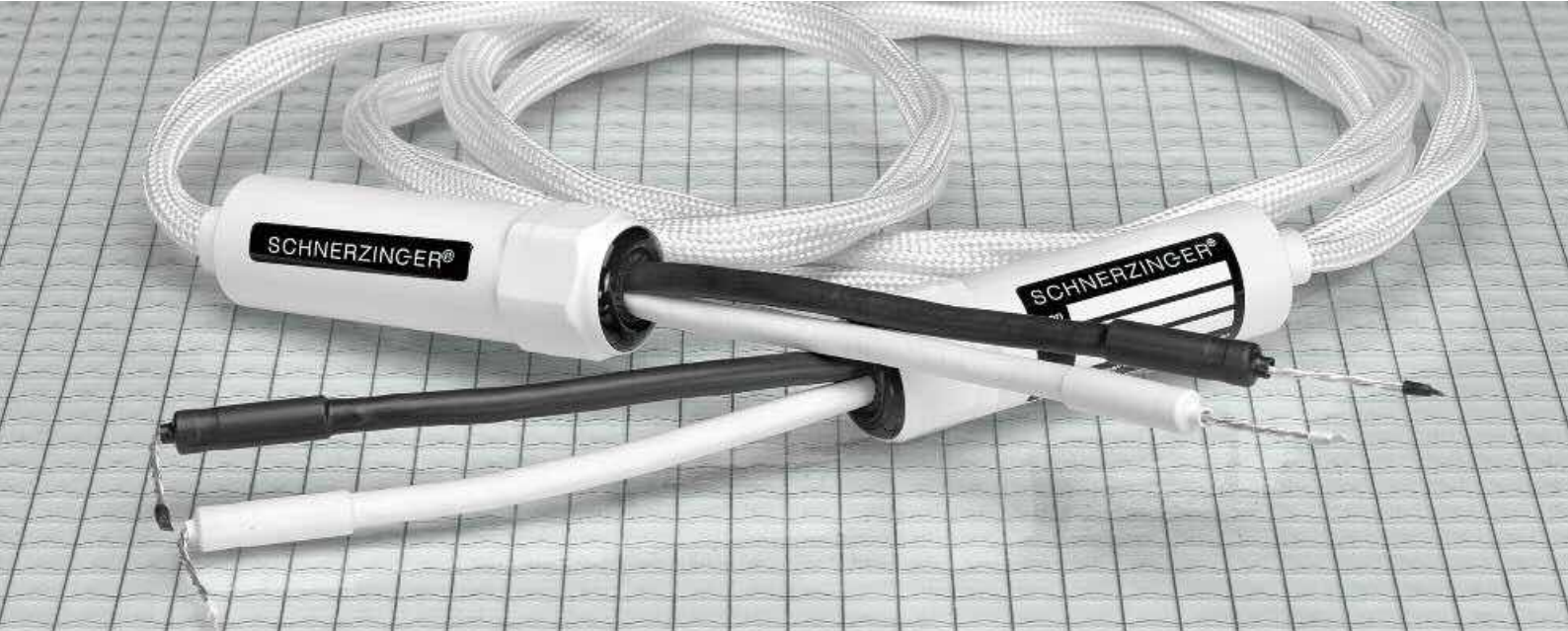


Photos left: In order to achieve even better conductivity, the Dortmund-based audio manufacturer modifies the bought-in XLR plugs from Neutrik and the Silver Harmony RCA plugs from KLEI with special silver pins. Like the high-purity solid-core silver wire, these pins are subjected to the so-called atomic bonding process. Schnerzinger completely dispenses with common solutions such as the use of parallel or series filters. The same applies to different conductor cross-sections, which, according to Dirk Klocke, lead to different resistance values and thus to different transmission speeds. According to the Schnerzinger philosophy, phase-stable transmission is elementary!

Udo Jürgens, Tina Turner, Elton John, Whitney Houston, Luciano Pavarotti, José Carreras and Plácido Domingo, whom he was able to overhear while they were singing in the dressing room or hotel room. He owed this to his father, in whose hotel many artists were guests. Klocke remembers the first loudspeakers he bought, a pair of Arcus TL1000, as well as his Apogee Acoustics Diva, which he could not quite get to sound right despite all the amplifier recommendations from “experts”. In 1989, his uncle, who lived in the USA, arranged for him to spend some time with Jason Bloom, one of the two founders and developers of the legendary Boston loudspeaker company. This apprenticeship and the findings of his grandfather’s “phase guard research” mentioned above formed the basis for his decision to devote himself professionally to the development of cables.

But back to the here and now: Schnerzinger cables are characterised by three special features: two essential processing steps, so-called “atomic bonding” and “dielectric charging”, as well as being equipped with a “bidirectional barrier”. High-purity silver is used as the conductor material because, according to Klocke, it offers the best conductivity of all metals. If one compares elaborately prepared monocrystalline OCC silver (thanks to casting in the “Ohno Continuous Casting Process” with a purity level of 99.9996%) with high-purity monocrystalline OCC copper, the superiority of the silver is unmistakable. However, the conductor material itself is only half the battle – the preparation of the crystalline structure is ultimately decisive for the sound: in the usual industrial manufacturing processes, thick copper or silver strands are repeatedly drawn through so-called drawing dies until the wires are thin enough for further use. According to Klocke,





the mechanical stress caused by this machining process leads to damage to the crystalline lattice structure of the material, so that the audio signal in cables treated in this way takes a “diffuse” path through the unchained grain structures, whereby it is “slowed down” by resistances caused by grain boundary transitions. In the casting process, which is usually preferred in the production of higher-quality audio cables, liquid copper or silver is continuously poured into moulds, resulting in particularly long-chain grain structures. In the case of monocrystalline OCC or UPOCC metal (“Ultra Pure Ohno Continuous Casting”), the moulds are heated and slowly cooled to prevent the material from solidifying too quickly, thus achieving crystal structures of even

longer chains. However, such long-chain structures are very sensitive, Klocke emphasises, which is why they easily disintegrate again due to vibration, bending and similar influences. This is one of the reasons why Schnerzinger does not use cryotechnical processes in which the metal is cooled by dipping it into containers of nitrogen or other liquid cryogens at intervals, sometimes to below  $-200^{\circ}\text{C}$ , and then reheated. Even this only improves the material for a short time – sooner or later its structure breaks down again at the points subject to mechanical stress. This could be the explanation for the fact that the initially observed positive sound effect of my first cryogenic solid-core copper cables from a US manufacturer diminished increasingly over time.



For the outer sheath, Schnerzinger uses a specially selected glass silk which, according to Dirk Klocke, has both excellent dielectric and excellent antistatic properties. In the interest of avoiding eddy currents, which can arise from material transitions when using cable lugs or banana plugs, the company prefers to connect the cable wires directly to the loudspeaker terminal. The continuous four connecting wires represent only a part of the total cross-section of the loudspeaker cable

In order to achieve the most stable material structure possible, Schnerzinger therefore pursues an approach that is the exact opposite of achieving a closed long-chain monostructure. To illustrate this, Dirk Klocke draws on an interesting image: imagine the conductor as a tube filled with ice cubes, with the ice cubes representing the grain structure of the wire. In an extremely time-consuming process, these “cubes” are crushed in such a way that microstructures are created which, thanks to strong cohesive forces in the tube, can be compressed into a particularly stable, fused “ice mass” without any gaps. According to Klocke this “atomic bonding process” is clearly superior to conventional methods and forms the basis for truly lifelike signal transmission.

My first tests with Schnerzinger cables were with the SPCD-ES speaker cable, without changing my system in any other respect. After about 100 hours burn-in time, I began listening in earnest and was immediately impressed: there was no trace of sharpness or harshness in the high frequency range – characteristics that are often attributed to silver cables. The high frequencies of Lady Blackbird’s great debut album *Black Acid Soul* (Foundation Music/Rough Trade, FM0008, UK 2021, LP) came across silky, finely resolved and with remarkable outline sharpness. Particularly striking was the perceived impulse speed with which the signals sped out of my Martion Bullfrogs.

With regard to the latter aspect, the Schnerzinger cable outshone much higher-priced cables I had connected my speakers

The plastic tubes with the Schnerzinger label contain a so-called “bidirectional barrier”, which is supposed to block interference fields radiating in via the mains and the cables and not pass on interference fields caused by the audio devices themselves. According to Klocke, neither signal bandwidth nor signal speed are reduced in the process



with in the past. The spatial presentation was also surprising: without destroying the inner coherence, the instruments were more clearly separated, more physical and further to the rear, and Lady Blackbird's voice was more present and more colourful in the room. The entire frequency range seemed wonderfully balanced to me, no area was overemphasised. According to Dirk Klocke, the high frequencies are transmitted close to the surface of the conductor, while midrange and low frequencies tend to be transmitted more in the centre of the conductor, which is due to the famous skin effect. The larger the surface area, the more high-frequency components can be transmitted. However, it is important to transmit the entire bandwidth in the correct time, which is only possible with a few conductor designs, as the properties and geometry of most conductors unintentionally set different priorities with regard to high, middle and low frequencies.

The impressions gained when using the Schnerzinger speaker cables were reinforced when using the RCAD-ES and XLRD-ES signal cables between my reference DAC, the CanEVER ZeroUno SE, and my Kondo Overture PM-2 i integrated amplifier. With Patricia Barber's latest release *Clique!* (Impex Records/Sieeking Sound, IMP8323, USA 2021, hybrid SACD), the space opened up further in all directions, the action gained even more airiness – which was further enhanced by the addition of a DIRD-ES-S/PDIF digital cable connecting my Clockwork Audio modified Sony CDP-X-5000 drive to the digital-to-analogue converter. Equipping the units with Schnerzinger PCUD-ES mains cables was the icing on the cake: what happened here in terms of stage stability, naturalness and dynamics can only be described as “great”. Edward Elgar's *Serenade for Strings in E minor Opus 20* from the album *Very British* (Sony Classical/Sony Music, 194398773312, D2021, CD), recorded by the “Metamorphosen Berlin” orchestra under the direction of Wolfgang Emanuel Schmidt, improved in all audiophile disciplines – especially with regard

to the tightness in the low frequency range and the coarse dynamic thrust. As if the Schnerzinger cables were meshing like cogs, with the addition of each further cable the background became blacker and blacker, and the “residual nervousness” of my high-efficiency valve system finally disappeared completely. This effect increased even further after I fol-

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### Partnering equipment

**Turntable:** Pear Audio Blue Odar **Tonearms:** ViV Laboratory Rigid Float Mk2 7", Pear Audio Blue Cornet 3 12" **Headshells:** Acoustical Systems Arché 5D, SteinMusic Ametrin 1, Oyaide HS-TF Carbon **Cartridges:** Lyra Kleos, Grado Statement Statement 2 **Phono stages:** Kondo Audio Note GE-1, Rike Audio Natalija Pre 2 **MC transformer:** Phasemation T-300 **CD player:** Lector CDP-707 with PSU-7T power supply **CD drive:** Sony CDP-X5000 (with Clockwork Audio modification) **D/A converter:** CanEVER ZeroUno Signature Edition **Integrated amplifier:** Kondo Audio Note Overture PM-2 i **Speakers:** Martion Bullfrog **Cables:** Schnerzinger PHRD-ES phono cable (RCA plugs), Schnerzinger DIRD-ES digital cable (S/PDIF, RCA plug), Kondo Audio Note Vc-II interconnect cable (RCA plugs), Kondo Audio Note Operia SPc 2.5, Kondo Audio Note ACc Persimmon interconnect, interconnect - and LS8-cable Biophotone, Acoustic System Liveline interconnect cable, fastaudio Black Science interconnect cable, Tiglon MGL-D1R digital cable (S/PDIF), digital cable Clockwork Audio digital cable (S/PDIF) **Accessories:** Black Forest Audio DÄD!MAT turntable support and SteinMusic Pi Perfect Interface, Schnerzinger Operator power strip, -Grid-Protector-System and -Multi-Guard-System, CAD Ground Controls CG1, Black Forest Audio SoundPucks and Sound-Sheets, Audiophil-Schumann-Generator, TAOC-Racks, SteinMusic Harmonizer and Blue Suns, Acoustic Revive RL-30 Vinyl Record Demagnetizer, Audiodesksysteme Gläss Vinyl Cleaner PRO X and Sound Improver, Audio Exklusiv d.C.d. Base and Silentplugs, FPH Acoustic Vibration Dampers, Duende-Criatura Damping Rings, fastaudio Absorbers, Acoustic System Resonators, MFE Mains Bar, AMR, Furutech and AHP Fine Fuses, Acoustical Systems SMARTtractor and HELOX Record Clamp, Record and Needle Brush by Levin Design, MFE Phase Tester and Mains Bar, complete valve complement from BTB Elektronik

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lowed Dirk Klocke's advice to replace my wall socket with one of Schnierzinger's, disconnecting the parallel socket in the process and using the Schnierzinger entry-level Operator power strip.

At this point, it is high time to talk about the company's other two core technologies. It should be obvious to every high-ender that today's interference influences on audio cables and equipment are of a completely different nature than they were three decades ago. In the meantime, high-frequency interference has massively increased in the gigahertz range. Dirk Klocke is firmly convinced that Wi-Fi, mobile phone signals etc. have an extremely damaging influence on sound. "The gigahertz attacks are real sound killers", he emphasises.

"In the past, ordinary shielding was sufficient to keep out high frequencies. Today, even seemingly good cable shielding offers a real attack surface for HF. Many cable constructions even provide a real antenna effect, so that the high frequency is scattered via the cables into the signal path of the devices. We have therefore developed a real interference field correction in the gigahertz range that makes compensating or limiting measures obsolete and prevents the penetration of high and low frequencies into the devices in advance and blocks electromagnetic interference from inside and outside in-

stead of passing it on." Thus, every cable from his company is equipped with a so-called "bidirectional barrier", which is located in the elongated plastic tube with the Schnierzinger label and remains a trade secret. Last but not least, there is "dielectric charging": by means of a special air-filled tube, the solid-core silver wire is completely sealed and protected from corrosion. According to the company, the Schnierzinger dielectric offers significant sonic advantages due to its properties compared to commonly used insulators such as PTFE and FEP. The insulating lacquer layers used in so-called "air insulation" often have to be applied at high temperatures that damage the conductor structure and, moreover, exhibit a kind of memory effect over time, similar to a capacitor. Dielectric charging, on the other hand, involves a special chemical process that ensures "pre-saturation", which excludes such memory effects and thus guarantees an unrestricted, time-correct signal flow.

But enough of the technology. I am currently bathing in euphony, and beyond all the details of materials and construction, it can be said: It simply sounds right, totally coherent. Nevertheless, I would like to tell you more about the Multi-Guard and Grid Protector components – perhaps they will be the subject of another report one day. In any





case, together with the Essential Line cables, they have raised my system to a new, strikingly higher level. More than that, they have fundamentally changed the way I look at audio cables. The day will come when the products will all have to be sent back to Schnerzinger and I will be forced to take two steps back in terms of sound. But I already have a plan: I will talk to the Schnerzinger team about trying out the reference cables from the TS Line. I could never afford them in my lifetime – but I guess there's an audiophile masochist in me.

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### Interconnect cable

#### Schnerzinger Essential Line RCAD-ES, XLRD-ES, PCUD-ES

**Design:** RCA signal cable with KLEI Silver Harmony RCA plugs, XLR signal cable with Neutrik plugs **Special features:** KLEI and Neutrik plugs modified by Schnerzinger with silver pins and cast, high-purity solid-core silver strands subjected to atomic bonding process, air-filled and unsintered inner tube, constructive bidirectional barrier without the use of filter technology, dielectrical charging process to protect against "electron braking and carry-over effects" caused by insulation materials, outer jacket made of antistatic glass silk

### Loudspeaker cable

#### Schnerzinger Essential Line SPCD-ES

**Design:** Loudspeaker cable with single-twisted connecting conductor or assembled in spade design; also available for bi-wiring, bi-amping on request **Special features:** Air-filled and unsintered inner tube, cast, high-purity solid-core silver strands subjected to atomic bonding process, constructive bidirectional barrier without the use of filter technology, dielectrical charging process to prevent electron braking and carry-over effects by insulation materials, outer jacket made of antistatic glass silk

### Mains cable

#### Schnerzinger Essential Line PCUD-ES

**Design:** Mains cable with gold-plated plugs and sockets **Special features:** Three cores with air-filled and unsintered inner tubes, cast, high-purity solid-core silver strands subjected to atomic bonding process, constructive bidirectional barrier without the use of filter technology, dielectrical charging process to prevent electron braking and carry-over effects by insulation materials, outer jacket made of antistatic glass silk

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