

SSOUNDS LS310 Sub

Flyable dual-18" subwoofer for LS310 arrays, 23 Hz reach, 143 dB peak, flies on the same hang.

Part of the LS System. Flyable dual-18 subwoofer on the shared array hardware. LS stands for Line Source. Full system documentation at s-soundspro.com/systems/ls.



SSOUNDS LS310 SUB

AT A GLANCE

MODEL / SKU	CATEGORY
SS-LS310-SUB	Subwoofers
BRAND	DRIVE
SSOUNDS	Passive
CONDITION	
New	

OVERVIEW

The LS310 Sub completes the LS310 system: a horn-designed bass-reflex dual-18" subwoofer built to fly inside the LS310 array on an aluminium-alloy hoisting system, extending the hang's bandwidth down to 23 Hz without a separate sub hang. It takes a single NL4 feed from the system amplifier, so the sub run stays independent of the tops' NL8 loom. SSOUNDS specifies drivers for 143 dB peak output, in a braced birch-ply cabinet with water- and dust-resistant treatment. Ground-stack it when the design calls for floor bass.

- Flies inside LS310 arrays on the same titanium rigging, no separate sub hang
- Its NL8 carries the whole array loom: sub, LF, MF and HF on one cable per box
- 23 Hz reach and 143 dB peak SPL
- 2 × 18" cone drivers, 4" coil
- Horn-designed bass-reflex cabinet in braced birch ply
- Water- and dust-resistant treatment for outdoor work
- CardioSteer presets steer low-frequency energy off the stage

TECHNOLOGIES

 DYNACONTROL	Holds the tuned tonal balance as voice coils heat under sustained output.
 CARDIOSTEER	Steerable cardioid arrays that direct low-frequency energy forward.
 FASTSET	Steel and aluminium rigging with captive titanium pins and detented splay for repeatable array geometry.
 SNET	Networked control and monitoring for every amplifier and processor in the system.

SPECIFICATIONS

GENERAL

Type	Flyable dual-18" subwoofer · horn-designed bass-reflex
Certifications	CE · TÜV · EAC · WEEE

ACOUSTIC PERFORMANCE

Frequency response ²	23 Hz - 400 Hz (-10 dB)
Deployment	Flown inside LS310 arrays or ground-stacked
Sensitivity ³	103 dB SPL nominal (1 W @ 1 m)
Maximum SPL ¹	143 dB peak @ 1 m (half-space)

TRANSDUCERS & COMPONENTS

Low frequency	2 × 18" cone drivers, 4" coil
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ELECTRICAL

Recommended amplifier power ⁴	4,800 W
Nominal impedance ⁵	4 Ω
Crossover	System low-pass 100 Hz (60 - 120 Hz selectable in the system DSP)

CONNECTORS & I/O

Connectors	2 × NL4 speakON (in / link)
Pin map	1+/1- SUB · 2+/2- not linked

RIGGING & MOUNTING

System	High-grade titanium captive rigging · aluminium-alloy hoisting, integrates in LS310 hangs
Max per array	Shares the LS-series 16-element hang limit

PHYSICAL & CONSTRUCTION

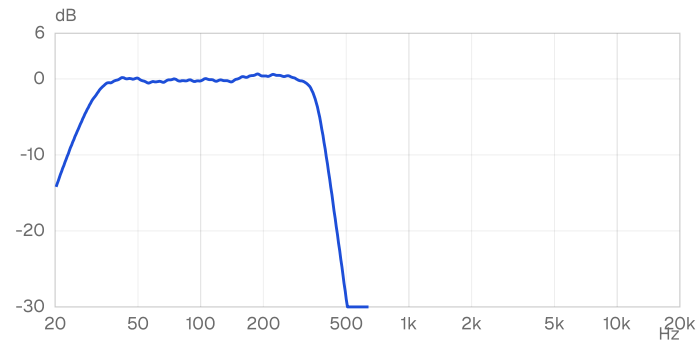
Dimensions (H × W × D) ⁷	500 × 858 × 750 mm
Net weight ⁶	62 kg / 137 lb
Enclosure	Birch plywood · internal reinforcement plates · water- and dust-resistant treatment
Handles	2 side · 2 rear recessed
Colour	Black (custom RAL on request)

NOTES

- 1. Maximum SPL is the peak level at 1 m, driven with pink noise at crest factor 4 to the clipping point of the recommended amplifier, with the SSOUNDS system preset applied. Full-range enclosures are specified under free-field conditions; figures marked half-space are specified over a reflecting plane, the condition subwoofers are deployed in, which adds approximately 6 dB.
- 2. Frequency response is specified on axis at 1 m in a free field. The tolerance the figure is referenced to is stated alongside it; where no tolerance is given, the figure is the -6 dB bandwidth.
- 3. Sensitivity is specified at 1 W into the nominal impedance at 1 m on axis, averaged across the pass band of the enclosure.
- 4. Recommended amplifier power is the amplifier output SSOUNDS specifies for this enclosure, driven with the SSOUNDS system preset. It guides amplifier selection and is not an AES power-handling rating for the transducers.
- 5. Nominal impedance is the manufacturer's rating for amplifier load calculation; minimum impedance across the operating band may be lower.
- 6. Net weight excludes packaging, flight case, accessories and optional rigging hardware.
- 7. Dimensions are stated in millimetres and exclude protruding rigging hardware, handles and connector panels unless noted.
- 8. All figures are typical values for production units specified under the conditions above. Individual units may vary within published tolerances.

RESPONSE

FREQUENCY RESPONSE

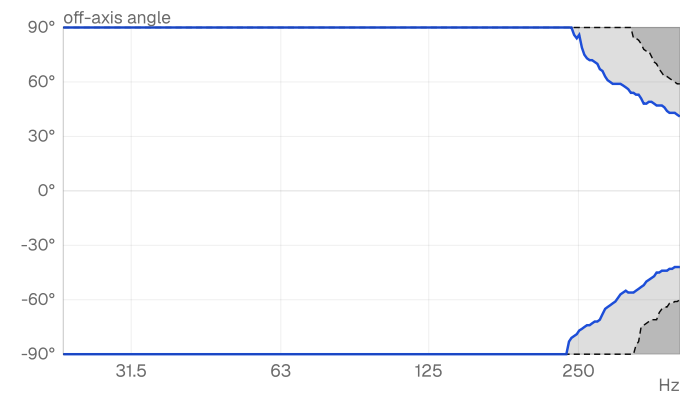


Frequency response: 23 Hz to 400 Hz (-10 dB) · 1/24-octave smoothed

Plot conditions. Curves are generated by the SSOUNDS engineering toolchain from this product's specification. Frequency response is shown 1/24-octave smoothed, normalised to the midband reference, with the passband corners at the stated tolerance; response varies within ±1 dB across the passband with a subtle shelf in the top octave. Magnitude slopes are 24 dB/octave beyond the passband corners. The beamwidth curve shows the -6 dB included angle: nominal coverage holds down to the pattern-control limit set by the cabinet width ($f \approx c/w$) and widens below it.

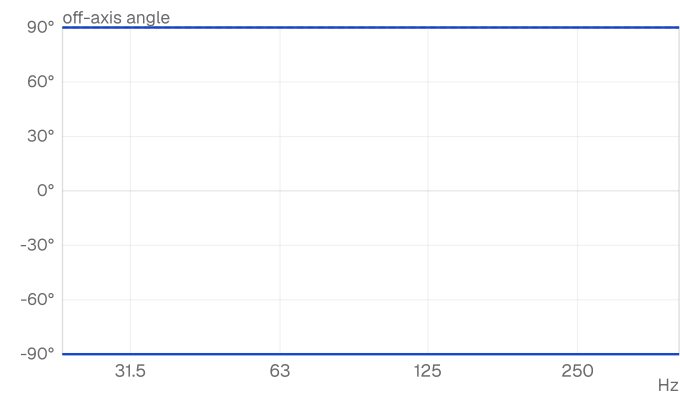
DIRECTIVITY

ISOBAR DIAGRAM, HORIZONTAL



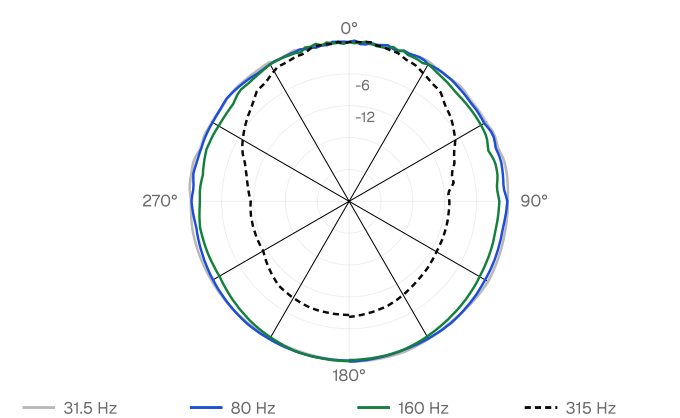
Lines of equal sound pressure. Blue: -6 dB. Dashed: -12 dB. White region holds within 6 dB of on-axis.

ISOBAR DIAGRAM, VERTICAL



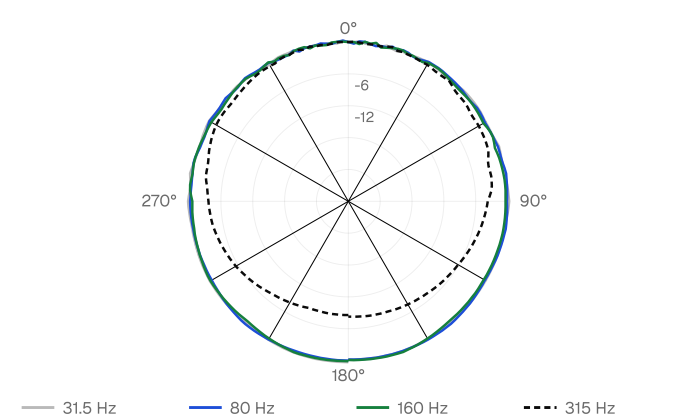
Lines of equal sound pressure. Blue: -6 dB. Dashed: -12 dB. White region holds within 6 dB of on-axis.

POLAR RESPONSE, HORIZONTAL



Normalised to on-axis. Rings at 6 dB intervals to a -30 dB centre. 1/3-octave band power. Charts span 23 Hz to 400 Hz, this cabinet's own operating band.

POLAR RESPONSE, VERTICAL



Normalised to on-axis. Rings at 6 dB intervals to a -30 dB centre. 1/3-octave band power.

Chart conditions. Directivity charts are computed by the SSOUNDS system prediction engine as a phase-coherent wave solution of this product's driver complement: each way represented by its physical radiator (rigid-piston cones with real diameters and spacings; waveguides as continuous mouth apertures, holding the rated coverage on a flare-controlled axis above the mouth's pattern-control limit and radiating the mouth's own diffraction limit on a wavefront-shaped axis; a horn-loaded mid shares the high-frequency mouth), summed as complex pressure through crossovers at the published points in the topology the cabinet is driven with (linear-phase FIR where the ways run on separate channels of a system DSP amplifier, Linkwitz-Riley where a passive network splits them), with way alignment referenced on axis and 1/24-octave band-power resolution. Single- cabinet vertical figures are free-field beamwidths of one element; the published per-element vertical coverage of a line array is its rigging splay, the sector one element covers in a curved hang. Cabinet edge diffraction, horn loading detail, driver breakup and production tolerances are outside the computation. Directivity files for prediction software (GLL/CLF) are issued from measured data only.

DOWNLOADS & DATA FILES

SSOUNDS LS310 Sub: User Manual	MANUAL
Directivity table, horizontal (CSV) / vertical	CSV

Loudspeaker data files for prediction software (GLL / CLF for EASE), 2D and 3D drawings and certification documents are issued on request. Contact support@s-soundspro.com and we will send the current release for this model.

SYSTEM OPERATION

Recommended: SSOUNDS D24X, one channel per LS310 Sub (4 Ω) with the LS310 Sub preset loaded.

ARCHITECTURAL & ENGINEERING SPECIFICATION

The subwoofer shall be of the SSOUNDS LS310 Sub type, configured as a flyable dual-18" subwoofer, horn-designed bass-reflex. The subwoofer shall incorporate a low-frequency section of 2 x 18" cone drivers, 4" coil. The subwoofer shall be capable of meeting the following performance criteria: a frequency response of 23 Hz – 400 Hz (-10 dB); a maximum sound pressure level of 143 dB peak @ 1 m (half-space); a sensitivity of 103 dB SPL nominal (1 W @ 1 m). Electrically the subwoofer shall provide a nominal impedance of 4 Ω , a crossover at System low-pass 100 Hz (60 – 120 Hz selectable in the system DSP). The unit shall be passive. Connection shall be by 2 x NL4 speakON (in / link). The subwoofer shall be constructed of Birch plywood, internal reinforcement plates, water- and dust-resistant treatment, measuring 500 x 858 x 750 mm, and shall weigh 62 kg / 137 lb. The subwoofer shall be covered by the manufacturer's two (2) year limited warranty and shall be supplied by SSOUNDS or an SSOUNDS-authorized distributor. No alternate shall be accepted without prior written approval of the consultant or specifying engineer.

SAFETY & COMPLIANCE

Read this section before specifying, installing or operating this product. It summarises the safety requirements set out in full in the product documentation supplied with the unit; where the two differ, the product documentation takes precedence.

SUSPENSION & RIGGING

Overhead suspension is potentially hazardous and must be carried out only by trained and competent personnel using SSOUNDS-approved hardware, within the working load limits and array configurations published in the relevant SSOUNDS rigging documentation. Never exceed the stated number of enclosures per array or the stated splay limits. Inspect all rigging components, pins and retaining clips before every deployment and withdraw from service any component that is deformed, corroded or of unknown history. Secondary safety attachment is required where local regulation calls for it. SSOUNDS accepts no liability for systems suspended using non-approved hardware or outside published limits.

SOUND PRESSURE LEVEL & HEARING

This equipment is capable of producing sound pressure levels that cause permanent hearing damage. Do not operate at high level in close proximity, and ensure that operators, performers and audience exposure complies with applicable occupational noise-exposure regulation. Provide hearing protection where exposure limits may be exceeded.

ENVIRONMENT & MECHANICAL

Unless a published IP rating states otherwise, this product is intended for indoor use or for outdoor use under cover, and must be protected from rain, standing water and prolonged direct sun. Ensure ventilation openings are unobstructed. Stack, pole-mount and transport only as described in the product documentation, and secure the product against toppling wherever the public has access.

DISPOSAL

At end of life, dispose of the product and any packaging in accordance with local regulation for electrical and electronic equipment. Do not dispose of electronic components in general waste.

LIMITED WARRANTY: TWO (2) YEARS

SSOUNDS products are warranted against defects in materials and workmanship for a period of two (2) years from the original date of purchase by the end user. Within that period SSOUNDS will, at its option, repair or replace the defective item with no charge for parts or labour. The item must be adequately packaged and dispatched, carriage pre-paid, to SSOUNDS or an SSOUNDS-authorised service centre, accompanied by proof of purchase and a returns reference issued in advance by SSOUNDS. Unauthorised repair, modification or removal of serial-number labelling voids this warranty.

THIS WARRANTY DOES NOT COVER

- Cosmetic wear, finish, grille cloth, paintwork and consumable parts.
- Damage caused by misuse, abuse, accident, neglect, or operation outside the published ratings on this sheet.
- Damage caused by transport or handling after delivery, or by inadequate packaging on return.
- Damage caused by mains or generator supply faults (over-voltage, under-voltage, phase imbalance, surge or incorrect earthing) or by lightning.
- Water, dust or corrosion ingress on products not carrying a published IP rating for the conditions of use.
- Damage resulting from amplification or processing outside the recommended configuration on this sheet, or from third-party presets.
- Products not purchased from SSOUNDS or an SSOUNDS-authorised distributor.

This warranty is in addition to, and does not affect, any statutory rights the purchaser may have under applicable consumer law. It is the sole warranty offered; no other warranty, express or implied, is given.

Warranty claims and returns references: support@s-soundspro.com · +44 20 3769 6537

LEGAL NOTICE

All information on this data sheet is subject to change without notice. SSOUNDS reserves the right to alter specification, design and construction in the course of continuous product development.

Specifications, drawings and images are provided for guidance in system design and tender documentation. Where a figure is critical to a design, confirm it in writing with SSOUNDS before committing to a specification.

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