

# LAB 21 HS SP

## FEATURES

- Self-powered system (8.5 kW peak power amplifier module)
- Very high electro-acoustic transduction efficiency (excellent integration of the various domains: electrical, mechanical and acoustic)
- The world's most compact and lightweight subwoofer with a 21" woofer
- Extremely high SPL (150 dB peak @ 1 m)
- Deep, very clean infra-low frequencies (23 Hz), thanks to an impulse response with a very small ripple
- Highly ingenious acoustic design that ensures top performance: a hybrid waveguide indirect radiation system able to completely recover low frequency sound pressure emitted from the rear of the unit's 21" woofer.
- Built to be used alone or in multiples, with the utmost reduction of footprint in relation to output and SPL achieved
- Easy transport when used with mobile rigs, and fits easily into any permanent installation
- Unrivalled extension down to very low frequencies, without any noise due to turbulence caused by air passing at high speed.
- The internally braced cabinet ensures utmost sturdiness, free from harmful sound "colouring" due to resonance; an optional trolley with sturdy smooth-running wheels facilitates transport, even on relatively uneven surfaces.



## APPLICATIONS

- No-nonsense use in "live" concerts of all sizes, floor or stage mounted and combined with other units of the same type for sound reinforcement of infra-low frequencies.
- High-quality permanent installations in theatres, clubs, indoor sports arenas; an ideal match for all Outline loudspeaker systems and vertical line arrays.

## DESCRIPTION

LAB 21 HS SP is a self-powered loudspeaker system suited to high-quality sound reinforcement of infra-low frequencies. It comprises a NdFeB 21" long-excursion woofer magnet (6.5" voice coil). Loading is a hybrid waveguide indirect radiation system able to completely recover low frequency sound pressure emitted from the rear of its 21" woofer, which means an increase in sensitivity of 6dB (SPL). In other words, with the same input voltage, this system gives an additional 6dB over the entire low frequency band compared to the same speaker used in a closed cabinet and, on average, an additional 3dB compared to what the same speaker would give at low frequencies if used with a horn-loaded, reflex or band-pass system.

The fact that the sound is generated by two masses of air moved by a single diaphragm, greatly benefiting attack velocity in the transitory frequencies, results in deep, very clean low frequencies. Intended as a complete system, the LAB 21 HS SP ensures very high electro-acoustic transduction efficiency, thanks to its excellent integration of the various domains: electrical (power), mechanical and acoustic. The coordination of these aspects - electrical, mechanical and acoustic - along with feedback control of the output pressure by means of a powerful DSP - enables the maximum energy transfer and output power control fully respecting input signals' dynamics. LAB 21 HS SP has a frequency range at -10 dB of 23 Hz to 165 Hz (maximum crossover frequency suggested: 100 Hz). Among the optionals available, a trolley ensures fast handling and efficient protection of the front of the enclosure against impacts. The black finish is in special high quality wear and weather-resistant paint. Sixteen strategically positioned integral handles facilitate handling.

## TECHNICAL SPECIFICATIONS:

**FREQUENCY RESPONSE** (-10 dB) 23 Hz ÷ 165 Hz

**SUGGESTED X-OVER** max 100 Hz

**INPUT SENSITIVITY** 3.2 dBu (1.12 VRMS)

**AVERAGE DISPERSION** Quasi-Omnidirectional

### POWER AMPLIFIER

Type Class D (Digital)  
Input Impedance 10 kΩ balanced to ground  
Cooling Two variable speed fans  
**Rated Power** 8500 W peak

**MAX SPL @ 1 m** (measured with music) Peak  
150 dB (half-space)

### CONNECTORS

Audio 1 XLR + 1 Link Out  
Mains 1 PowerCon

### LOUDSPEAKERS AND LOADING

Low 1 x 21" NdFeB woofer, hybrid waveguide indirect radiation system

### WEIGHT

**Single unit** 132 kg (291 lb)  
**Shipping (1 unit)** 142 kg (313.1 lb)

### DIMENSIONS

Height 112.6 cm (44.3") 121 cm (47.6")  
Width 72.6 cm (28.6") 81 cm (31.9")  
Depth 82 cm (32.3") 90 cm (35.4")

# MULTIPURPOSE SERIES