

Celestion PowerProX18



Celestion, a designer and manufacturer of professional audio drivers for sound reinforcement applications announces the debut of the 18-inch PowerProX18 subwoofer, whose relentless high-quality performance makes it ideally suited to applications including cinema sound, fixed install and touring sound reinforcement. The new PowerProX18 will be on display, alongside a range of Celestion's key PA products at the company's NAMM 2023 booth #6602.

The subwoofer features an advanced cooling design that enables its voice coil to run 20°C cooler than comparable competitor drivers. This greatly reduces heat-related stress on the 4-inch glass-fibre voice coil former and other thermally sensitive parts. It also reduces the temperature-related rise in R_e (coil resistance) that causes power compression. By operating at less severe temperatures, the subwoofer offers end users brand-new-out-of-the-box high performance throughout the product's lifespan.

Through detailed research Celestion has identified advanced adhesives that ensure additional driver performance and durability. In the interest of performance longevity, especially in outdoor applications such as concerts, the glass fibre-loaded cellulose cone is weatherproofed not only on the front side, but on the back as well.

Celestion Debuts the PowerProX18 Subwoofer

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With a nominal impedance of 8 ohms, the PowerProX18 subwoofer's power rating is a mighty 1200 watts nominal (AES) and 2400 watts continuous. Sensitivity, measured at 1W@1m in 2p space is 97dB. Its Bl (motor force) curve exhibits remarkable symmetry, and thanks to the cone's polysiloxane-laminated dual suspension, which provides greater stability and improves cone displacement symmetry, the K (stiffness) curve again reveals superb symmetry resulting in reduced distortion.

An aluminium demodulation ring reduces the inductance (L_e) of the motor circuit - only 1.61mH at 1kHz - which also contributes to lowering power compression. The ring also reduces harmonic distortion as the voice coil and cone move in the gap toward either pole of the magnet.

The subwoofer has a usable frequency range of 35 to 1000Hz, making it suitable for any large subwoofer applications, and excels when delivering the deep, palpable lows of cinema audio. X_{max} is calculated at ± 9.3 mm. Its chassis supports a 3.5kg ferrite magnet, while the overall weight of the subwoofer is 13.2kg (29.1lb.)

"The PowerProX18 a subwoofer designed for longevity of high performance, delivering maximum durability and reliability throughout the lifespan of each speaker," says Ken Weller, Marketing Manager at Celestion. "It is intended to surpass the performance of other 18-inch subwoofer drivers in its class, making it ideal for challenging sound reinforcement and cinema sound applications."

PowerProX18 key features include:

- Reduced operating temperature - voice coil runs at 20°C lower than leading competitor speakers
- Reduced susceptibility to power compression and thermal stresses
- 1200W (AES) / 2400W (continuous) power rating; 8Ω nominal impedance
- High sensitivity - 97 dB (1W @ 1m)
- Highly symmetrical Bl (motor force) and K (stiffness)
- Cone weatherproofed on both sides
- X_{max} of ± 9.3 mm
- 18-inch diameter; 4-inch voice coil

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