

TEST: Oehlbach Power Station 1009 – A clean affair!

Volker Frech



The Power Station 1009 features a new, elegant and minimalist design, developed exclusively for the current top products in the Oehlbach range.

With the new Power Station 1009, Oehlbach has set its sights on both high-end enthusiasts and all-rounders: featuring an impressive isolation transformer and various filtering sections, the mains filter supplies clean power separately for analogue and digital components, whilst also providing standard sockets for less sensitive devices – and offers the eight connectable devices multi-level protection against overvoltage and overload. The Power Station 1009 demonstrates the performance boost this enables in our test.

Clean power is a prerequisite for clean sound reproduction: this insight has now become widely accepted in both the audio and video sectors – as has the realisation that the voltage from the mains socket is pretty much the opposite of clean. The electricity supplied by the utility company is, in fact, already contaminated on its way to us by neighbouring industrial plants or wind farms. Inside the home, solar panels and their inverters distort the electricity; within the flat, the list of sources of contamination ranges from washing machines and fridges to PowerLAN and light dimmers, right through to the charging or switching power supplies of a wide variety of household appliances. They cause power spikes and voltage distortions, and introduce an unwanted DC component into the AC current. Added to this are EMI/RFI disturbances originating from mobile phone masts and the networked devices of our Wi-Fi world, which exacerbate the distortion through electromagnetic radiation and radio interference. The result: the audio system hums, crackles and pops, whilst the sound reproduction loses its dynamic range, richness of detail and expressiveness.



The engraving of the logo and company lettering enhances the premium appearance.

Separate power supply for analogue and digital components

Mains filters and power conditioners can remedy this: they rid the mains supply of interference, thereby enabling the connected components to deliver their full performance. There are various approaches to power conditioning: the range extends from active units that generate an entirely new voltage, through mains filters that use passive components and circuits to block and filter out unwanted voltage components and additives, to transformer-based solutions that use galvanic isolation to keep power noise away from the components being powered. Oehlbach's new Power Station 1009 utilises the latter two principles – and effectively operates as a dual system: analogue and digital audio components are supplied separately with clean power via six sockets.

Furthermore, the Power Station 1009 also supplies power via two completely unfiltered sockets to devices where sound quality is not a concern, such as chargers or lamps. This makes the Power Station 1009 an all-rounder that will appeal to everyone from consumers of consumer electronics and home cinema enthusiasts to audiophiles.



The raised areas to the left and right of the front panel are enhanced by striking vertical milled grooves, creating a relief effect.

Elegant, understated design

This design also sets the Power Station 1009 apart from the Power Station 909, which we have already tested and which offers four equally filtered sockets and four unfiltered connections. The two mains filters also differ in their appearance: the 1009, which is slightly larger at 13 by 46 by 29 centimetres, appears all the more solid – yet at the same time more elegant – thanks to its even thicker front panel made of brushed and black anodised aluminium. This is enhanced by the embossed edges and the company logo, which is now milled into the surface rather than printed on, as well as the absolute tidiness of the front panel, which celebrates a focus on the essentials – a new design that Oehlbach reserves for its 'state-of-the-art' products. Thus, the front panel features only the on/off switch, which glows blue when in operation, and four LEDs which, under normal conditions – that is, in the absence of overheating, overvoltage or overload, but with the Power Station 1009 correctly phased when connected to the mains socket – simply do not light up.

Transformer filtering for analogue components

Behind this front panel and within the robust sheet-steel housing, which provides shielding against interference from the environment, lies a concentrated and substantial array of technology. This is immediately apparent from the weight: the Power Station 1009 tips the scales at a hefty 15 kilos – three times that of the 909. This increase is due in particular to the imposing isolation transformer, which, with a diameter of 17 centimetres and a height of eight centimetres, takes up half the interior space of the unit. It provides the aforementioned galvanic isolation: this is the crucial method of power purification for the two sockets used to connect analogue audio sources – namely turntables, tuners, tape decks, as well as pre-amplifiers and power amplifiers. Here, Oehlbach has fitted an exorbitantly expensive, potted 600-volt-ampere transformer, which is both high-quality and powerful. Only in this way can it ensure particularly low-noise operation for the audio sources and guarantee ample power reserves. This is important for amplifiers, which have a relatively high power requirement that fluctuates significantly due to the dynamics of the music.



The Power Station 1009 offers three separate connection sections: the four left-hand sockets in the 'Digital Filter' section are for connecting digital components. The two sockets in the 'Digital Ultra-Filter' section are intended for analogue components. The two right-hand sockets in the 'Unfiltered Outlet' section supply mains power without any processing. They are intended for connecting devices that are not sensitive to mains interference.

DC blocker and sheath current filter

The power-cleaning effect of this transformer is achieved by the absence of any electrically conductive wire connection between the two coils on its primary and secondary sides. Energy is therefore transferred entirely via magnetism. This galvanic isolation protects hi-fi components connected to the secondary side from hum or cable-induced interference caused by devices on the primary side – in other words, virtually all components connected to our domestic mains supply. This isolating effect is complemented by a filtering effect: by their very nature, transformers act as band-pass filters and can be designed to form a barrier against unwanted high- and low-frequency noise components in the current. To prevent the transformer itself from becoming a source of hum, two filters are now fitted upstream of it: a DC blocker, which filters out unwanted direct current components, and a sheath current filter, which neutralises balancing currents caused by interference in the supply cables. The entire filtering system is therefore precisely tailored to analogue components. Yet, confusingly, the two slots in this analogue section are labelled 'Digital Ultra-Filter'.

Specialised filtering for digital components

The 'Digital Filter' section is a more accurate title. It offers four sockets for connecting CD/DVD/Blu-ray players, hard-disc recorders, set-top boxes, media players or PCs. Such components should only be connected here: their digital technology is sensitive to high-frequency interference pulses – and also causes interference itself. For this reason, following the DC blocking and shield current filtering, they undergo special filtering to protect them from mains interference and prevent any adverse effects on other devices. The circuit board for this filter section now fills the other half of the unit's interior. EMI/RFI filtering takes place here in particular: it counteracts electromagnetic interference and high-frequency disturbances. These originate from external mobile phone masts, but also from Wi-Fi routers or devices powered by switching power supplies – and equally from the audio components themselves, which also influence one another through their coupling via cables. This causes noise and impairs the performance of the audio chain. For this reason, an EMI/RFI filter here attenuates the critical frequency range from 150 kilohertz to 50 megahertz by up to 50 decibels.



The phase is marked by a red ring on each socket. This makes it easier to connect the components in phase. The gold-plated terminal positioned at the top right is an additional earth connection – for example, to earth a turntable. This helps to prevent ground loops.

Unfiltered connections – and phase marking on all sockets

In addition to these four sockets for digital devices and the two sockets for audio components, the Power Station 1009 also offers two unfiltered sockets that supply power directly from the mains. These are intended for connecting less sensitive devices that do not require special filtering – such as chargers or lamps. However different the three connection sections of the Power Station 1009 may be: they are all designed as earth-connected sockets and feature 24-carat gold-plated contacts to ensure low contact resistance. Furthermore, the live wire is marked with a red ring on all sockets. All connected devices should be plugged in with the live wire correctly aligned. Despite the use of alternating current, it does matter which way round you insert a mains plug: Devices plugged in with the phase reversed result in humming and a dull sound. This is caused by minute potential differences and the resulting equalising currents. This affects the earth connection of the devices, the neutral conductor of the power cables, and also the shielding of all the system's cables, meaning that the interference currents then also affect the audio signal.

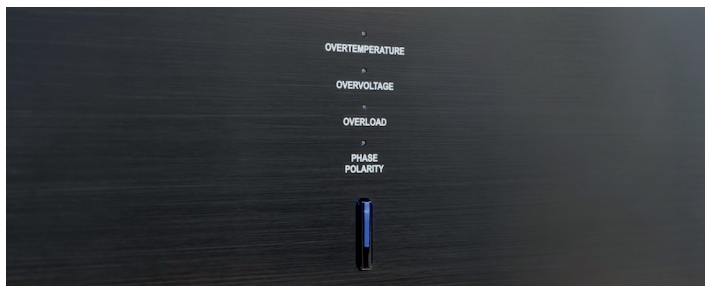
Polarity check and comprehensive protection functions

To ensure that the Power Station 1009 is connected with the correct phase orientation, a front-panel LED warns the user if the mains cable has been inserted into the wall socket the wrong way round. In addition to this polarity check, the Power Station 1009 offers a multi-stage protection programme. A power-up delay protects all connected devices from power surges during switch-on. During operation, a fast-response surge protection system ensures that all eight sockets are quickly disconnected from the mains in the event of voltage spikes of 275 volts or higher.

This is indicated by the 'Overvoltage' LED on the front panel. Once the overvoltage has subsided, the Power Station 1009 switches back on automatically. A system-wide overload protection feature also automatically cuts off the power supply via a circuit breaker if the total load exceeds 2300 watts or the current exceeds 10 amps.



The power supply can be restored using a reset switch on the rear of the unit. The two sockets for analogue components are also equipped with a separate overload protection mechanism, which activates when the load exceeds 2.9 amps.



Centrally positioned on the front panel is the device's sole control element: the on/off switch. When the Power Station 1009 is in operation, it glows blue. The red LEDs positioned above it, on the other hand, only flash in the event of a fault: if the transformer overheats, in the event of overvoltage or an overload. The phase polarity LED lights up if the mains filter has not been connected to the wall socket with the correct phase polarity.

Lightning protection and transformer protection

A front-panel LED also indicates these overloads. The 'lightning protection' acts as a final safety net for the connected devices: this term should, however, be interpreted sensibly – even a lightning strike at a moderate distance is enough to trip the mains fuse. The Power Station 1009's 'lightning protection', on the other hand, helps with lower energy inputs when, following a lightning strike at a greater distance, potential equalisation occurs via the mains supply, or when short-term transients with higher voltages and currents occur in the mains as a side effect of the strike. The Power Station 1009 can block such surges of up to six kilovolts: its lightning protection triggers within eight microseconds – from 400 volts at the sockets for digital devices, from 600 volts at the unfiltered sockets, and from 900 volts at the sockets for analogue components. A temperature protection circuit provides ultimate protection: it switches off the entire mains filter at 98 degrees Celsius to protect the Power Station 1009's transformer from damage.

The Oehlbach Power Station 1009 in practice

Now, however, the Power Station 1009 is finally set to protect us from sub-optimal sound. So we place it on our sideboard in the listening room – but leave it switched off to begin with, as we first recreate the unfortunate standard scenario: all components are somehow connected to the first cheap power strip we could find from the DIY store, to which all sorts of things are plugged in – and because there aren't enough sockets, a second triple-socket power strip is connected in series straight away. This is how we power our Transrotor Dark Star turntable, our Oppo UDP-203 SACD player, the Eversolo DMP-A6 streamer and our Luxman L-505Z phono-capable integrated amplifier, which drives a pair of Audio Physic Midex speakers. As the icing on the cake, the last free socket is taken up by a charger for rechargeable batteries. Even in this worst-case scenario, we're now streaming 'The Bitter End' by Sinne Eeg via Qobuz – and yet the jazz-pop track, featuring vocals, piano, double bass and drums, still sounds great.



Oehlbach also sells the high-quality mains cable supplied with the unit separately. It would be nice if it were a little longer than 1.5 metres for connecting the Power Station 1009 to the wall socket.

Sound quality and dynamics

But we already know this: it can, of course, sound even better. So we now connect all the devices neatly to the Power Station 1009: the turntable and integrated amplifier to the analogue section, the SACD player and streamer to the digital section, and the charger to an unfiltered socket. In doing so, we ensure that both the mains filter and all connected audio components are connected with the correct phase. Now we listen to 'The Bitter End' again – and are impressed by the difference from the very first note. We flinch immediately because drummer Joey Baron opens the track with two beats on the snare and bass drum – and this opening now sounds louder, even though we haven't changed the volume. At the same time, the beats have more attack and are more dynamic. Wow! The bass drum in particular has a completely different impact: its unusually timpani-like decay is now much more pronounced. Even the double bass, which comes in now and previously sounded a little lifeless, now has resonance, volume and projection.

Better resolution

Whilst the drums and bass now deliver a snail-paced yet coolly grooving intro together, a ride cymbal struck by Baron every two bars consistently runs through the musical texture. What sounded almost clattering and harsh the first time round now turns out to be a so-called 'sizzle' cymbal, which has a long, rattling and hissing decay thanks to metal rivets or chains. This is only really noticeable now because the use of the Power Station 1009 has eliminated the distracting sharpness and muddiness, and the resolution is now excellent. Thus, what was unnerving becomes fascinating! The piano also benefits from the improved resolution: only now can we perceive the unfolding of the notes in the sustained chords played by Jacob Christoffersen on the grand piano: We can now hear how they are amplified by the piano's body, how the harmonies seem to float as the strings excite one another whilst vibrating, their overtones sometimes cancelling each other out, sometimes intensifying, and thus creating an iridescent cosmos of sound as the chords fade away.



A clever solution: to allow the heat to escape, the cover over the isolation transformer features ventilation holes – when viewed as a whole, the perforations form the Oehlbach logo.

Greater vitality, greater transparency

Now, for the first time, we can also hear guitarist Larry Koonse weaving in chords, which he mutes with the ball of his striking hand, so that the sounds groove along quietly and percussively in the background. This had gone unnoticed before. Finally, Sinne Eeg comes in – and, following the power cut, impresses us all the more. The Danish singer has a pleasant, warm voice that is slightly rough in the higher registers. On the first run-through, however, the chanteuse sounded a little weary. With the fresh power supply, the vocals now have more vitality, more verve: we hear how Eeg showcases her attractive voice with cleverly placed crescendos and intensifications, only to then wrap us round her little finger with very delicately sung passages – almost whispered – and with beautiful vibrato at the ends of the vocal phrases. Even long, softly sustained syllables are effortlessly discernible thanks to the greater transparency of the reproduction, even though the backing band by no means holds back. Simply put, Eeg has a more impressive presence.



More detailed reproduction

Naturally, we're now interested in the performance benefits offered by the Power Station 1009's analogue section with its isolation transformer. To find out, we first recreate the worst-case scenario and listen to Jacob Dinesen's 'Roll With Me' on vinyl. The Danish singer and guitarist, whose voice is reminiscent of Bruce Springsteen, delivers a singer-songwriter ballad here, eventually accompanied by bass and drums. It already sounds great with the cheap mains power supply. But with the power supplied via the mains filter, it sounds absolutely marvellous: Dinesen strums an intro on his Martin D18 – and this acoustic guitar now sounds even more impressive: the picking is more percussive. The metallic quality of the strings comes through more clearly: the low wound strings convey a greater sense of wire-like rigidity, whilst the bare treble strings, by contrast, possess a more radiant brilliance. Furthermore, the notes have more substance. Thanks to the more detailed reproduction and the soundstage that is no longer thinned out, we can hear how the wooden body amplifies the vibration of the strings and lends the notes depth and resonance.



The accessories consist of a high-quality cable and a user manual that explains the functions of the mains filter in detail.

Purity and tranquillity

Dinesen, of course, also benefits from this increase in body. His voice, which is warm right down to the bass but at the same time always smoky and rough, is now even more sonorous, even more present – and also more focused: in the reproduction, where the greater richness of detail now allows us to experience more of the recording studio's spatiality, the Dane stands more firmly and clearly at the centre. His voice thus has a sense of body; Dinesen seems more present, and his almost narrative singing is even more heartfelt and captivating. This is also down to the greater sense of calm and purity: vocals and guitar ring out free of hiss and noise against an acoustically black background – embedded solely in the reverberation of the spacious Lundgaard Studio, captured by the recording microphones, including dedicated mics for the ambient effect. And so, with our eyes closed, we feel as though we are right there in the studio with Dinesen. We have never before been able to experience this sense of spatial depth with such immersive power.

Harmonious and lifelike

In this live recording, the bass and drums now come in. Here, too, we experience an added delight: the subtly played bass is now more defined and resonant, making it seem more spacious and substantial. The long sustained notes now exude an even greater sense of serenity. The drums, which are no less discreet, are more assertive and clearly defined. As a result, the otherwise simple bass drum hits, with their rich punch, now have a completely different impact. The same applies to the snare played with brushes: whereas before it was a slightly amorphous rustle, we can now hear every strike of the metal bristles on the snare head clearly and distinctly. Now that all the instruments are present, we also notice that the interplay seems even more harmonious and cohesive – as if the trio had really found their groove on this second run-through of this 'one-taker'. As a result, 'Roll With Me' sounds even more effortless, even more natural – and thus even more lifelike and live-sounding.



The sleek front panel is finished in finely brushed and cleanly anodised aluminium. With this understated design, the Power Station 1009 complements most audio set-ups, supplying their components with clean power.

Conclusion

With its impressive isolation transformer and various filtering sections, the Oehlbach Power Station 1009 delivers separate, clean power to two analogue and four digital components. It also allows two further devices to be connected, with their power supply further isolated from the main circuit. With these precisely filtered and segregated sections, the Power Station 1009 ensures a significant boost in performance. Thanks to greater quietness and purity, the music plays against a darker background. The reproduction gains in clarity, transparency and resolution. The increased accuracy also enhances the dynamics – and with it the liveliness and vitality of the musical performance, which also appears more harmonious and sounds richer. The sound also impresses with greater expressiveness: voices and instruments have more presence and body, whilst the spatial representation of the soundstage and ambience is more intense and feels more immersive. Furthermore, the Power Station 1009 ensures the safety of the connected components through a power-on delay, as well as surge, overload and lightning protection. A clean solution – and therefore: a clear recommendation.

Test & Text: Volker Frech, Photos: Simone Maier

The Oehlbach Company

For over 50 years, Oehlbach has been synonymous with high-quality connections, components and accessories in the consumer electronics sector. From hi-fi and computers to home cinema and even gaming, Oehlbach offers solutions that seamlessly combine technology and entertainment. The company is guided by three core principles: innovation, uncompromising quality and customer focus. New ideas are consistently developed and turned into products that set new standards in both function and design. Every Oehlbach product is rigorously tested and manufactured to the highest quality standards to deliver maximum performance in all areas. At the same time, dialogue with customers is an essential part of the company's work: their suggestions are incorporated directly into product development, from standard solutions right through to bespoke cables and connectors. Oehlbach brings technology and people together, ensuring that home entertainment can unfold its full magic.

Manufacturer

Oehlbach Kabel GmbH
oehlbach.com

Company contact
Oehlbach Kabel GmbH
50259 Pulheim
Tel.: +49 2234 9374 370
Email: info@oehlbach.de

If you are interested,
please send us an email.

